Department of Defense
Fiscal Year (FY) 2015 Budget Estimates

March 2014

Air Force

Justification Book Volume 2

Research, Development, Test & Evaluation, Air Force

Vol−II

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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

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Department of the Air Force
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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

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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

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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

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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

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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

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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

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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

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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

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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

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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

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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

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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	

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Appropriation 3600: Research, Development, Test & Evaluation, Air Force

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Fiscal Year (FY) 2015 Budget Estimates
RDT&E Descriptive Summaries
Budget Activities
March 2014

INTRODUCTION AND EXPLANATION OF CONTENTS

1. (U) GENERAL

A. This document has been prepared to provide information on the United States Air Force (USAF) Research, Development, Test and Evaluation (RDT&E) program elements and projects in the FY 2015 President's Budget (PB).

1) All exhibits in this document have been assembled in accordance with DoD 7000.14R, Financial Management Regulation, Volume 2B, Chapter 5, Section 050402. Exception:

a) Exhibit R-1, RDT&E Program, which was distributed under a separate cover due to classification.

2) Other comments on exhibit contents in this document:

a) Exhibits R-2/2a and R-3 provide narrative information for all RDT&E program elements and projects within the USAF FY 2015 RDT&E program with the exception of classified program elements. The format sand contents of this document are in accordance to the guidelines and requirements of the Congressional committees in so far as possible.

b) The "Other Program Funding Summary portion of the R-2 includes, in addition to RDTE& funds, Procurement funds and quantities, Military Construction appropriation funds on specific development programs, Operations and Maintenance appropriation funds where they are essential to the development effort described, and where appropriate, Department of Energy (DOE) costs.

2. (U) CLASSIFICATION

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

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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
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0304111F	SPECIAL ACTIVITES
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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

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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 COMPARISON SUMMARY

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.

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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 4: *Advanced Component Development & Prototypes (ACD&P)*					R-1 Program Element (Number/Name) PE 0603260F / *Intelligence Advanced 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	-	3.525	3.983	5.408	-	5.408	5.402	5.497	5.605	5.711	Continuing	Continuing
643479: *Advanced Sensor Exploitation*	-	0.366	0.552	-	-	-	-	-	-	-	Continuing	Continuing
643480: *Automated Imagery Exploitation*	-	2.236	1.575	-	-	-	-	-	-	0.001	Continuing	Continuing
643481: *Knowledge Based Tech For Intelligence*	-	0.493	0.790	-	-	-	-	-	-	-	Continuing	Continuing
643482: *Science & Tech Intelligence Methodology*	-	0.430	1.066	-	-	-	-	-	-	-	Continuing	Continuing
64536A: *INTELLIGENCE EXPLOITATION TOOLS (IET)*	-	-	-	4.298	-	4.298	4.285	4.363	4.450	4.533	Continuing	Continuing
64537A: *INTELLIGENCE ANALYSIS CAPABILITIES (IAC)*	-	-	-	1.110	-	1.110	1.117	1.134	1.155	1.177	Continuing	Continuing

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

Note

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.

A. Mission Description and Budget Item Justification

Intelligence Advanced Development (IAD) develops and demonstrates technology required to support warfighter needs for timely all source intelligence information. IAD supports global awareness, consistent battlespace knowledge, precision information, and the execution of time critical missions. IAD projects provide better on-time information to the warfighter using new and existing data sources, streamlining data analysis, reducing footprint required, and extending life of sensors in place and enhancing performance. The Air Force Research Lab, Rome Research Site, Information and Intelligence Exploitation Division (AFRL/RIE), develops prototype applications for evaluation in a realistic operating environment. The programs are oriented toward specific shortfalls and deficiencies as documented by the Major Commands (MAJCOMS), unified commands, and intelligence organizations in their mission and functional area plans. This PE expedites technology transition from the laboratory to operational users via rapid prototyping, focusing on technology insertion correcting AF intelligence deficiencies at the tactical and operational levels. This

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 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 Program Element (Number/Name)** PE 0603260F / *Intelligence Advanced Development*

PE bridges the technology transition from Advanced Technology Demonstrations (ATDs) and Integrated Technology Thrust Programs (ITTPs) to current/new systems, and also supports associated Defense Technology Objectives (DTOs). IAD may also reallocate existing resources to support out-of-cycle new/updated warfighter requirements.

Requirements for this PE are identified and prioritized by the Air Force Intelligence, Surveillance, and Reconnaissance Agency (AFISRA). Development of new/improved capabilities to meet these requirements is managed by AFRL/RIE. Prototype products, usually in the form of software, are provided to the users for operational environment evaluation.

This Program is in Budget Activity 4, Advanced Component Development and Prototypes (ACD&P) because efforts are necessary to evaluate integrated technologies, representative modes or prototype systems in a high fidelity and realistic operating environment.

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	3.866	3.983	4.352	-	4.352
Current President's Budget	3.525	3.983	5.408	-	5.408
Total Adjustments	-0.341	-	1.056	-	1.056
• Congressional General Reductions	-0.005	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-0.336	-	1.056	-	1.056

Change Summary Explanation

FY13: -$336K Sequestration Reduction.

FY15: +$1.11M, 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.

FY15: -$54K for higher AF priorities.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 4	R-1 Program Element (Number/Name) PE 0603260F / *Intelligence Advanced Development*	Project (Number/Name) 643479 / *Advanced Sensor Exploitation*	

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
643479: *Advanced Sensor Exploitation*	-	0.366	0.552	-	-	-	-	-	-	-	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 643479, Advanced Sensor Exploitation, efforts transferred to PE 0603260F, Intelligence Advanced Development (IAD), Project Number 64536A, Intelligence Exploitation Tools (IET), in order to increase management efficiency, reduce administrative actions, and minimize effort duplication.

A. Mission Description and Budget Item Justification

The project objectives are to develop, demonstrate and evaluate a near-real-time all source correlation/fusion capability by applying state-of-the-art data processing techniques for the receipt, correlation, templating, and analysis of battlefield information. Prototypes will be developed in an open systems architecture environment allowing for the greatest efficiency in terms of integrating or interfacing with other systems. There are Air Force, DoD, and Coalition requirements to correlate various sources of intelligence information [Communications Intelligence (COMINT), Electronic Intelligence (ELINT), Imagery Intelligence (IMINT) and Measurement and Signature Intelligence - (MASINT)] within seconds/minutes vs. hours/days with current manual and semi-automated methods. The project includes development of data correlation and predictive intelligence algorithms as well as target analysis and prioritization, air order of battle update, and tactical analysis techniques. This computerized approach will speed up the correlation of data from diverse sources of intelligence information, including COMINT, ELINT, IMINT and MASINT, providing faster situational awareness and threat assessment, and replacing manual systems with automated capabilities. 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: Smart Target Folders	0.366	-	-
Description: Develops capability to automatically and continuously develop target folders, a cohesive picture of adversaries and their intent, in order to provide actionable intel to operations component.			
FY 2013 Accomplishments: Completed prototype development and refinement.			
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 / 4	**R-1 Program Element (Number/Name)** PE 0603260F / *Intelligence Advanced Development*	**Project (Number/Name)** 643479 / *Advanced Sensor Exploitation*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
N/A			
Title: ELINT Synchronization	-	0.552	-
Description: Risk reduction development initiative which automates analysis and screening of large volumes of collected but unscreened technical ELINT data. Effort will further development of applications in signals characterization and database matching algorithms. ***FY 2013 Accomplishments:*** N/A ***FY 2014 Plans:*** Initiating prototype development of a software capability providing automated screening of technical ELINT data through further development of applications in signals characterization and database matching algorithms. ***FY 2015 Plans:*** N/A			
Accomplishments/Planned Programs Subtotals	0.366	0.552	-

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

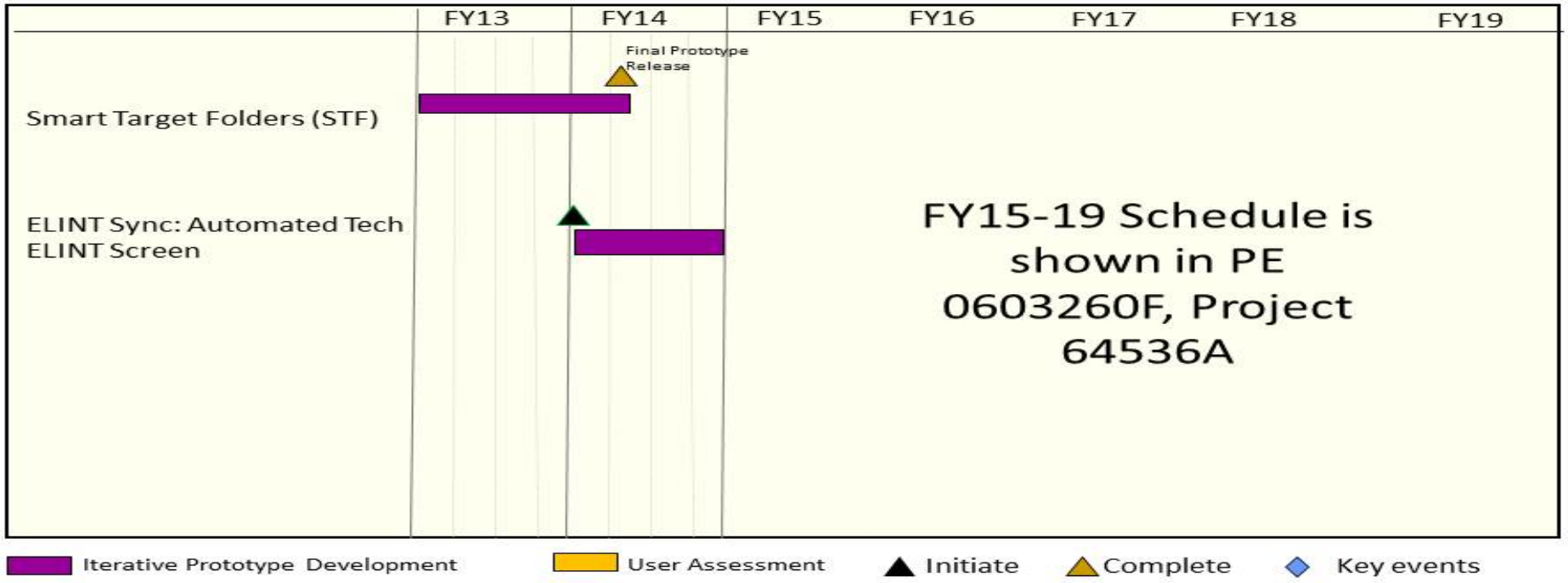
Requirements for new advanced sensor exploitation technologies are identified and prioritized by the Air Force Intelligence, Surveillance, and Reconnaissance Agency (AFISRA). Development of new/improved capabilities to meet these requirements is managed by AF Research Laboratory (Rome Research Site). Prototype products (usually software), once evaluated by the users, are transitioned from the laboratory to operational community in spirals. All contracts within this project are awarded after full and open competition.

E. Performance Metrics

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

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 4	**R-1 Program Element (Number/Name)** PE 0603260F / *Intelligence Advanced Development*	**Project (Number/Name)** 643479 / *Advanced Sensor Exploitation*

Intelligence Advanced Development (IAD), PE 0603260F Project Number 643479



FY15 PB

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 4	R-1 Program Element (Number/Name) PE 0603260F / *Intelligence Advanced Development*	Project (Number/Name) 643480 / *Automated Imagery Exploitation*	

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
643480: *Automated Imagery Exploitation*	-	2.236	1.575	-	-	-	-	-	-	0.001	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 643480, Automated Imagery Exploitation, efforts transferred to PE 0603260F, Intelligence Advanced Development (IAD), Project Number 64536A, Intelligence Exploitation Tools (IET), in order to increase management efficiency, reduce administrative actions, and minimize effort duplication.

A. Mission Description and Budget Item Justification

This project demonstrates and validates the capability to more accurately and quickly interpret digital imagery and video by developing/evaluating computer-assisted techniques to manipulate and overlay imagery, cartographic data, signals intelligence (SIGINT), and on-line intelligence data. The result of this effort will provide the operator precise target locations and identifications, precise target reference scenes, and more accurate damage assessments, which were developed for easy supportability on low-cost, commercially-available computer workstations. 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: Persistent Surveillance (PS) ***Description:*** Integrates emerging technologies to seamlessly mesh and optimize various ISR sources to achieve persistent surveillance over the battlefield. ***FY 2013 Accomplishments:*** Completed PS prototype 1.2 to users for evaluation in realistic operating environment; incorporated user feedback into final prototype. ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** N/A	0.750	-	-
Title: Digital Library Input Processing System (DLIPS)	0.687	0.760	-

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 4	**R-1 Program Element (Number/Name)** PE 0603260F / *Intelligence Advanced Development*	**Project (Number/Name)** 643480 / *Automated Imagery Exploitation*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Description: Updates current DLIPS configuration (Text-to-Text translation only) to process foreign language audio or video input into English in support of open-source analysts. ***FY 2013 Accomplishments:*** Released DLIPS prototype 1.1 and conducted user evaluation. ***FY 2014 Plans:*** Releasing DLIPS prototype 1.2, conducting user evaluation; incorporating user feedback and completing development of final prototype. ***FY 2015 Plans:*** N/A			
Title: Emitter Location Systems Modeling (ELSM) ***Description:*** Initiates enhancement of modeling capability of next generation US, Allied, and adversary RF emitters on the battlefield to allow for enhanced EW performance and vulnerability assessments. ***FY 2013 Accomplishments:*** Released ELSM prototype 1.0 and conducted user evaluation in realistic operating environment. ***FY 2014 Plans:*** Releasing ELSM prototype 1.1 to users for evaluation in realistic operating envirnonment; incorporating user feedback and completing development of final prototype. ***FY 2015 Plans:*** N/A	0.499	0.300	-
Title: Rapid Electronic Attack Assessment For Protection, Exploitation, and Reprogramming (REAAPER) ***Description:*** Initiates capability to provide rapid assessment of adversary Electronic Attack (EA) signals, which supports pilot training and the development of EA protection and countermeasures systems. ***FY 2013 Accomplishments:*** Releasing REAAPER prototype 1.0 and conducting user evaluation. ***FY 2014 Plans:***	0.300	0.300	-

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 4	**R-1 Program Element (Number/Name)** PE 0603260F / *Intelligence Advanced Development*	**Project (Number/Name)** 643480 / *Automated Imagery Exploitation*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Releasing REAAPER prototype 1.1 to users for evaluation in realistic operating environment; incorporating user feedback and completing development of final prototype. ***FY 2015 Plans:*** N/A			
Title: Electronics Exploitation ***Description:*** Develop a capability to enable the detection, geo-location, and tracking of complex wideband and low probability of intercept emitters; improve reporting timeliness and accuracy of worldwide Electronics Intelligence (ELINT) intercept data. ***FY 2013 Accomplishments:*** N/A ***FY 2014 Plans:*** Initiating prototype development of a capability to enable the detection, geo-location, and tracking of complex wideband and low probability of intercept emitters; improving reporting timeliness and accuracy of worldwide Electronics Intelligence (ELINT) intercept data. ***FY 2015 Plans:*** N/A	-	0.215	-
Accomplishments/Planned Programs Subtotals	2.236	1.575	-

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

None

D. Acquisition Strategy

Requirements for new computer assisted techniques for interpretation of digital imagery and video are identified and prioritized by the Air Force Intelligence, Surveillance, and Reconnaissance Agency (AFISRA). Development of new/improved capabilities to meet these requirements is managed by AF Research Laboratory (Rome Research Site). The prototype products (usually software), once evaluated by the users, are transitioned from the laboratory to operational community in spirals. All major contracts within this project are awarded after full and open competition.

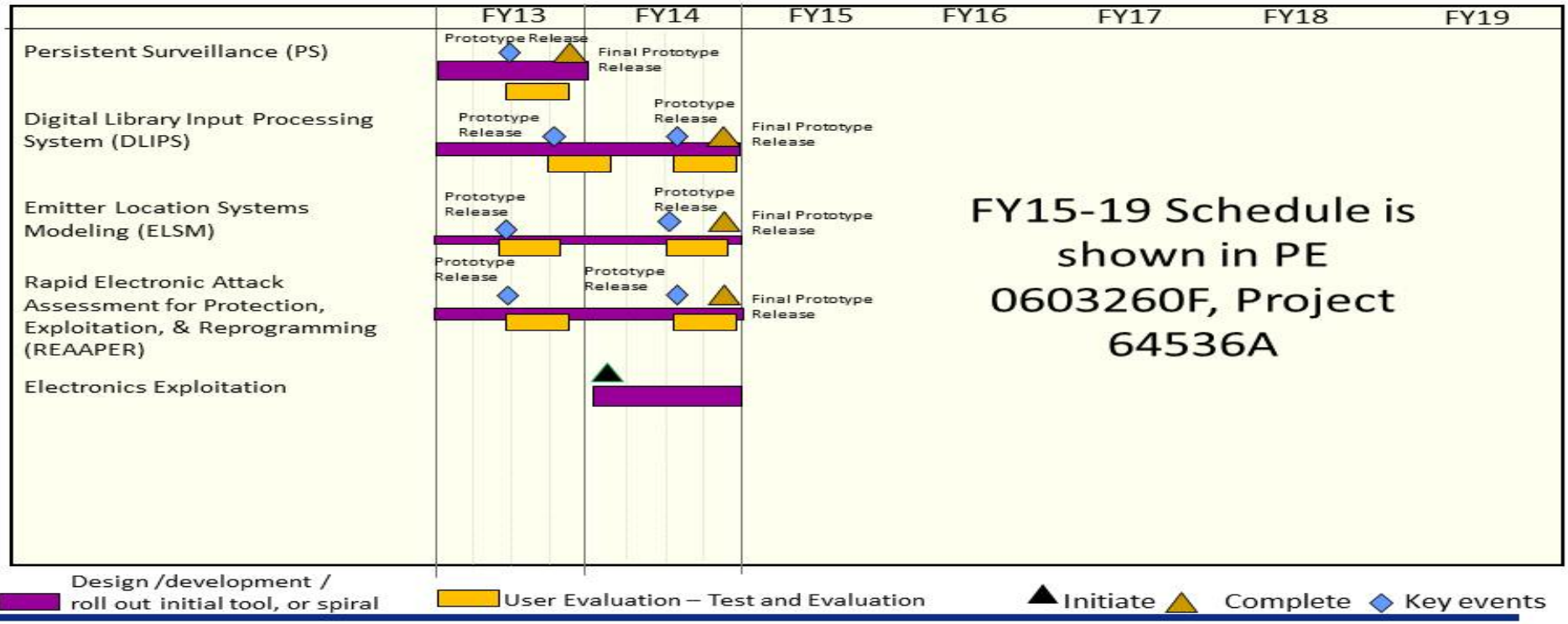
Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 4	**R-1 Program Element (Number/Name)** PE 0603260F / *Intelligence Advanced Development*	**Project (Number/Name)** 643480 / *Automated Imagery Exploitation*

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 / 4	**R-1 Program Element (Number/Name)** PE 0603260F / *Intelligence Advanced Development*	**Project (Number/Name)** 643480 / *Automated Imagery Exploitation*

Intelligence Advanced Development (IAD), PE 0603260F Project Number 643480



FY15 PB

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force												Date: March 2014
Appropriation/Budget Activity 3600 / 4					R-1 Program Element (Number/Name) PE 0603260F / *Intelligence Advanced Development*				Project (Number/Name) 643481 / *Knowledge Based Tech For 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**
643481: *Knowledge Based Tech For Intelligence*	-	0.493	0.790	-	-	-	-	-	-	-	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 643481, Knowledge Based Tech For Intelligence, efforts transferred to PE 0603260F, Intelligence Advanced Development (IAD), Project Number 64536A, Intelligence Exploitation Tools (IET), in order to increase management efficiency, reduce administrative actions, and minimize effort duplication.

A. Mission Description and Budget Item Justification

This project improves global awareness, dynamic planning, and execution by providing information repositories and inference engines (computer program) to exploit collected data for nine major commands and Air Force intelligence organizations. Development of analytical aids is based on artificial intelligence techniques. Increased timeliness, efficiency and effectiveness will provide enhanced warning time and accuracy, allowing national/military authorities a greater range of options to avert, diminish or control a crisis. 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: Dynamic ISR for Non-Traditional Adversarial Methods (DINTAM)	0.493	-	-
Description: Continues integration of emerging technologies to dynamically allocate, monitor, and task all ISR assets to combat non-traditional warfare methods within an urban environment ***FY 2013 Accomplishments:*** Released prototype to users for evaluation in realistic operating environment; incorporated user feedback and completed development of final prototype. ***FY 2014 Plans:*** N/A N/A ***FY 2015 Plans:*** N/A			
Title: Multi-Source, Multi-Modal, Analytical Collect, Process, Exploit and Disseminate (MMACPED) System	-	0.485	-

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 4	**R-1 Program Element (Number/Name)** PE 0603260F / *Intelligence Advanced Development*	**Project (Number/Name)** 643481 / *Knowledge Based Tech For Intelligence*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Description: Develop a framework designed to expose media tools, data, products, workflow and analytical services to the DoD and IC. ***FY 2013 Accomplishments:*** N/A ***FY 2014 Plans:*** Initiating prototype development of MMACPED system. N/A ***FY 2015 Plans:*** N/A			
Title: C2 Surrogate System Build Spec ***Description:*** Develop software to perform high fidelity analysis of threat designs and potential alternatives in the command and control of an Integrated Air Defense Systems (IADS), providing critical insight into the synergistic effects of combined systems and their vulnerabilities. ***FY 2013 Accomplishments:*** N/A ***FY 2014 Plans:*** Initiating prototype development of software to perform high fidelity analysis of threat designs and potential alternatives in the command and control of an Integrated Air Defense Systems (IADS), providing critical insight into the synergistic effects of combined systems and their vulnerabilities. N/A ***FY 2015 Plans:*** N/A	-	0.305	-
Accomplishments/Planned Programs Subtotals	0.493	0.790	-

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 4	**R-1 Program Element (Number/Name)** PE 0603260F / *Intelligence Advanced Development*	**Project (Number/Name)** 643481 / *Knowledge Based Tech For Intelligence*

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

None

D. Acquisition Strategy

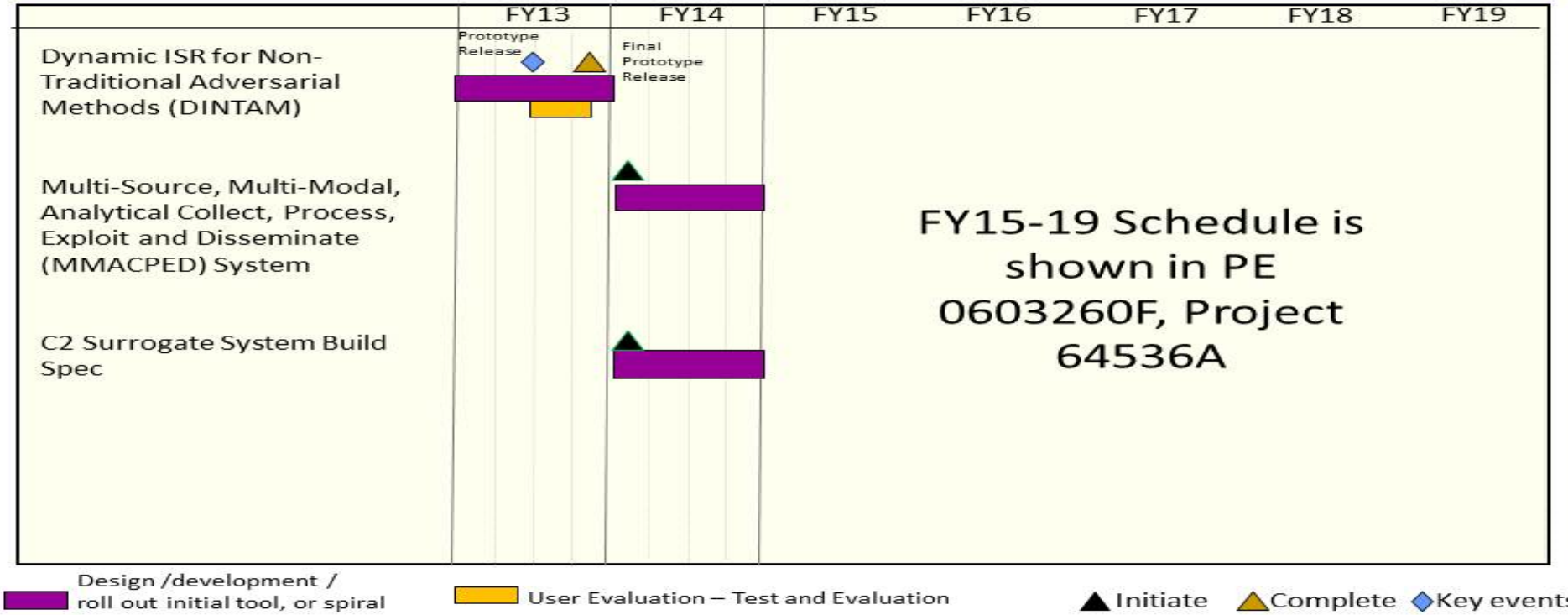
Requirements for new/improved analytical aids to exploit collected intelligence data are identified and prioritized by the Air Force Intelligence, Surveillance and Reconnaissance Agency (AFISRA). Development of new/improved capabilities to meet these requirements is managed by AF Research Laboratory (Rome Research Site). Prototype products (usually software), once evaluated by the users, are transitioned from the laboratory to operational community in spirals. All major contracts within this project are awarded after full and open competition.

E. Performance Metrics

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

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 4	**R-1 Program Element (Number/Name)** PE 0603260F / *Intelligence Advanced Development*	**Project (Number/Name)** 643481 / *Knowledge Based Tech For Intelligence*

Intelligence Advanced Development (IAD), PE 0603260F Project Number 643481



FY15 PB

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 4	R-1 Program Element (Number/Name) PE 0603260F / *Intelligence Advanced Development*	Project (Number/Name) 643482 / *Science & Tech Intelligence Methodology*	

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
643482: *Science & Tech Intelligence Methodology*	-	0.430	1.066	-	-	-	-	-	-	-	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 643482, Science & Tech Intelligence Methodology, efforts transferred to PE 0603260F, Intelligence Advanced Development (IAD), Project Number 64536A, Intelligence Exploitation Tools (IET), in order to increase management efficiency, reduce administrative actions, and minimize effort duplication.

A. Mission Description and Budget Item Justification

The project demonstrates and validates intelligence methodologies and techniques for operational employment of simulation models in support of Air Force Intelligence, Surveillance, and Reconnaisance Agency (AFISRA), formerly the Air Intelligence Agency, requirements. The methods and techniques help AFISRA improve analysis of current and future foreign weapon systems and prevent technological surprises to our warfighters with regard to the capabilities of these systems. 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: Real Time Intelligence Situational Awareness (RTISA)	0.430	-	-
Description: Continues effort to provide machine "learning" capability, which simulates a real-time interactive enviornment that results in an heightened sense of intel awareness. ***FY 2013 Accomplishments:*** Released prototype to users in realistic operating environment; incorporated user feedback and completed development of final prototype. ***FY 2014 Plans:*** N/A N/A ***FY 2015 Plans:*** N/A			
Title: Enabling Discovery through Automated Content Extraction (EDACE)	-	1.066	-

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 4	**R-1 Program Element (Number/Name)** PE 0603260F / *Intelligence Advanced Development*	**Project (Number/Name)** 643482 / *Science & Tech Intelligence Methodology*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Description: Develop automated methods that aid in the systematic, continuous, and comprehensive assessment of technical concepts using information found in the published scientific, technical, and patent literature, message traffic, gray literature, and conference papers. ***FY 2013 Accomplishments:*** N/A ***FY 2014 Plans:*** Initiating prototype development of automated methods that aid in the systematic, continuous, and comprehensive assessment of technical topic, concepts and emergence using information found in the published scientific, technical, and patent literature, message traffic, gray literature, and conference papers. N/A ***FY 2015 Plans:*** N/A			
Accomplishments/Planned Programs Subtotals	0.430	1.066	-

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

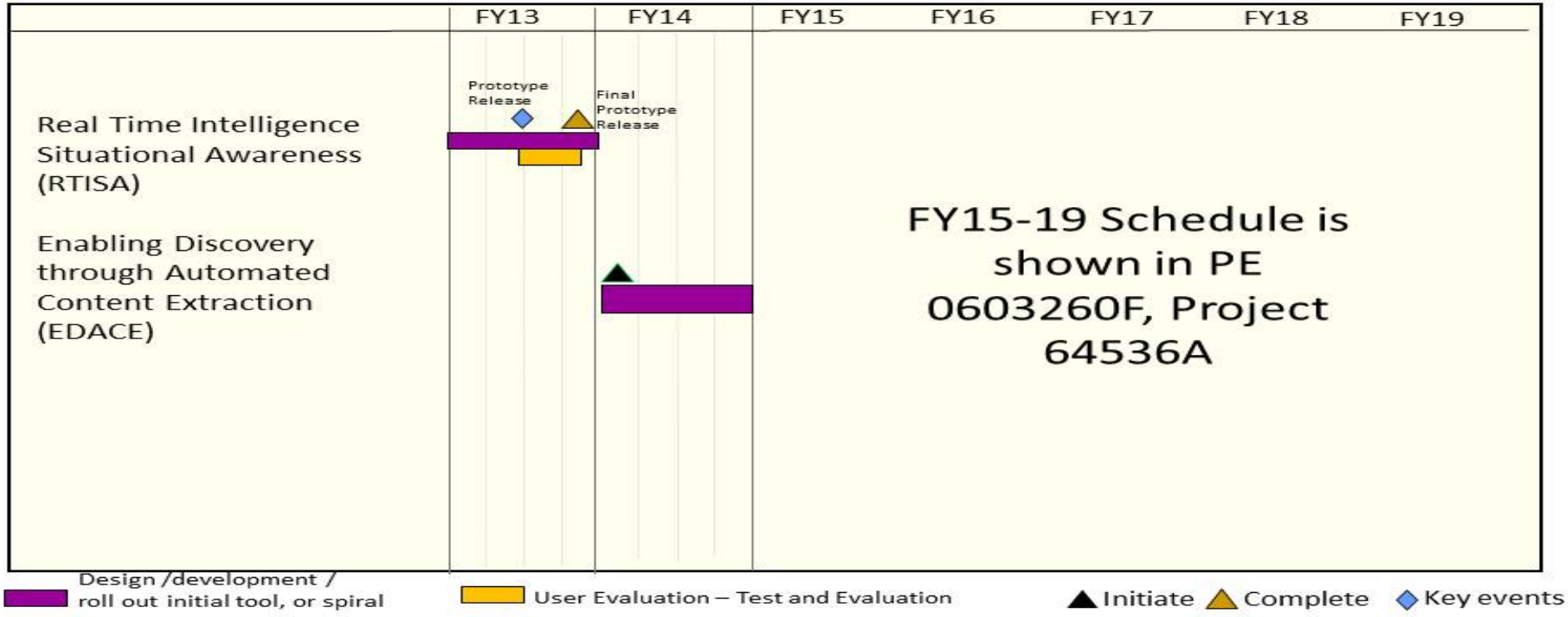
Requirements for new/improved techniques for operational employment of simulation models are identified and prioritized by the Air Force Intelligence, Surveillance, and Reconnaissance Agency (AFISRA). Development of the new/improved capabilities to meet these requirements is managed by AF Research Laboratory (Rome Research Site). Prototype products (usually software), once evaluated by the users, are transitioned from the laboratory to operational community in spirals. All major contracts within this project are awarded after full and open competition.

E. Performance Metrics

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

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 4	**R-1 Program Element (Number/Name)** PE 0603260F / *Intelligence Advanced Development*	**Project (Number/Name)** 643482 / *Science & Tech Intelligence Methodology*

Intelligence Advanced Development (IAD), PE 0603260F Project Number 643482



FY15 PB

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 4	R-1 Program Element (Number/Name) PE 0603260F / *Intelligence Advanced Development*	Project (Number/Name) 64536A / *INTELLIGENCE EXPLOITATION TOOLS (IET)*	

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
64536A: *INTELLIGENCE EXPLOITATION TOOLS (IET)*	-	-	-	4.298	-	4.298	4.285	4.363	4.450	4.533	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 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 FY2015, 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).

A. Mission Description and Budget Item Justification

Intelligence Exploitation Tools (IET) prototyping encompasses several areas of intelligence exploitation including the advancement of all source correlation and fusion prototypes for the intelligence analyst, thus enhancing the overall situational awareness for Air Force, DoD, and Coalition groups which have requirements to correlate various sources of intelligence information, including COMINT, ELINT, IMINT, GEOINT, MASINT, MOVINT and others, in a timely manner.

This project also addresses the accurate and timely interpretation of digital imagery and video by developing and evaluating techniques to manipulate and overlay imagery, cartographic data, SIGINT, and digital intelligence data. Analytical cross domain tools, which provide enhanced warning and accuracy and allow national and military authorities a greater range of options to avert, diminish or control a crisis, are also developed in this project.

In addition, methods to improve analysis of current and future foreign weapon systems, thus preventing technological surprise to our warfighters, are explored in this project.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: ELINT Synchronization	-	-	0.300
Description: Risk reduction development initiative which automates analysis and screening of large volumes of collected but unscreened technical ELINT data. Effort will further development of applications in signals characterization and database matching algorithms.			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 4	**R-1 Program Element (Number/Name)** PE 0603260F / *Intelligence Advanced Development*	**Project (Number/Name)** 64536A / *INTELLIGENCE EXPLOITATION TOOLS (IET)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
FY14 funding in Project 643479. ***FY 2013 Accomplishments:*** N/A ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** Will start prototype development of a software prototype that provides automated screening of technical ELINT data through further development of applications in signals characterization and database matching algorithms.			
Title: Private Assistant for Individual Relegation (PAIR) ***Description:*** Develops software focused on improving the way computers and application services supports intelligence analysts through the use of cognitive systems. ***FY 2013 Accomplishments:*** N/A ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** Will start development of PAIR prototype.	-	-	0.480
Title: Electronics Exploitation ***Description:*** Develop a capability to enable the detection, geo-location, and tracking of complex wideband and low probability of intercept emitters; improve reporting timeliness and accuracy of worldwide Electronics Intelligence (ELINT) intercept data. FY14 funding in Project 643480. ***FY 2013 Accomplishments:*** N/A ***FY 2014 Plans:***	-	-	0.385

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 4	**R-1 Program Element (Number/Name)** PE 0603260F / *Intelligence Advanced Development*	**Project (Number/Name)** 64536A / *INTELLIGENCE EXPLOITATION TOOLS (IET)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
N/A ***FY 2015 Plans:*** Will deliver 1st Electronics Exploitation prototype.			
Title: Feature and Pattern Recognition and Parsing to Text-Foreign Audio Video Operations (FAVOR) II ***Description:*** Develops capability to enable the intelligence analyst to conduct search and discovery either by visual pattern recognition/feature extraction or text-based using queries. This effort will create structured content from the recognition of objects, features and patterns contained within images/video. ***FY 2013 Accomplishments:*** N/A ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** Will start the development of the FAVOR II prototype.	-	-	0.535
Title: Increased SIGINT On-board Analysis (ISOBA) ***Description:*** Expands software currently deployed on RIVET JOINT processor to enable collecting current and future SIGINT metadata. ***FY 2013 Accomplishments:*** N/A ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** Will start development of ISOBA prototype.	-	-	0.400
Title: Multi-Source, Multi-Modal, Analytical Collect, Process, Exploit and Disseminate (MMACPED) System ***Description:*** Develop a framework designed to expose media tools, data, products, workflow and analytical services to the DoD and IC. FY14 funding in Project 643481.	-	-	0.525

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 4	**R-1 Program Element (Number/Name)** PE 0603260F / *Intelligence Advanced Development*	**Project (Number/Name)** 64536A / *INTELLIGENCE EXPLOITATION TOOLS (IET)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
FY 2013 Accomplishments: N/A ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** Will deliver first prototype of MMACPED prototype.			
Title: Global Architecture for Mission Reporting and Analysis (GAMRA) ***Description:*** Develops capability for qualitative mission assessment and lays a framework for integrating future ISR and combat mission capabilities into the assessment framework. ***FY 2013 Accomplishments:*** N/A ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** Will start development of GAMRA prototype.	-	-	0.425
Title: C2 Surrogate System Build Spec ***Description:*** Develop software to perform high fidelity analysis of threat designs and potential alternatives in the command and control of an Integrated Air Defense Systems (IADS), providing critical insight into the synergistic effects of combined systems and their vulnerabilities. FY14 funding in Project 643481. ***FY 2013 Accomplishments:*** N/A ***FY 2014 Plans:*** N/A ***FY 2015 Plans:***	-	-	0.345

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 4	**R-1 Program Element (Number/Name)** PE 0603260F / *Intelligence Advanced Development*	**Project (Number/Name)** 64536A / *INTELLIGENCE EXPLOITATION TOOLS (IET)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Will deliver the first prototype.			
Title: Enabling Discovery through Automated Content Extraction (EDACE)	-	-	0.903
Description: Develop automated methods that aid in the systematic, continuous, and comprehensive assessment of technical topic, concepts and emergence using information found in the published scientific, technical, and patent literature, message traffic, gray literature, conference papers, etc. FY14 funding in Project 643482. ***FY 2013 Accomplishments:*** N/A ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** Will deliver first prototype of EDACE prototype.			
Accomplishments/Planned Programs Subtotals	-	-	4.298

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: BA4: PE 0603260F: *Intelligence Advanced Development*	3.525	3.983	-	-	-	-	-	-	-	-	-

Remarks

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.

D. Acquisition Strategy

Requirements for new/improved techniques for operational employment of simulation models are identified and prioritized by the Air Force Intelligence, Surveillance, and Reconnaissance Agency (AFISRA), formerly the Air Intelligence Agency. Development of the new/improved capabilities to meet these requirements is managed by AF Research Laboratory (Rome Research Site). Prototype products (usually software), once evaluated by the users, are transitioned from the laboratory to operational community in spirals. All major contracts within this project are awarded after full and open competition.

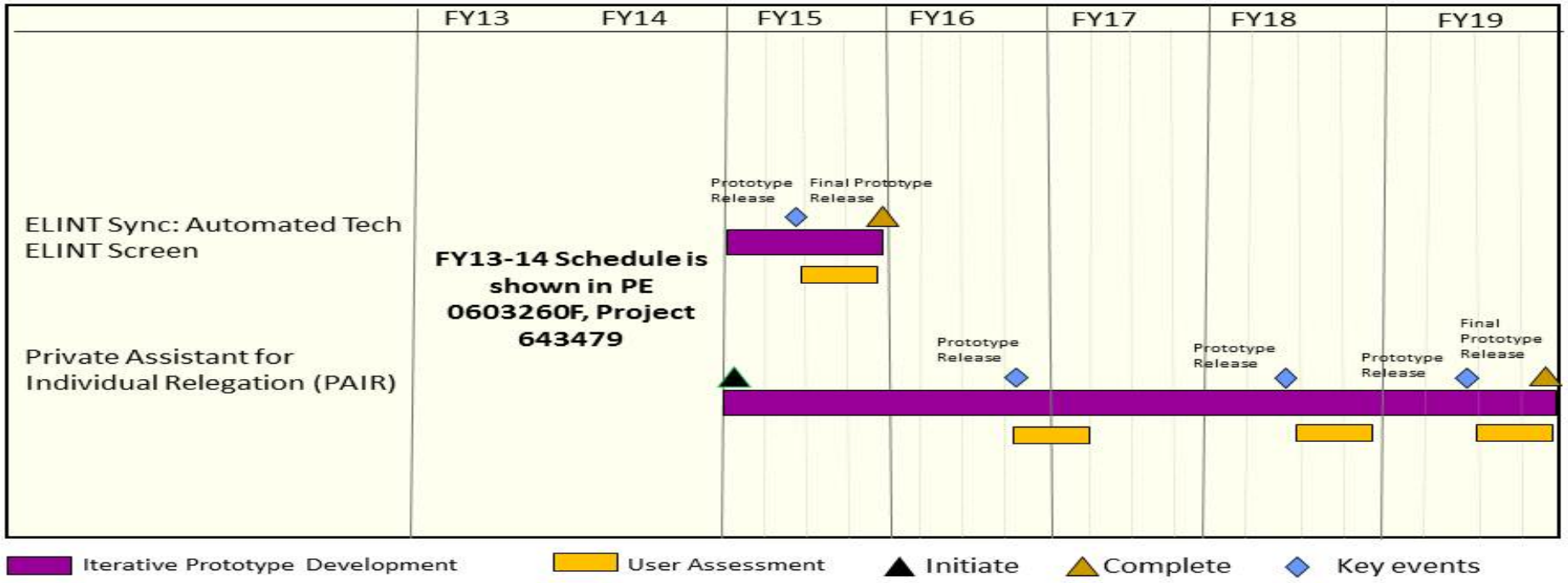
Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 4	**R-1 Program Element (Number/Name)** PE 0603260F / *Intelligence Advanced Development*	**Project (Number/Name)** 64536A / *INTELLIGENCE EXPLOITATION TOOLS (IET)*

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 / 4	**R-1 Program Element (Number/Name)** PE 0603260F / *Intelligence Advanced Development*	**Project (Number/Name)** 64536A / *INTELLIGENCE EXPLOITATION TOOLS (IET)*

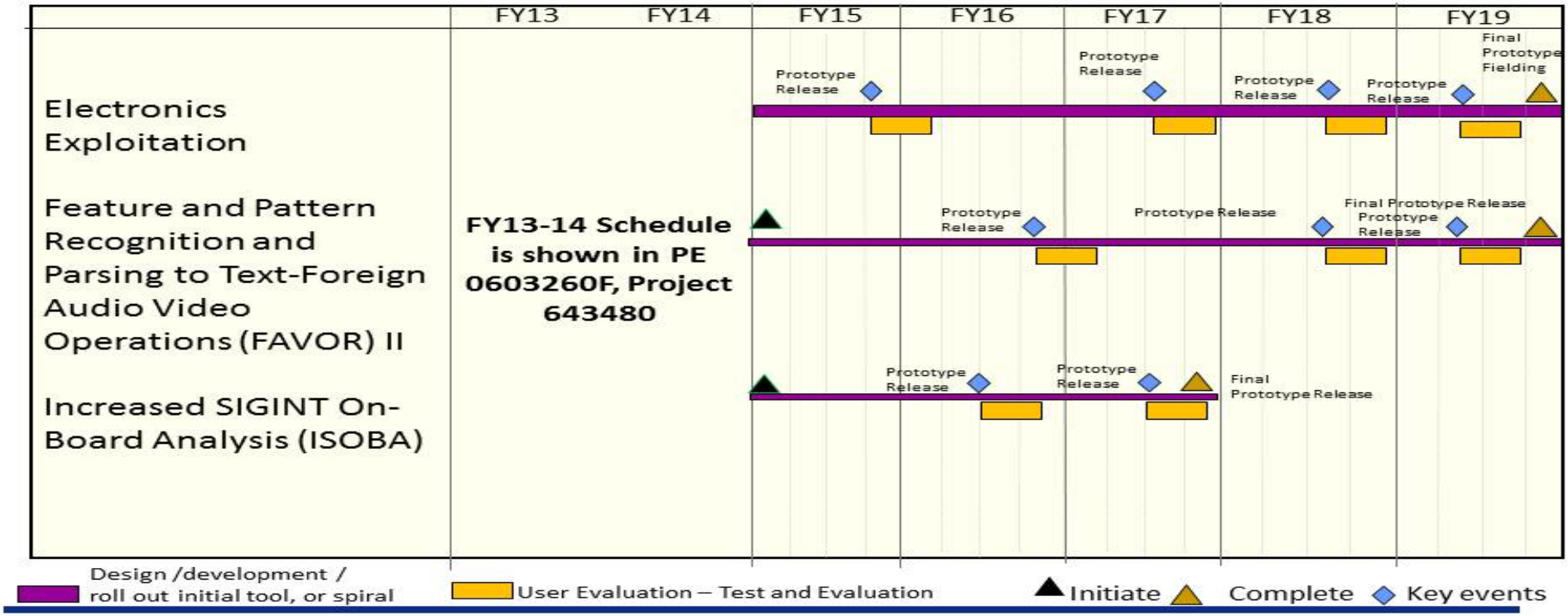
Intelligence Advanced Development (IAD), PE 0603260F, Project Number 64536A



FY15 PB

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 4	**R-1 Program Element (Number/Name)** PE 0603260F / *Intelligence Advanced Development*	**Project (Number/Name)** 64536A / *INTELLIGENCE EXPLOITATION TOOLS (IET)*

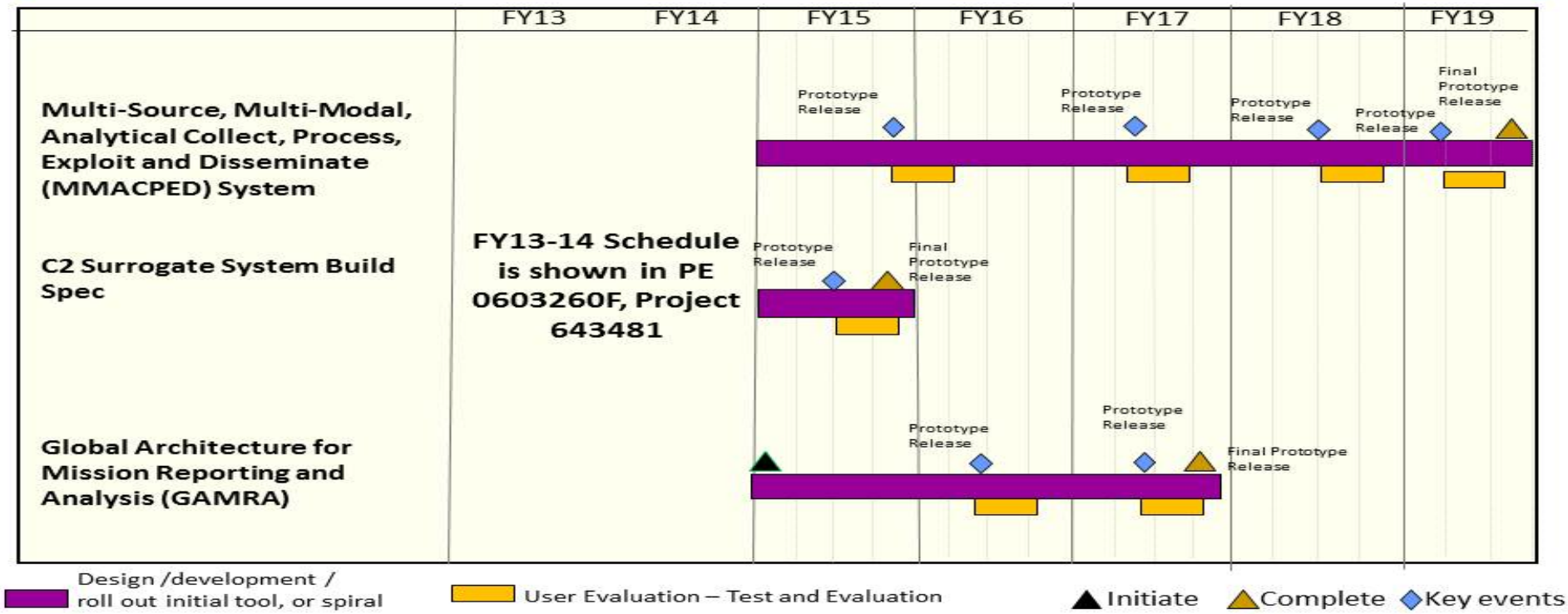
Intelligence Advanced Development (IAD), PE 0603260F, Project Number 64536A



FY15 PB

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 4	**R-1 Program Element (Number/Name)** PE 0603260F / *Intelligence Advanced Development*	**Project (Number/Name)** 64536A / *INTELLIGENCE EXPLOITATION TOOLS (IET)*

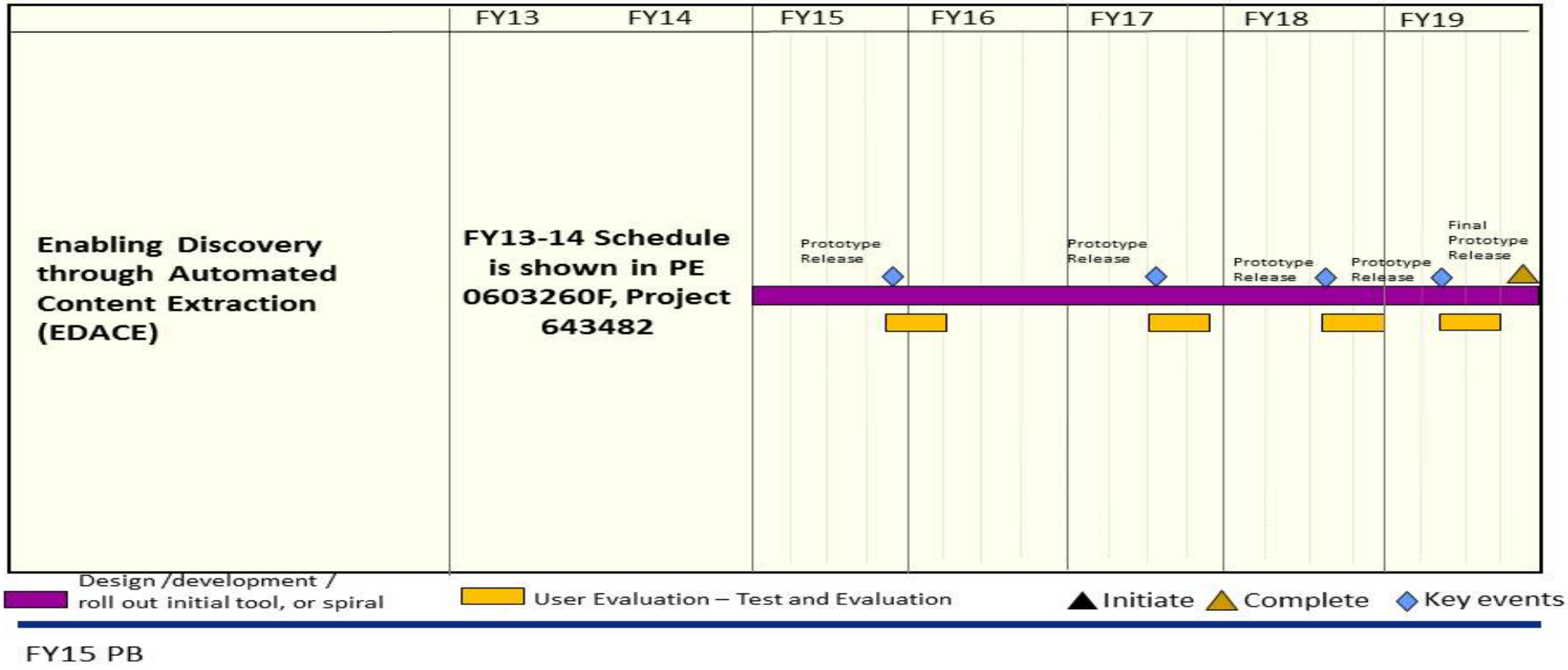
Intelligence Advanced Development (IAD), PE 0603260F, Project Number 64536A



FY15 PB

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 4	**R-1 Program Element (Number/Name)** PE 0603260F / *Intelligence Advanced Development*	**Project (Number/Name)** 64536A / *INTELLIGENCE EXPLOITATION TOOLS (IET)*

Intelligence Advanced Development (IAD), PE 0603260F, Project Number 64536A



FY15 PB

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 4	R-1 Program Element (Number/Name) PE 0603260F / *Intelligence Advanced Development*	Project (Number/Name) 64537A / *INTELLIGENCE ANALYSIS CAPABILITIES (IAC)*	

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
64537A: *INTELLIGENCE ANALYSIS CAPABILITIES (IAC)*	-	-	-	1.110	-	1.110	1.117	1.134	1.155	1.177	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

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

Note

In FY2015, 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 FY2015, Project Number 64537A, IAC, includes a new start effort: Activity Based Intelligence Indications & Warning.

A. Mission Description and Budget Item Justification

Intelligence Analysis Capabilities (IAC) provides continuing development and upgrades of threat analysis capabilities to produce integrated, predictive air and space intelligence to enable military operations, force modernization decisions, and policy making. Products from IAC allow the Intelligence Analyst to accelerate and increase the accuracy of threat estimates and system descriptions to deployed operational forces. IAC tools and algorithms provide NASIC and the 453rd EWS with the ability to produce accurate, predictive, relevant, and timely intelligence that supports client processes, operational planning, and mission execution. IAC develops new and upgraded analysis, modeling and simulation tools focused on intelligence production supporting AF operational and developmental all source analysis functions.

Each of the development projects within the IAC program portfolio transition technologies to the operational communities through the incremental release of upgraded versions over a period of years as development projects progress towards the final configuration. IAC may reallocate existing resources to support out-of-cycle new/ updated warfighter requirements.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Space, Air, and Terrestrial Modeling & Simulation Initiative	-	-	0.340
Description: Initiates SATM&S to add a space communications modeling capability to the previously fielded terrestrial communications focused TEL-SCOPE tool. This effort will complete modeling of an adversary's total C4ISR system and assist nomination of terrestrial and space targets. FY14 funding in PE 0603260F (BA5), Project 652053.			
FY 2013 Accomplishments:			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 4	**R-1 Program Element (Number/Name)** PE 0603260F / *Intelligence Advanced Development*	**Project (Number/Name)** 64537A / *INTELLIGENCE ANALYSIS CAPABILITIES (IAC)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
N/A ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** Will release first prototype and will initiate development of 2nd prototype.			
Title: Activity Based Intelligence Indication & Warning (ABI I&W) ***Description:*** Develop a robust prototype of an enterprise level solution (tools and procedures) that will allow the intelligence analyst to perform predictive intelligence analysis on new areas of interest. ***FY 2013 Accomplishments:*** N/A ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** Will start development of first prototype.	-	-	0.770
Accomplishments/Planned Programs Subtotals	-	-	1.110

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: BA05: PE 0604750F: *Intelligence Equipment*	0.736	-	-	-	-	-	-	-	-	-	-
• RDTE: BA05: PE 0603260F: *Intelligence Advanced Development*	-	0.977	-	-	-	-	-	-	-	-	-

Remarks

D. Acquisition Strategy

Requirements of new/upgraded intelligence analysis tools are identified and prioritized by the Air Force Intelligence, Surveillance and Reconnaissance Agency (AFISRA). Development of capabilities to meet these requirements is managed by the Air Force Research Laboratory (Rome Research Site). Prototype products (usually software), once evaluated by the users, are fielded in incremental capability spirals. All major contracts within this project are awarded after full and open competition.

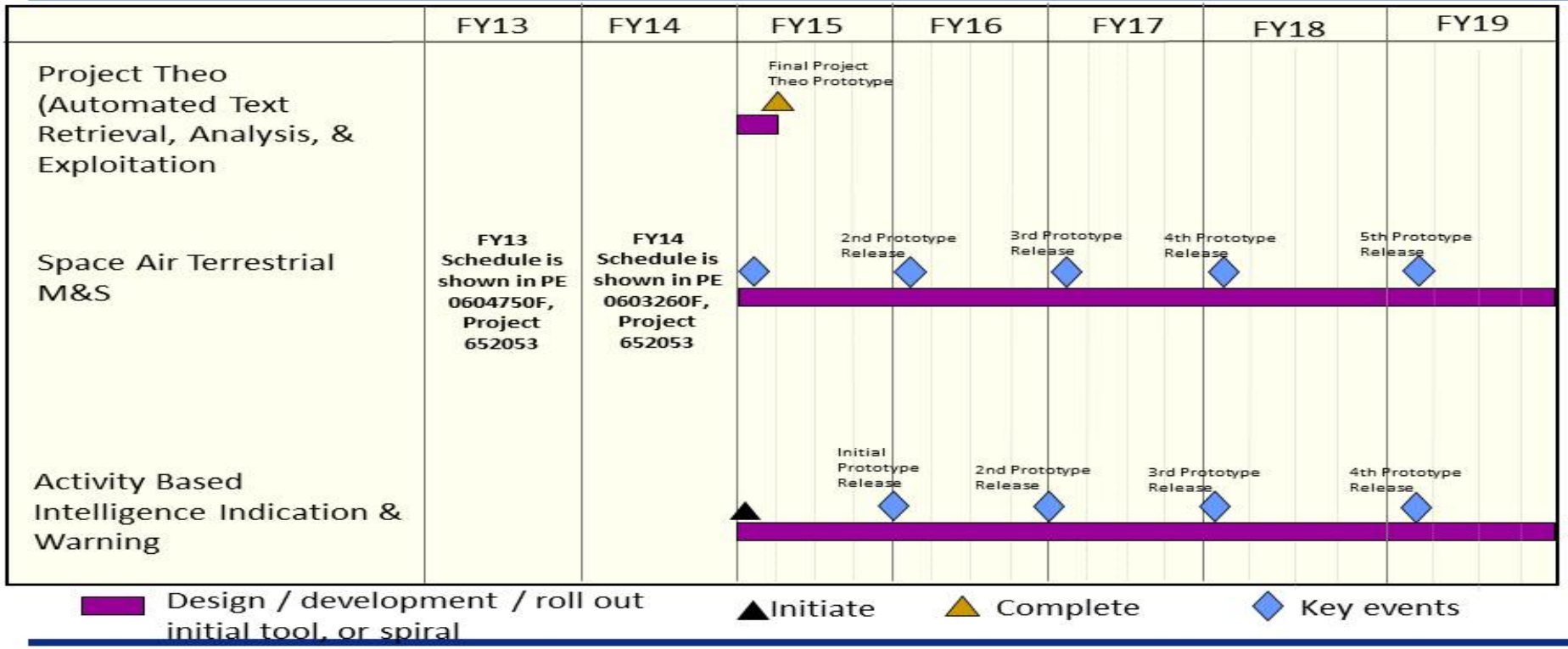
Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 4	**R-1 Program Element (Number/Name)** PE 0603260F / *Intelligence Advanced Development*	**Project (Number/Name)** 64537A / *INTELLIGENCE ANALYSIS CAPABILITIES (IAC)*

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 / 4	**R-1 Program Element (Number/Name)** PE 0603260F / *Intelligence Advanced Development*	**Project (Number/Name)** 64537A / *INTELLIGENCE ANALYSIS CAPABILITIES (IAC)*

Intelligence Advanced Development (IAD), PE 0603260F Project Number 64537A



FY15 PB

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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 4: *Advanced Component Development & Prototypes (ACD&P)*					R-1 Program Element (Number/Name) PE 0603287F / *Physical Security Equipment*							
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	-	3.350	3.874	-	-	-	1.977	-	-	-	Continuing	Continuing
645121: *Physical Security Equipment*	-	3.350	3.874	-	-	-	1.977	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

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

Note

In FY15, 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.

A. Mission Description and Budget Item Justification

Integrated Base Defense Security Systems (IBDSS) develops, demonstrates, and tests Physical Security Equipment (PSE) systems to include Force Protection. This program supports the protection of tactical, fixed, and nuclear weapons systems, AF personnel and AF facilities. The PSE program is organized to provide PSE RDT&E for Air Force specific needs but as a complement to and in conjunction with the PSE RDT&E programs funded by the DOD Physical Security Enterprise and Analysis Group (PSEAG). As such this program will develop, demonstrate, and test PSE in the same manner and to the same standards and architecture as PSEAG funded projects to ensure interoperability with PSEAG developed PSE. In development of PSE, this RDT&E program includes spectrum planning for radio frequency (RF), communication security (cyber), and information assurance requirements. This Program Element also includes funding for Force Protection (FP) Commercial-Off-The-Shelf (FP COTS) market research, evaluation and testing. The FP COTS testing applies to all available technologies (delay, denial, detection, assessment, communication display, access control and power) which are considered effective for AF physical security use. This program supports the maintenance and test support at Site C-3 and the Cold Weather Test Site (CWTS), as annotated in DoD Directive 3200.11, listing the 46th Test Wing as a Major Range and Test facility, conducting developmental and operational testing as the primary mission.

This program is in Budget Activity 4, Advanced Component Development and Prototypes (ACD&P) because efforts are necessary to evaluate integrated technologies, representative modes or prototype systems in a high fidelity and realistic operating 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 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 Program Element (Number/Name)** PE 0603287F / *Physical Security Equipment*

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	3.704	3.874	3.975	-	3.975
Current President's Budget	3.350	3.874	-	-	-
Total Adjustments	-0.354	-	-3.975	-	-3.975
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.110	-			
• Other Adjustments	-0.244	-	-3.975	-	-3.975

Change Summary Explanation

FY13: $244K for sequestration.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Integrated Base Defense Security Systems	3.350	3.874	-

Description: Develops, demonstrates, and tests Physical Security Equipment (PSE) systems to include Force Protection. This continuing effort was previously named Physical Security Equipment and is not a New Start.

FY 2013 Accomplishments:

Conducted Force Protection Commercial Off The Shelf (COTS) evaluation and testing:.

- Capability operated for operationally representative test and evaluation accomplished at Test Area C-3, Eglin AFB, FL and the Cold Weather Test Site (CWTS) at Grand Forks AFB, ND, as annotated in DoD Directive 3200.11, listing the 46TW as a Major Range and Test facility, conducting developmental and operational testing as the primary mission
- Test site capability essential for the rapid installation of a VICADS video management system installed with Predator Elite alarm display equipment in 3QY13 with initial test and evaluation conducted in 4QFY13. Successful resolution of documented discrepancies and qualification will result in a system approved for use and would provide a way ahead to resolve a nuclear security deviation documented by the operating MAJCOM commander.

Refined, researched, and tested technology for automated entry control systems; continued to test, develop, and integrate equipment to improve security and access to facilities. Program office management and test site capability enabled prior year RDT&E investments that:

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 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 Program Element (Number/Name)** PE 0603287F / *Physical Security Equipment*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
- Completed initial evaluation of Vindicator alarm display evaluation with updated operating system and information assurance configuration (46TS report 13-213); maintains viable alarm display system that can be accredited. To be delivered for New Boston AFS installation project and retrofit for aging AF security systems. - Completed Advantor alarm display evaluation with updated components and information assurance configuration (46TS report 13-145); maintains viable alarm display system that can be accredited. To be delivered for Fairchild AFB installation project and retrofit for aging AF security systems. Continued to manage sensor and assessment product developments and tests with the following results. Program office management and test site capability enabled prior year RDT&E investments that: - VTW-400 Fence Sensor Deficiency Resolution and Evaluation (09 Nov 12); enabled depot procurement and retrofit of components in the nuclear security environment at three locations ? completed in Sep 13. - VICADS evaluation for video storage integrated with Vindicator alarm display (46TS report 13-010); procured with installation in-process for Protection Level 1 security systems at Beale AFB, Cape Cod AFS and a USAFE protection Level 3 system to enable security operators highly reliable pre and post alarm video details for each perimeter alarm. - Fiber Defender (FD-525) Fence Sensor Cold Weather Evaluation (46TS 13-022); verified sensor performance through CTWS evaluation in the range of extreme winter conditions that nuclear security capable base security systems endure at AFGSC locations in the northern plains - Defensor-100 Fence Sensor Cold Weather Evaluation (46TS 13-023); verified sensor performance to relieve risk of one commercial source for perimeter fence sensors at nuclear security capable bases within AFGSC - Mid-Range Perimeter Surveillance Radar (STS-1400) Evaluation (46TS 13-224); applied AF developed test procedures to validate wide area detection sensor performance at a Missile Defense Agency operational location. - Pelco (ES40) Camera engineering analysis to qualify successor product and field evaluation (46TS 13-182); provided immediate relief for five installation delivery orders that had the same obsolescence problem. - Bosch (VG5) Camera Evaluation (46TS 13-112); provided immediate relief to remedy an issue with available camera that was no longer manufactured in accord with Trade Agreement Act. Continued to manage, develop, evaluate, and test Delay/Denial products: - Transitioned development work for consolidation of expeditionary and fixed base alarm display system to consolidate security operator workload into test and evaluation phase. Conducted contractor and initial Government evaluation; following FY14 evaluation and qualification the capability will be deployed at three AFCENT locations to relieve manpower burdens. Continued to prepare operational systems improvement plans; develop technology roadmap, update system architecture. PEO Battle Management and HAF/A7S developed plans to increase capacity of evaluating COTS products applicable for IBDSS projects. Plans matured through acquisition strategy development for IBDSS fielding contracts to leverage industry resources.			

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 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 Program Element (Number/Name)** PE 0603287F / *Physical Security Equipment*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Rapid Improvement Event (RIE) conducted in 4QFY13 to streamline process and reduce risks that COTS product qualification introduce to deployment of IBDSS capabilities. ***FY 2014 Plans:*** - Refine, research, and test technology for automated entry control systems. - Continue TASS P3I efforts including improvements to the annunciator. - Continue to manage, develop, evaluate, and test Delay/Denial products. - Develop internal delay, denial, and detection options for the Nuclear Storage environment. - Develop external delay, denial, and detection options for the Nuclear Storage environment. -- Delay advancements include semi-hardened transport containers for logistic movement of nuclear assets. -- Denial advancement includes prototypes for denial capability within protective aircraft shelters. -- Denial capability integration to improve life cycle cost and effectiveness for the Remote Target Engagement System (RTES) -- Analyses and maturity assessment of interruption methods to disable or mitigate adversary remote airborne platforms. - Force Protection Commercial Off The Shelf (COTS) evaluation and testing. - Continue to manage sensor and assessment product developments and tests; qualification testing to demonstrate sensor and integration maturity and effectivess. - Market research, integration and evaluation of a portable detection system that can be deployed to meet the full detection and communication requirements for nuclear security. - Market research, integration and evaluation of a capability to detect personnel and vehicle movement through foliage that obscures line of sight technologies. - Continue to research technological advances at DoD, DoE, University Labs, DARPA, within industry, etc., with PSE utility. - Continue to prepare operational systems improvement plans; develop technology roadmap; update system architecture. - Continue to test, develop, and integrate equipment to improve security and access to facilities. - Conduct analyses to include the adversary needs assessment and System Effectiveness Assessment (SEA) of the Nuclear Environment. - Develop a Security Forces Management Information System (SFMIS) module. - Develop Physical Security Alarm Systems; develop, integrate and evaluate fusion and display capability to improve command, control and communication to include fusion of disparate sensor technologies and threat indicators; improve situational awareness and increase the decision support provided to security system operators; planned environments are in the missile field and for weapons storage where Base Defense Operations Center aggregates threat, sensor alarms, video and thermal assessment for developing response plans and 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 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 Program Element (Number/Name)** PE 0603287F / *Physical Security Equipment*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
- Support the maintenance and test support at Site C-3 and the Cold Weather Test Site (CWTS), as annotated in DoD Directive 3200.11, listing the 46TW as a Major Range and Test facility, conducting developmental and operational testing as the primary mission. - Refine, research, and test technology for Common Operational Picture systems.			
Accomplishments/Planned Programs Subtotals	3.350	3.874	-

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
• AFOP: BA03: Line Item #30: *Air Force Physical Security System*	49.488	32.089	-	-	-	-	-	-	-	Continuing	Continuing

Remarks

E. Acquisition Strategy

COTS sub-systems, equipment and components are competitively acquired from industry after thorough market research. Equipment for testing is purchased via competitive Delivery Orders on Indefinite Delivery/Indefinite Quantity contract vehicles, direct purchase orders after competitive selection process, or other alternative competitive selection processes. For security systems COTS that are required to be qualified for nuclear security environments where industry COTS sources may not be mature, consideration is given to development of new items or modification of COTS through national laboratories; as competitive delivery order efforts on IDIQ contracts; or alternative competitive selection procedures as determined through acquisition strategy decisions.

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 / 4	**R-1 Program Element (Number/Name)** PE 0603287F / *Physical Security Equipment*	**Project (Number/Name)** 645121 / *Physical Security Equipment*

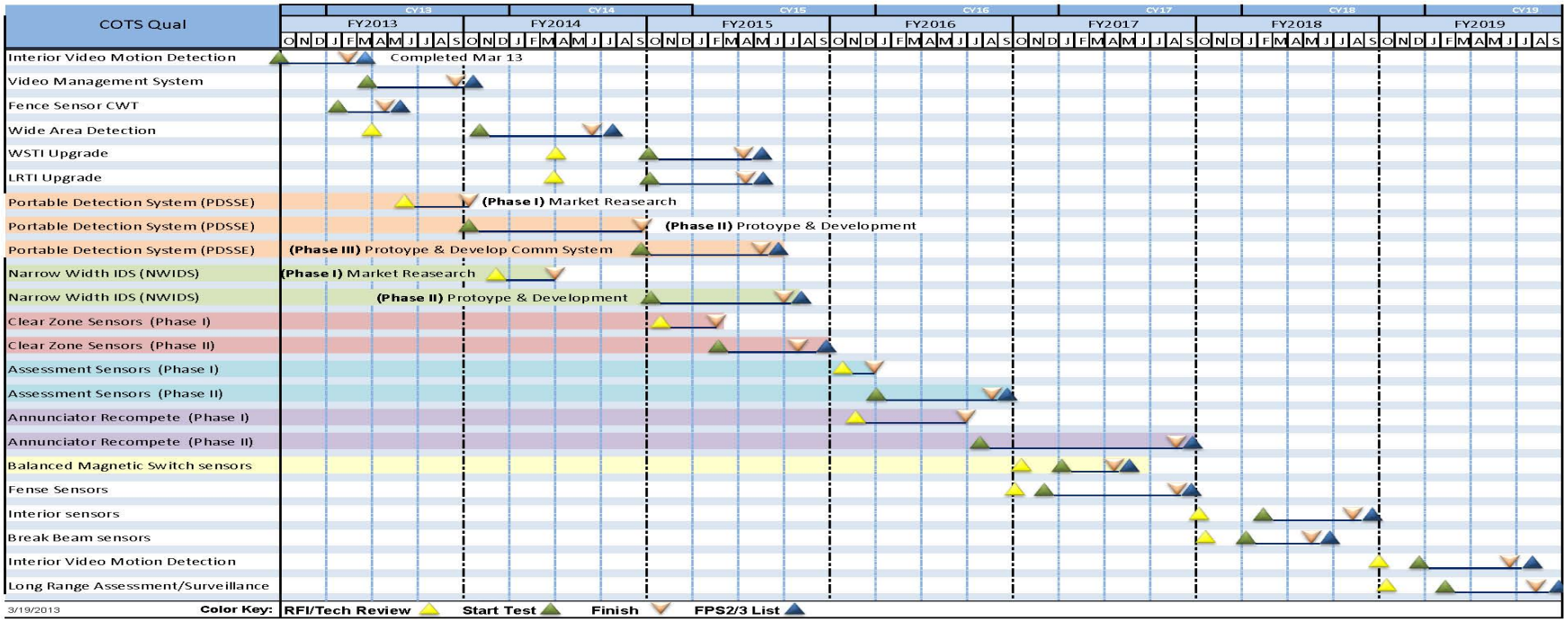


Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force												Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 4: *Advanced Component Development & Prototypes (ACD&P)*					R-1 Program Element (Number/Name) PE 0603430F / *Advanced EHF MILSATCOM (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	6,756.258	211.632	-	-	-	-	-	-	-	-	-	6,967.890
644050: *Advanced MILSATCOM*	6,654.762	138.183	-	-	-	-	-	-	-	-	-	6,792.945
64A030: *Evolved AEHF MILSATCOM*	101.496	73.449	-	-	-	-	-	-	-	-	-	174.945
MDAP/MAIS Code: 261												

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

Note

In FY2014, Project 644050, Advanced MILSATCOM, and Project 64A030, Evolved AEHF MILSATCOM, efforts transferred to PE 0605431F, Advanced EHF MILSATCOM (Space), Project 657103, Advanced MILSATCOM, and Project 657104, Evolved AEHF MILSATCOM, in order to transition to Budget Activity 5.

A. Mission Description and Budget Item Justification

Develop and acquire Advanced Extremely High Frequency (AEHF) Military Satellite Communications (MILSATCOM) satellites, mission control segment and cryptography for survivable, anti-jam, worldwide, secure communications for the strategic and tactical warfighters. AEHF satellites will replenish the existing EHF system (Milstar) providing much higher capacity and data rate (5x increase over Milstar II) capabilities. AEHF is a cooperative program that includes International Partners (Canada, the United Kingdom, and the Kingdom of the Netherlands).

Space Vehicle-1 (SV-1) launched on 14 August 2010. SV-1 experienced a propulsion anomaly and was raised to its geostationary orbit using alternative orbit raising techniques. SV-1 completed on-orbit test and transitioned to operations in March 2012. SV-2 launched on 4 May 2012, successfully completed on-orbit testing in October 2012, and is under operational control as of 7 Nov 2012.

With SV-1 and SV-2 launched, the AEHF program has nearly completed its development phase and is now addressing obsolescence, production continuity, supplier stability and industrial base issues. AEHF SV 5-6 are being procured using the Department of Defense (DoD) Efficient Space Procurement (ESP) concept. The ESP concept is a procurement approach which seeks stable production and efficient sub-contractor product management through the block buy of two space vehicles at one time (as described in Advanced EHF MILSATCOM P-40 Exhibit).

In addition, the ESP concept includes use of RDT&E funding for a MILSATCOM Space Modernization Initiative (SMI) to fund engineering activities to reduce future production costs through manufacturing and producibility enhancements, improve capabilities through insertion of new technologies, and replace obsolete parts, crypto and materials. The SMI efforts will provide opportunities for competition to develop potential technology upgrades at the component and system level for future satellites of the current or any follow-on system. SMI efforts will include obsolescence management and mitigation, technology maturation, new components' qualification, subsystem and component prototyping, architecture and system concept studies (to include hosted payloads), and pathfinder efforts to address MILSATCOM capability gaps identified in the Joint Space Communications Layer (JSCL) Initial Capabilities Document (ICD) and the "Resilient Basis for SATCOM in Joint Operations" study.

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 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 Program Element (Number/Name)** PE 0603430F / *Advanced EHF MILSATCOM (SPACE)*

The Protected Satellite Communications Services (PSCS) Analysis of Alternatives (AoA), using FY13 SMI funds, was initiated in Sep 2013. The purpose of the PSCS AoA is to evaluate space and control segment architectures, along with the associated user segment, to address the required protected satellite communications capabilities in the nuclear, contested, and benign operating environments.

In FY14, due to a change in Budget Activity from 4 to 5, funds transfer to PE 0605431F, Projects 657103 and 657104.

This program is in Budget Activity 4, Advanced Component Development and Prototypes, because efforts are necessary to evaluate integrated technologies, representative modes or prototype systems in a high fidelity and realistic operating environment.

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	229.171	-	-	-	-
Current President's Budget	211.632	-	-	-	-
Total Adjustments	-17.539	-	-	-	-
• Congressional General Reductions	-0.305	-			
• Congressional Directed Reductions	-23.000	-			
• Congressional Rescissions	-	-			
• Congressional Adds	25.000	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	5.000	-			
• SBIR/STTR Transfer	-5.218	-			
• Other Adjustments	-19.016	-	-	-	-

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2013	FY 2014
Project: 64A030: *Evolved AEHF MILSATCOM*		
Congressional Add: *SMI Plus-up*	22.967	-
Congressional Add Subtotals for Project: 64A030	22.967	-
Congressional Add Totals for all Projects	22.967	-

Change Summary Explanation

FY13: Other Adjustment row: -$19.016M, due to sequestration. Congressional Directed Reductions: -$3.000M for program management services excess to need; -$20.000M for satellite and MCS ICS excess to need. Reprogramming: +$5.000M for the Protected Satellite Communications Analysis of Alternatives

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 4	R-1 Program Element (Number/Name) PE 0603430F / *Advanced EHF MILSATCOM (SPACE)*	Project (Number/Name) 644050 / *Advanced MILSATCOM*	

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
644050: *Advanced MILSATCOM*	6,654.762	138.183	-	-	-	-	-	-	-	-	-	6,792.945
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

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

Note

In FY2014, Project 644050, Advanced MILSATCOM, efforts transferred to PE 0605431F, Advanced EHF MILSATCOM (Space), Project 657103, Advanced MILSATCOM, in order to transition to Budget Activity 5.

A. Mission Description and Budget Item Justification

Develop and acquire Advanced Extremely High Frequency (AEHF) Military Satellite Communications (MILSATCOM) satellites, mission control segment and cryptography for survivable, anti-jam, worldwide, secure communications for the strategic and tactical warfighters. AEHF satellites will replenish the existing EHF system (Milstar) providing much higher capacity and data rate (5x increase over Milstar II) capabilities.

AEHF is a cooperative program that includes International Partners (Canada, the United Kingdom, and the Kingdom of the Netherlands).

Space Vehicle-1 (SV-1) launched on 14 August 2010. SV-1 experienced a propulsion anomaly and was raised to its geostationary orbit using alternative orbit raising techniques. SV-1 completed on-orbit test and transitioned to operations in March 2012. SV-2 launched on 4 May 2012, successfully completed on-orbit testing in October 2012, and is under operational control as of 7 Nov 2012.

In FY14, due to a change in Budget Activity from 4 to 5, funds transfer to PE 0605431F, Project 657103.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: AEHF SVs 1-2, MCS	15.945	-	-
Description: Develop and acquire AEHF MILSATCOM satellites, mission control segment, and cryptography			
FY 2013 Accomplishments: In FY 2013, completed SV-2 on-orbit test. Continued program office support and related activities, and conducted studies/ analyses, as required.			
FY 2014 Plans: In FY14, funds transfer to PE 0605431F, Project 657103.			
FY 2015 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 4	**R-1 Program Element (Number/Name)** PE 0603430F / *Advanced EHF MILSATCOM (SPACE)*	**Project (Number/Name)** 644050 / *Advanced MILSATCOM*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
N/A			
Title: AEHF Interim Contractor Support (ICS) ***Description:*** Funds ICS for AEHF satellites, Mission Control Segment (MCS), Cryptography, and AEHF Calibration Facility (ACF), until Initial Operational Capability (IOC) declaration ***FY 2013 Accomplishments:*** In FY 2013, continued ICS for SV-1 and SV-2 on-orbit support, MCS sustainment, including Increment 7 delivery, and AEHF KMA sustainment. Began planning for Multiservice Operational Test and Evaluation. Continued ICS for the ACF. ***FY 2014 Plans:*** In FY14, funds transfer to PE 0605431F, Project 657103. ***FY 2015 Plans:*** N/A	108.129	-	-
Title: AEHF Key Management Infrastructure (KMI) transition ***Description:*** Transition of the AEHF Key Management Architecture (KMA) from Electronic Key Management System (EKMS) to KMI ***FY 2013 Accomplishments:*** Funded preliminary design for transition of AEHF Crypto KMA from EKMS to KMI. ***FY 2014 Plans:*** FY 2014, funds transfer to PE 0605431F, Project 657103. ***FY 2015 Plans:*** N/A	14.109	-	-
Accomplishments/Planned Programs Subtotals	138.183	-	-

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: BA05: PE 0605431F: *Advanced EHF MILSATCOM (Space)*	-	183.134	192.038	-	192.038	63.861	21.485	-	-	-	460.518

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 4	**R-1 Program Element (Number/Name)** PE 0603430F / *Advanced EHF MILSATCOM (SPACE)*	**Project (Number/Name)** 644050 / *Advanced MILSATCOM*	

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 # ADV555: *Advanced EHF*	476.575	328.350	298.890	-	298.890	335.786	656.455	57.794	29.784	47.650	2,231.284
• RDT&E: BA04: PE 0603854F: *Wideband Global SATCOM RDT&E (Space)*	10.438	-	-	-	-	-	-	-	-	-	10.438

Remarks

Wideband Global SATCOM RDT&E (Space) funding is within the Command and Control System - Consolidated (CCS-C) project.

D. Acquisition Strategy

The Advanced MILSATCOM, also known as Advanced EHF (AEHF), program is a sole source acquisition to a contractor team comprised of Lockheed Martin (prime/integrator) and Northrop-Grumman (provider of the satellite payload). This team will perform the Advanced Component Development and Prototypes (ACD&P) and Systems Development and Demonstration (SDD) of two RDT&E-funded satellites and associated mission command and control ground capabilities under Cost Plus Award Fee line items on the contract. AEHF will incorporate lessons learned and improvements from Milstar and commercial SATCOM practices into the next generation EHF secure, anti-jam military communications satellite system.

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 / 4	**R-1 Program Element (Number/Name)** PE 0603430F / *Advanced EHF MILSATCOM (SPACE)*	**Project (Number/Name)** 644050 / *Advanced MILSATCOM*	

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
Cryptographic Development	MIPR	NSA : Camden, NJ	252.730	-		-		-		-		-	-	252.730	252.730
Crypto Interim Contractor Support	MIPR	CPSG : San Antonio, TX	21.080	10.942	Mar 2013	-		-		-		-	-	32.022	-
AEHF Key Management Infrastructure transition	Various	Not specified. : ,	0.000	14.109	May 2013	-		-		-		-	-	14.109	-
Terminals Engineering	C/CPFF	JTEO : San Diego, CA	15.491	-		-		-		-		-	-	15.491	15.491
MILSATCOM Technology Validation SE&I	SS/CPAF	MIT/LL : Lexington, MA	21.538	-		-		-		-		-	-	21.538	21.538
AEHF Capabilities Insertion Program	Various	Various : Various,	39.700	-		-		-		-		-	-	39.700	-
Technical Support	SS/CPAF	MITRE : Bedford, MA	0.779	-		-		-		-		-	-	0.779	0.779
Processing Subsystem Engineering Model	Various	Hughes : El Segundo, CA	67.175	-		-		-		-		-	-	67.175	67.175
Processing Subsystem Engineering Model (2)	Various	TRW : Redondo Beach, CA	62.083	-		-		-		-		-	-	62.083	62.083
Technical Projects	Various	Various : Various,	66.659	-		-		-		-		-	-	66.659	66.659
Pre-Engineering Manufacturing and Development	Various	Lockheed Martin : Sunnyvale, CA	225.011	-		-		-		-		-	-	225.011	225.011
System Development and Demonstration	Various	Lockheed Martin : Sunnyvale, CA	5,008.522	-		-		-		-		-	-	5,008.522	4,979.010
AEHF Interim Contractor Support	SS/CPIF	Lockheed Martin : Sunnyvale, CA	224.654	94.941	Dec 2012	-		-		-		-	-	319.595	-
GFP	Various	Various : Various,	71.379	2.246	Dec 2012	-		-		-		-	-	73.625	-
Command and Control System - Consolidated	SS/CPAF	Kratos : San Diego, CA	2.342	-		-		-		-		-	-	2.342	-
Radiation Hardened parts developers	Various	Various : Various	117.480	-		-		-		-		-	-	117.480	-
		Subtotal	6,196.623	122.238		-		-		-		-	-	6,318.861	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 4	R-1 Program Element (Number/Name) PE 0603430F / *Advanced EHF MILSATCOM (SPACE)*	Project (Number/Name) 644050 / *Advanced MILSATCOM*	

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

Remarks

FY14 funds transferred to PE 0605431F, Project 657103.

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
Various	Various	Various : Various,	123.696	-		-		-		-		-	-	123.696	123.696
Enterprise Systems Engineering & Integration (SE&I)	C/FFP	Linquest : Los Angeles, CA	78.054	5.421	Apr 2013	-		-		-		-	-	83.475	-
Advanced Concepts Directorate technology needs forecasting FFRDC (PMA)	Various	Various : Various,	9.698	-		-		-		-		-	-	9.698	-
Advanced Concepts Directorate technology needs forecasting Program Office Support (PMA)	Various	Various : Various,	13.727	-		-		-		-		-	-	13.727	-
		Subtotal	225.175	5.421		-		-		-		-	-	230.596	-

Remarks

FY14 funds transferred to PE 0605431F, Project 657103.

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
Development Test and Evaluation support	Various	Various : Various,	27.652	2.567	Dec 2012	-		-		-		-	-	30.219	30.219
		Subtotal	27.652	2.567		-		-		-		-	-	30.219	30.219

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 4	R-1 Program Element (Number/Name) PE 0603430F / *Advanced EHF MILSATCOM (SPACE)*	Project (Number/Name) 644050 / *Advanced MILSATCOM*	

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

Remarks

FY14 funds transferred to PE 0605431F, Project 657103.

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
AEHF FFRDC (PMA)	Various	Various : Various,	131.566	1.000	Dec 2012	-		-		-		-	-	132.566	-
AEHF Program Office Support (PMA)	Various	Various : Various,	73.746	4.300	Dec 2012	-		-		-		-	-	78.046	-
Business Operating Support Services & Acquisition Mission Support (PMA)	Various	Various : Various,	0.000	2.657	Dec 2012	-		-		-		-	-	2.657	4.000
		Subtotal	205.312	7.957		-		-		-		-	-	213.269	-

Remarks

FY14 funds transferred to PE 0605431F, Project 657103. .

	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	6,654.762	138.183		-		-		-		-	-	6,792.945	-

Remarks

FY14 funds transferred to PE 0605431F, Project 657103.

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 4	**R-1 Program Element (Number/Name)** PE 0603430F / *Advanced EHF MILSATCOM (SPACE)*	**Project (Number/Name)** 644050 / *Advanced MILSATCOM*

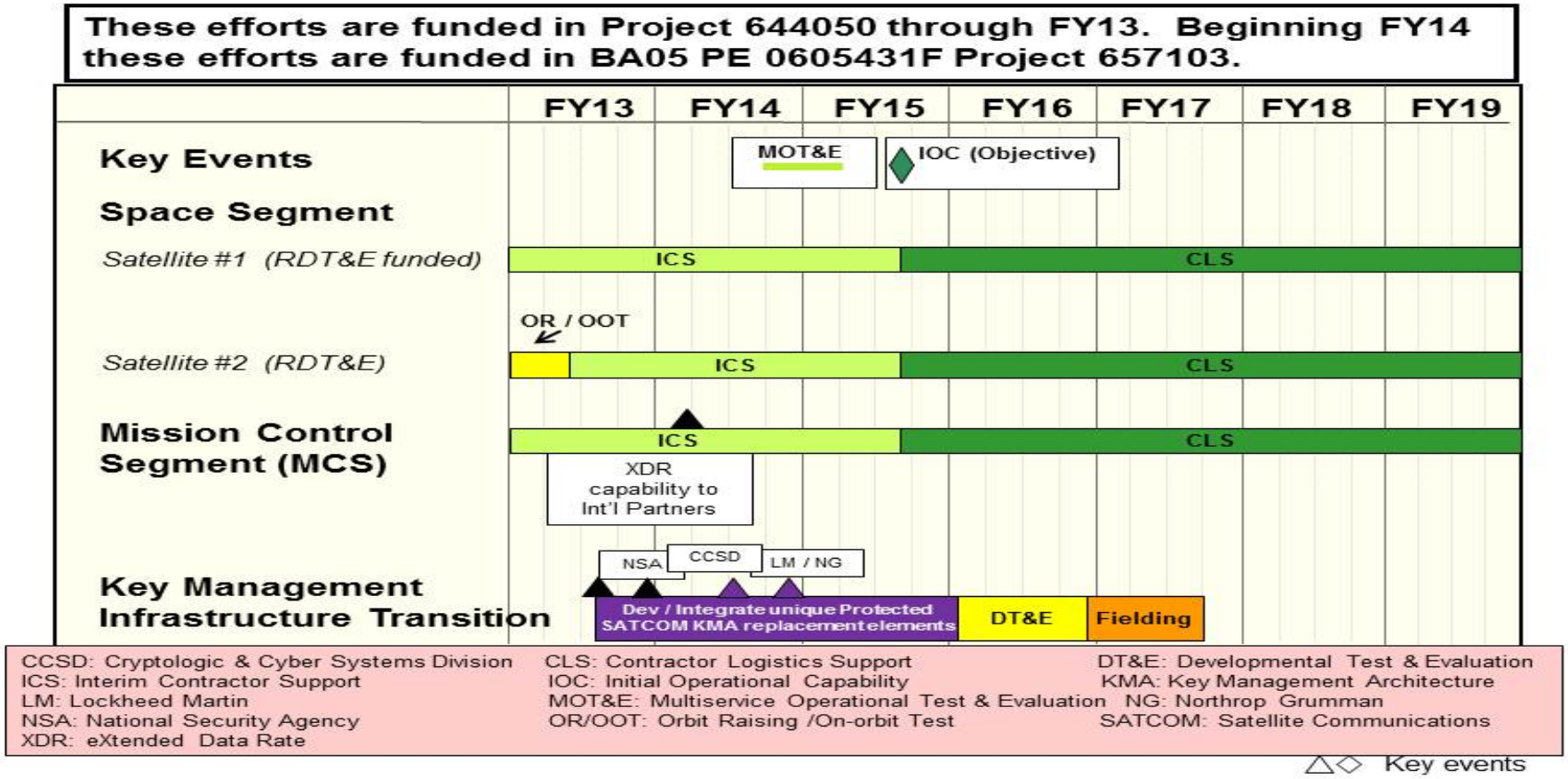


Exhibit R-4A, RDT&E Schedule Details: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 4	**R-1 Program Element (Number/Name)** PE 0603430F / *Advanced EHF MILSATCOM (SPACE)*	**Project (Number/Name)** 644050 / *Advanced MILSATCOM*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Award NSA PKMA contract	4	2013	4	2013

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 4	R-1 Program Element (Number/Name) PE 0603430F / *Advanced EHF MILSATCOM (SPACE)*	Project (Number/Name) 64A030 / *Evolved AEHF MILSATCOM*	

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
64A030: *Evolved AEHF MILSATCOM*	101.496	73.449	-	-	-	-	-	-	-	-	-	174.945
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

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

Note

In FY2014, Project 64A030, Evolved AEHF MILSATCOM, efforts transferred to PE 0605431F, Advanced EHF MILSATCOM (Space), Project 657104, Evolved AEHF MILSATCOM, in order to transition to Budget Activity 5.

A. Mission Description and Budget Item Justification

This project funds a MILSATCOM Space Modernization Initiative (SMI) which includes engineering activities that assess promising new components and systems to confirm their suitability (capable, affordable, and producible) for the MILSATCOM mission across the payload, terminal and network segments. SMI is a near-term investment plan to invest in more affordable alternatives to evolve current MILSATCOM technologies, concepts, and capabilities to reduce obsolescence risks and improve affordability, resiliency, and responsiveness of replenishment programs, and identifies relevant commercial opportunities for potential hosted payload developments to demonstrate proof of concept for operations and future distributed architectures. In addition, SMI begins acquisition capabilities supporting concept definitions and demos for protected tactical communications services, anti-jam enhanced theater antennas, and increased military wideband coverage and capacity.

In FY14, due to a change in Budget Activity from 4 to 5, funds transfer to PE 0605431F, Project 657104.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: AEHF SV-6 Flight Crypto & Future AEHF Parts Obsolescence Mitigation	15.000	-	-
Description: AEHF SV-6 flight cryptographic equipment redesign effort and future AEHF parts obsolescence mitigation effort ***FY 2013 Accomplishments:*** Funded efforts such as SV-6 flight crypto redevelopment and mitigation of identified parts obsolescence that may affect the future stability of the AEHF product line, particularly the payload. ***FY 2014 Plans:*** In FY2014, Project 64A030 funds transfer to PE 0605431F, Project 65104. ***FY 2015 Plans:*** N/A			
Title: Protected MILSATCOM "Design for Affordability"	13.837	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 4	**R-1 Program Element (Number/Name)** PE 0603430F / *Advanced EHF MILSATCOM (SPACE)*	**Project (Number/Name)** 64A030 / *Evolved AEHF MILSATCOM*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Description: Perform design for affordability studies, demonstrations, and technology risk reduction on critical technology elements for the space payload, terminals and networking segments, and anti-jam enhanced theater antennas to significantly reduce the cost of protected SATCOM. ***FY 2013 Accomplishments:*** Completed Phase 1 efforts. Four of the 17 contracts awarded late 2012 had Phase 2 options. These options were awarded to further efforts from FY12 that increase fidelity of architecture design, demonstrate critical components, and lower the risk on next generation protected MILSATCOM systems. ***FY 2014 Plans:*** In FY2014, Project 64A030 funds transfer to PE 0605431F, Project 657104. ***FY 2015 Plans:*** N/A			
Title: Protected SATCOM Services (PSCS) AoA ***Description:*** The Joint Requirements Oversight Council (JROC)-approved release of the 28 Sept 2010 Joint Space Communications Layer (JSCL) Initial Capabilities Document (ICD) drove the FY2011 Resilient Basis for Satellite Communications in Joint Operations Study (RBS). Results of the RBS Study, briefed to the Defense Space Council (DSC), revealed that current protected satellite communications services did not meet all of the JSCL ICD requirements, to include the North Polar region. With capability gaps identified, lack of a post Enhanced Polar System (EPS) plan, and a need to determine how best to provision for protected MILSATCOM beyond the sixth AEHF satellite, the DSC recommended this Analysis of Alternatives (AoA) effort. ***FY 2013 Accomplishments:*** The PSCS AoA will determine the preferred protected SATCOM services architecture post AEHF SV-6 and EPS SV-2. The allocated funds were executed in accordance with the approved AoA Study Guidance and Work Plan.	5.000	-	-
Title: MILSATCOM Architecture and support ***Description:*** Conduct System Engineering and Program Management to include Program Office support such as Federally Funded Research and Development Center (FFRDC) analyses, System Engineering Technical Assistance (SETA), Systems Engineering and Integration (SE&I) and other related activities. ***FY 2013 Accomplishments:*** Funded efforts such as refining the ongoing MILSATCOM architectures including affordable Information Assurance approaches, PSCS AoA support, and commercial product contributions. Funded the development of the Government Protected MILSATCOM	16.645	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 4	**R-1 Program Element (Number/Name)** PE 0603430F / *Advanced EHF MILSATCOM (SPACE)*	**Project (Number/Name)** 64A030 / *Evolved AEHF MILSATCOM*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
testbed which will provide consistent protected tactical waveform (PTW) interoperability testing across multiple Protected "Design for Affordability" (DFA) BAA contractors. Developed functional and interoperable PTW requirements, construct testbed hardware/ software and build modeling and verification test. Funded MIT/LL AEHF Terminal Adaptive Coding Accelerator effort that will build upon previous study results to develop prototype boxes that interface with both the Navy NMT and the Army SMART-T terminals to increase terminal data rates by up to 800%. Funded Program Management to include program office support, FFRDC analyses, SETA, and SE&I to support and execute the MILSATCOM SMI efforts (i.e., Protected DFA Phases 1 & 2 risk reduction).			
FY 2014 Plans: In FY2014, Project 64A030 funds transfer to PE 0605431F, Project 657104.			
Accomplishments/Planned Programs Subtotals	50.482	-	-

	FY 2013	FY 2014
Congressional Add: SMI Plus-up	22.967	-
FY 2013 Accomplishments: These additional SMI funds were appropriated by congress and per a Congressional Reporting Requirement a detailed spend plan has been submitted.		
Congressional Adds Subtotals	22.967	-

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: BA05: PE 0605431F: *Advanced EHF MILSATCOM (Space)*	-	82.500	122.340	-	122.340	194.517	225.430	226.868	668.545	Continuing	Continuing
• MPAF: BA05: Line Item # ADV555: *Advanced EHF*	476.575	328.350	298.890	-	298.890	335.786	656.455	57.794	29.784	47.650	2,231.284

Remarks

D. Acquisition Strategy

MILSATCOM SMI will include parts obsolescence redesign and incremental capability upgrades for potential future block buys contracted with current Prime contractor team. Architecture studies, system design for affordability, and risk reduction efforts for next generation capabilities will include full and open competition efforts.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 4	**R-1 Program Element (Number/Name)** PE 0603430F / *Advanced EHF MILSATCOM (SPACE)*	**Project (Number/Name)** 64A030 / *Evolved AEHF MILSATCOM*

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 / 4	**R-1 Program Element (Number/Name)** PE 0603430F / *Advanced EHF MILSATCOM (SPACE)*	**Project (Number/Name)** 64A030 / *Evolved AEHF MILSATCOM*	

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
AEHF SV-6 Flight Crypto and Future Parts Obsolescence Mitigation	Various	Various : Various,	0.000	15.000	Dec 2012	-		-		-		-	-	15.000	-
AEHF Capabilities Insertion Program (CIP)	SS/ Various	Lockheed Martin : Sunnyvale, CA	5.000	-		-		-		-		-	-	5.000	-
Radiation Hardened Parts developers	Various	Various : Various,	19.908	-		-		-		-		-	-	19.908	-
Remotely Piloted Aircraft Concept Definition	Various	Various : Various,	2.700	-		-		-		-		-	-	2.700	-
Protected MILSATCOM "Design for Affordability" Phase 1 BAA #1	C/FFP	The Boeing Company : El Segundo, CA	11.675	-		-		-		-		-	-	11.675	-
Protected MILSATCOM "Design for Affordability" Phase 1 BAA #2	C/FFP	Loral : Palo Alto, CA	10.125	-		-		-		-		-	-	10.125	-
Protected MILSATCOM "Design for Affordability" Phase 1 BAA #3	C/FFP	Raytheon : Marlborough, MA	8.733	-		-		-		-		-	-	8.733	-
Protected MILSATCOM "Design for Affordability" Phase 1 BAA #4	C/FFP	L3 COM - West : Salt Lake City, UT	7.896	-		-		-		-		-	-	7.896	-
Protected MILSATCOM "Design for Affordability" Phase 1 BAA #5	C/FFP	Hughes Network : Germantown, MD	1.776	-		-		-		-		-	-	1.776	-
Protected MILSATCOM "Design for Affordability" Phase 1 BAA #6	C/FFP	L3 COM - East : Camden, NJ	1.200	-		-		-		-		-	-	1.200	-
Protected MILSATCOM "Design for Affordability" Phase 1 BAA #7	C/FFP	Northrop-Grumman Aerospace Systems : Redondo Beach, CA	11.036	-		-		-		-		-	-	11.036	-
Protected MILSATCOM "Design for Affordability" Phase 1 BAA #8	C/FFP	Viasat : Germantown, MD	1.444	-		-		-		-		-	-	1.444	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 4	**R-1 Program Element (Number/Name)** PE 0603430F / *Advanced EHF MILSATCOM (SPACE)*	**Project (Number/Name)** 64A030 / *Evolved AEHF MILSATCOM*

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
Protected MILSATCOM "Design for Affordability" Phase 1 BAA #9-17	C/FFP	Various : Various,	2.286	-		-		-		-		-	-	2.286	-
Protected MILSATCOM "Design for Affordability" Phase 2 BAA #1	C/FFP	The Boeing Company : El Segundo, CA	0.000	3.241	Aug 2013	-		-		-		-	-	3.241	-
Protected MILSATCOM "Design for Affordability" Phase 2 BAA #2	C/FFP	Loral : Palo Alto, CA	0.000	4.897	Aug 2013	-		-		-		-	-	4.897	-
Protected MILSATCOM "Design for Affordability" Phase 2 BAA #3	C/FFP	Raytheon : Marlborough, MA	0.000	3.167	Aug 2013	-		-		-		-	-	3.167	-
Protected MILSATCOM "Design for Affordability" Phase 2 BAA #4	C/FFP	L3 COM - West : Salt Lake City, UT	0.000	2.532	Aug 2013	-		-		-		-	-	2.532	-
Hosted Payload Concept Definition	C/Various	Various : Various,	0.000	-		-		-		-		-	-	-	-
SMI Plus Up #1	C/FFP	Army Research Laboratory : Adelphi, MD	0.000	12.854	Nov 2013	-		-		-		-	-	12.854	-
SMI Plus Up #2	C/FFP	MIT/LL : Boston, MA	0.000	1.800	Nov 2013	-		-		-		-	-	1.800	-
SMI Plus Up #3	C/FFP	NSA : Various,	0.000	1.000	Nov 2013	-		-		-		-	-	1.000	-
SMI Plus Up #4	C/FFP	HNA : Boston, MA	0.000	3.100	Nov 2013	-		-		-		-	-	3.100	-
SMI Plus Up #5	C/FFP	DISA : Various,	0.000	1.090	Nov 2013	-		-		-		-	-	1.090	-
SMI Plus Up #6	C/FFP	Aerospace : El Segundo, CA	0.000	0.257	Nov 2013	-		-		-		-	-	0.257	-
SMI Plus Up #7	C/FFP	Lockheed Martin : Sunnyvale, CA	0.000	1.500	Nov 2013	-		-		-		-	-	1.500	-
SMI Plus Up #8	C/TBD	TBD : TBD,	0.000	1.366	Nov 2013	-		-		-		-	-	1.366	-
PSCS AoA	C/Various	Various : Various,	0.000	5.000	Oct 2013	-		-		-		-	-	5.000	-
		Subtotal	83.779	56.804		-		-		-		-	-	140.583	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 4	R-1 Program Element (Number/Name) PE 0603430F / *Advanced EHF MILSATCOM (SPACE)*	Project (Number/Name) 64A030 / *Evolved AEHF MILSATCOM*	

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

Remarks

FY14 funds transferred to PE 0605431F, Project 657104.

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
Enterprise Systems Engineering & Integration	C/FFP	Linquest : Los Angeles, CA	1.723	3.925	Jan 2013	-		-		-		-	-	5.648	-
		Subtotal	1.723	3.925		-		-		-		-	-	5.648	-

Remarks

FY14 funds transferred to PE 0605431F, Project 657104.

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
FFRDC to support MILSATCOM Architecture studies and Protected MILSATCOM Testbed (PMA)	Various	Various : Various,	15.013	11.492	Dec 2012	-		-		-		-	-	26.505	-
Program Office Support & Other Related Activities (PMA)	Various	Various : Various,	0.981	0.328	Dec 2012	-		-		-		-	-	1.309	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 4	**R-1 Program Element (Number/Name)** PE 0603430F / *Advanced EHF MILSATCOM (SPACE)*	**Project (Number/Name)** 64A030 / *Evolved AEHF MILSATCOM*

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
Business Operating Support Services & Acquisition Mission Support (PMA)	Various	Various : Various,	0.000	0.900	Dec 2012	-		-		-		-	-	0.900	-
		Subtotal	15.994	12.720		-		-		-		-	-	28.714	-

Remarks

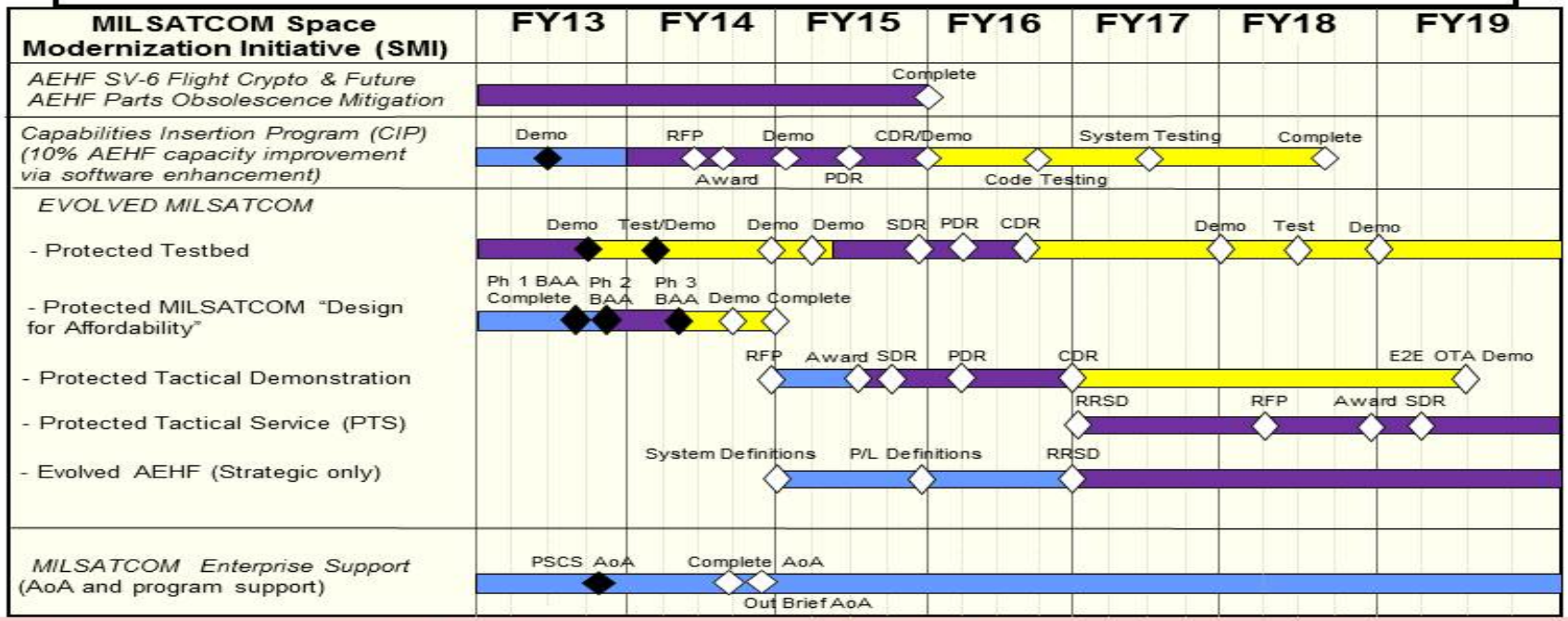
FY14 funds transferred to PE 0605431F, Project 657104.

	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	101.496	73.449		-		-		-		-	-	174.945	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 4	**R-1 Program Element (Number/Name)** PE 0603430F / *Advanced EHF MILSATCOM (SPACE)*	**Project (Number/Name)** 64A030 / *Evolved AEHF MILSATCOM*

These efforts are funded in PE 0603430F, Project 64A030 through FY13. Beginning FY14 these efforts are funded in PE 0605431F, Project 657104.



BAA: Broad Agency Announcement
CDR: Critical Design Review
E2E: End To End
OTA: Over The Air
PDR: Preliminary Design Review
PSCS: Protected SATCOM Services
RFP: Request for Proposal
RRSD: Risk Reduction & System Definition
SDR: System Design Review

Concept activities | Design / development | Integration / test

Exhibit R-4A, RDT&E Schedule Details: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 4	**R-1 Program Element (Number/Name)** PE 0603430F / *Advanced EHF MILSATCOM (SPACE)*	**Project (Number/Name)** 64A030 / *Evolved AEHF MILSATCOM*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Initiated PSCS AoA	4	2013	4	2013
Awarded Phase 2 options on selected Protected MILSATCOM "Design for Affordability" contracts	4	2013	4	2013

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 4: *Advanced Component Development & Prototypes (ACD&P)*					R-1 Program Element (Number/Name) PE 0603432F / *Polar MILSATCOM (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	1,208.134	77.202	-	-	-	-	-	-	-	-	-	1,285.336
644052: *Polar Satellite Communications*	1,208.134	77.202	-	-	-	-	-	-	-	-	-	1,285.336
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

MDAP/MAIS Code: 121

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

Note

In FY2014, Project 644052, Polar Satellite Communications, efforts transferred to PE 0605432F, Polar MILSATCOM (Space), Project 657105, Polar Satellite Communications, in order to transition to Budget Activity 5.

A. Mission Description and Budget Item Justification

This program element acquires the Polar Military Satellite Communications (MILSATCOM) system that provides protected communications (anti-jam and low probability of intercept and detection) for users in the north polar region.

Through FY05, Polar Satellite Communications funded three low data rate (LDR) Milstar payloads on three classified host satellites as an expedited, interim solution for protected connectivity requirements in the north polar region (i.e., Interim Polar System (IPS)). Two satellites with hosted payloads are required to provide the necessary 24-hour coverage. The third payload went into operations in November 2008 to sustain the 24-hour coverage.

In FY06, the DoD began funding the next generation Polar Satellite Communications capability with two more polar payloads via the same host vehicle type (i.e., Enhanced Polar System (EPS)). The host spacecraft and the polar communications payloads required design modifications that replaced obsolete components and took advantage of the more capable Advanced Extremely High Frequency (AEHF) technology including the eXtended Data Rate (XDR) waveform. The EPS Capability Development Document (CDD), approved by the Joint Requirements Oversight Council in September 2006, is based on a two-payload, hosted XDR program with operational availability in CY15 and CY17. The EPS system is comprised of four segments: Payload, Ground Control, Gateway, and Terminal (acquired by each Service's Terminal Program Office).

In FY11, the EPS CDD was updated to provide a stand-alone ground capability that was no longer fully integrated with AEHF. The restructured program will deliver "IPS-like" capability with the XDR waveform, and a connection to the defense network. The ground Control and Planning Segment (CAPS) contract was awarded late November 2012. The program office conducted a CAPS Preliminary Design Review (PDR) in June FY13 and a Gateway Segment Critical Design Review September FY13. An EPS system-level PDR was held 27-28 August 2013.

In FY14, due to a change in Budget Activity from 4 to 5, funds transfer to PE 0605432F, Project 657105.

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 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 Program Element (Number/Name)** PE 0603432F / *Polar MILSATCOM (SPACE)*

The Polar MILSATCOM program is in Budget Activity 4, Advanced Component Development and Prototypes (ACD&P) because efforts are necessary to evaluate integrated technologies, representative modes or prototype systems in a high fidelity and realistic operating environment.

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	120.676	-	-	-	-
Current President's Budget	77.202	-	-	-	-
Total Adjustments	-43.474	-	-	-	-
• Congressional General Reductions	-0.160	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-29.905	-			
• SBIR/STTR Transfer	-3.621	-			
• Other Adjustments	-9.788	-	-	-	-

Change Summary Explanation

FY13: Other Adjustment row: -$9.788M, due to sequestration. -$29.906M reprogrammed for higher AF priorities.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: EPS	77.202	-	-
Description: Develop and acquire EPS MILSATCOM ***FY 2013 Accomplishments:*** In FY2013: Continued integration of the two EPS payloads onto the host satellites. Awarded CAPS contract. Conducted the Preliminary Design Review and the Gateway segment Critical Design Review. Also conducted an EPS system-level Preliminary Design Review. ***FY 2014 Plans:*** In FY2014, funds transfer to PE 0605432F, Project 657105.			
Accomplishments/Planned Programs Subtotals	77.202	-	-

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 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 Program Element (Number/Name)** PE 0603432F / *Polar MILSATCOM (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
• RDT&E: BA05: PE 0605432F: *Polar MILSATCOM (Space)*	-	104.582	103.552	-	103.552	72.563	51.727	24.930	-	-	357.354

Remarks

The Navy has used its own PE(s) to modify control systems and terminals to work with the Interim Polar System.

E. Acquisition Strategy

The Enhanced Polar System (EPS) is the follow-on to the currently operational Interim Polar System (IPS) and is a component of the Extremely High Frequency SATCOM architecture, providing secure, protected communications to worldwide users. The EPS acquisition consists of four segments (Payload, Ground Control, Gateway, and Terminal) acquired by separate procurement actions. The EPS payloads will be hosted on a classified satellite and acquired by the organization hosting the EPS payloads. The MILSATCOM System Directorate will procure the Ground Control and Gateway segments. The MILSATCOM System Directorate is the prime systems integrator for the EPS payload, ground control, and gateway segments. The Terminals which will use EPS will be acquired by each Service's Terminal Program Office.

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 / 4	R-1 Program Element (Number/Name) PE 0603432F / *Polar MILSATCOM (SPACE)*	Project (Number/Name) 644052 / *Polar Satellite Communications*	

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
Classified	TBD	TBD : TBD,	299.594	-		-		-		-		-	-	299.594	-
EPS Requirement Analyses and Design Trade Studies	Various	Various : Various,	76.187	-		-		-		-		-	-	76.187	-
Mission Control Segment Design Trade Studies	SS/CPAF	Lockheed Martin : Sunnyvale, CA	29.509	-		-		-		-		-	-	29.509	-
Ground study and Emulator development	MIPR	Johns Hopkins University/Applied Physics Lab : Columbia, MD	11.146	-		-		-		-		-	-	11.146	-
Control and Planning Segment	C/CPIF	Northrop Grumman Information Systems : Redondo Beach, CA,	0.000	40.411	Nov 2012	-		-		-		-	-	40.411	-
Gateway architecture development	MIPR	Space and Naval Warfare Systems Command (SPAWAR) Systems Center - Pacific : San Diego, CA	17.796	7.795	Dec 2012	-		-		-		-	-	25.591	-
EPS Payload Design/ Development Contract	SS/CPAF	NGAS : Redondo Beach, CA	586.542	0.500	Dec 2012	-		-		-		-	-	587.042	-
Cryptographic Modifications	MIPR	NSA : Camden, NJ	7.974	0.080	Dec 2012	-		-		-		-	-	8.054	-
MIT-Lincoln Laboratory	MIPR	MIT-Lincoln Laboratory : Lexington, MA	24.654	1.100	Dec 2012	-		-		-		-	-	25.754	-
		Subtotal	1,053.402	49.886		-		-		-		-	-	1,103.288	-

Remarks

Classified Contract Method/Type/Activity and Location are classified

FY14 funds transferred to PE 0605432F, Project 657015.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 4	R-1 Program Element (Number/Name) PE 0603432F / *Polar MILSATCOM (SPACE)*	Project (Number/Name) 644052 / *Polar Satellite Communications*	

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
Systems Engineering & Integration	Various	Linquest : Los Angeles, CA	8.263	7.989	Dec 2012	-		-		-		-	-	16.252	-
Govt Furnished Property	Various	Various : Various,	10.957	0.420	Dec 2012	-		-		-		-	-	11.377	-
Systems Integration/ Ground Software Support	MIPR	Johns Hopkins University/Applied Physics Lab : Columbia, MD	1.179	1.629	May 2013	-		-		-		-	-	2.808	-
Ground Control Software Support	MIPR	Software Engineering Institute, Carnegie Mellon Univ. FFRDC : Pittsburgh, PA	0.218	0.472	Feb 2013	-		-		-		-	-	0.690	-
		Subtotal	20.617	10.510		-		-		-		-	-	31.127	-

Remarks

FY14 funds transferred to PE 0605432F, Project 657105.

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
Planning/Management Support for T&E	MIPR	Space and Naval Warfare Systems Center - Pacific : San Diego, CA	0.557	0.696	Dec 2012	-		-		-		-	-	1.253	-
		Subtotal	0.557	0.696		-		-		-		-	-	1.253	-

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 FFRDC engineering (PMA)	Various	Various : Various,	56.455	7.622	Dec 2012	-		-		-		-	-	64.077	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 4	R-1 Program Element (Number/Name) PE 0603432F / *Polar MILSATCOM (SPACE)*	Project (Number/Name) 644052 / *Polar Satellite Communications*	

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 Support	Various	Various : Various,	13.728	0.176	Dec 2012	-		-		-		-	-	13.904	-
Travel/Business Ops Support Services/ Acquisition Mission Support (PMA)	Various	Various : Various,	63.375	8.312	Dec 2012	-		-		-		-	-	71.687	-
		Subtotal	133.558	16.110		-		-		-		-	-	149.668	-

Remarks

FY14 funds transferred to PE 0605432F, Project 657105.

	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	1,208.134	77.202		-		-		-		-	-	1,285.336	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 4	**R-1 Program Element (Number/Name)** PE 0603432F / *Polar MILSATCOM (SPACE)*	**Project (Number/Name)** 644052 / *Polar Satellite Communications*

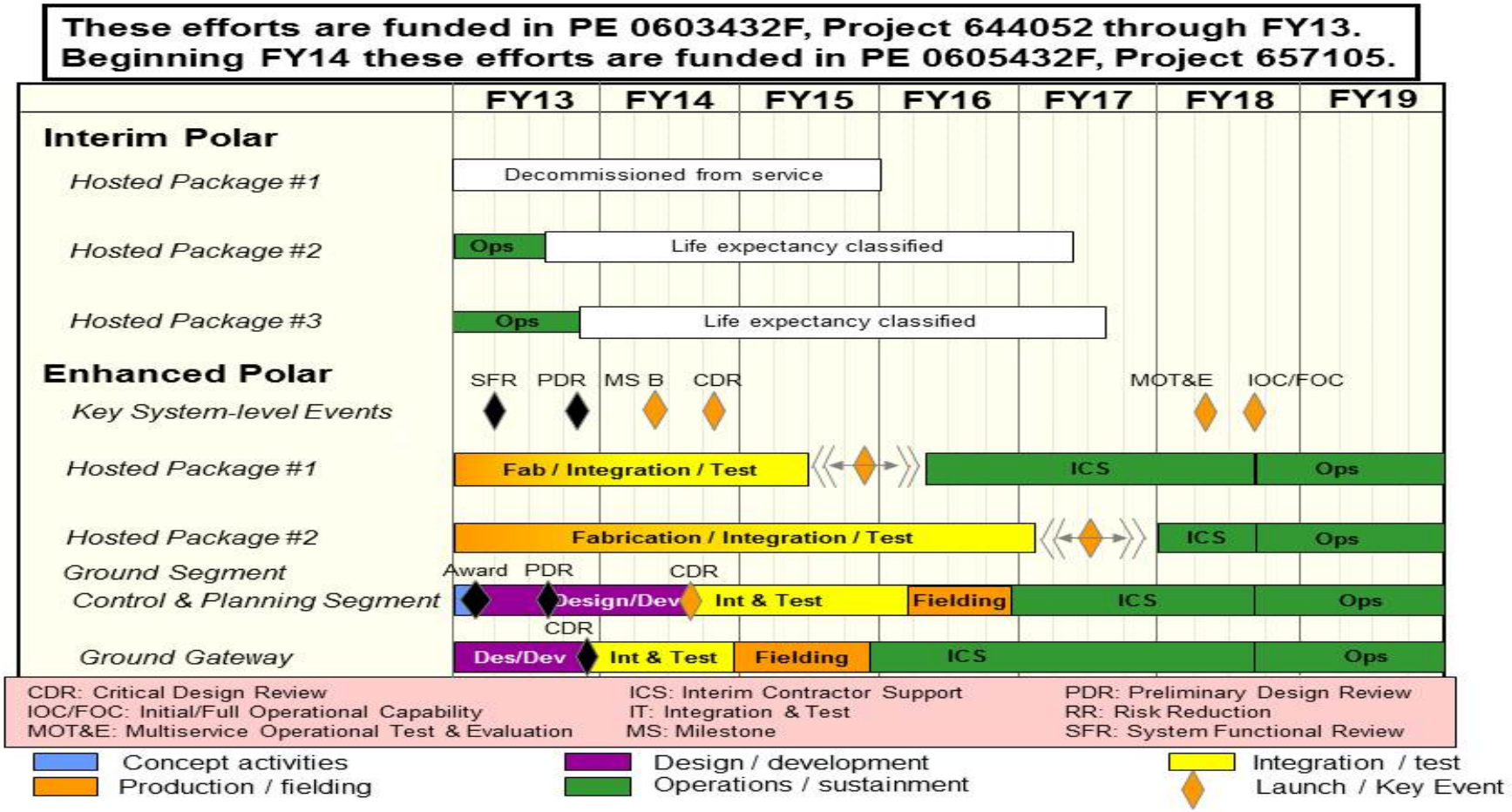


Exhibit R-4A, RDT&E Schedule Details: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 4	**R-1 Program Element (Number/Name)** PE 0603432F / *Polar MILSATCOM (SPACE)*	**Project (Number/Name)** 644052 / *Polar Satellite Communications*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Deliver payload #2 and begin integration onto host satellite	2	2013	2	2013
Award the Control and Planning Segment (CAPS) contract	1	2013	1	2013
CAPS Preliminary Design Review	3	2013	3	2013
Ground Gateway Critical Design Review	4	2013	4	2013
Enhanced Polar System system-level Preliminary Design Review	4	2013	4	2013

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 4: *Advanced Component Development & Prototypes (ACD&P)*					R-1 Program Element (Number/Name) PE 0603438F / *Space Control Technology*							
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	-	20.584	22.862	6.075	-	6.075	6.336	6.909	7.044	7.179	Continuing	Continuing
642611: *Technology Insertion Planning and Analysis*	-	3.645	5.534	6.075	-	6.075	6.336	6.909	7.044	7.179	Continuing	Continuing
64A007: *Space Range*	-	16.939	17.328	-	-	-	-	-	-	-	-	34.267

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

Note

Beginning in FY15 the Space Range (64A007) content and funding was transferred to PE 0606116F, Space Test and Training Range Development.

A. Mission Description and Budget Item Justification

This program supports a range of activities including technology planning, development, demonstrations and prototyping, as well as modeling, simulations and exercises to support development of tactics and procedures in the Space Control mission area. The types of Space Control activities accomplished are Space Situational Awareness (SSA), Defensive Counterspace (DCS), Offensive Counterspace (OCS) and Command and Control (C2) and Battle Management. For use in the Space Control mission area, SSA includes monitoring, detecting, identifying, tracking, assessing, verifying, categorizing, and characterizing, objects and events in space and includes terrestrial based space capabilities. DCS includes defensive activities to protect U.S. and friendly space-systems assets, resources, and operations from enemy attempts to negate or interfere and prevention activities that limit or eliminate an adversary's ability to use U.S. space systems and services for purposes hostile to U.S. national security interests. OCS activities disrupt, deny, degrade or destroy space systems, or the information and the technology they provide, which may be used for purposes hostile to U.S. national security interests. Command & Control efforts include identifying technology solutions to enable fusion of data for use in multi-level security environments, and near-real-time data delivery and decision support to war fighter needs. This program supports the development of Rapid Reaction Capabilities in response to immediate warfighter needs, including Urgent Operational Needs (UONs) and Joint Urgent Operational Needs (JUONs), in the Space Control mission area.

Funding also supports the development of the technology and infrastructure for space control elements in a live signal environment of the Space Test and Training Range (STTR). This includes development and demonstration of first-ever test assets, special test equipment, capabilities and systems required to test, validate, and verify performance of integrated space control systems. Additionally, this program supports the development of test range assets required to support developmental and operational test, exercises, training, and tactics development for space control systems in the face of an emerging threat. A collaborative command & control capability will be integrated into several range systems to provide real time communications during test event scenarios to enable operators to be better prepared prior to deploying into the AOR.

These projects are in Budget Activity 4, Advanced Component Development and Prototypes (ACD&P) because efforts are necessary to evaluate integrated technologies, representative modes or prototype systems in a high fidelity and realistic operating 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 4: *Advanced Component Development & Prototypes (ACD&P)*			R-1 Program Element (Number/Name) PE 0603438F / *Space Control Technology*		
B. Program Change Summary ($ in Millions)	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO**	**FY 2015 Total**
Previous President's Budget	25.144	27.024	25.907	-	25.907
Current President's Budget	20.584	22.862	6.075	-	6.075
Total Adjustments	-4.560	-4.162	-19.832	-	-19.832
• Congressional General Reductions	-0.030	-			
• Congressional Directed Reductions	-2.000	-4.000			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-0.162			
• SBIR/STTR Transfer	-0.669	-			
• Other Adjustments	-1.861	-	-19.832	-	-19.832

Change Summary Explanation

FY 2013: -$2.0M Congressional Reduction: "Project decrease. ORS add."
-$1.861M Sequester reduction

FY 2014: -$4.0M Congressional Reduction: "Hold to FY 2013 level"
-$.0162M FFRDC reduction

FY 2015: -$19.832: Space Range content and funding transferred to PE 0606116F, Space Test and Training Range Development

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 4	R-1 Program Element (Number/Name) PE 0603438F / *Space Control Technology*	Project (Number/Name) 642611 / *Technology Insertion Planning and Analysis*	

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
642611: *Technology Insertion Planning and Analysis*	-	3.645	5.534	6.075	-	6.075	6.336	6.909	7.044	7.179	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 supports a range of activities including technology planning, development, demonstrations and prototyping, and testing, as well as modeling, simulations and exercises to support development of tactics and procedures for a responsive and resilient Space Control mission area. This incudes technology development and prototyping for Space Situational Awareness (SSA), Defensive Counterspace (DCS) and Offensive Counterspace (OCS). Specifically supported are OCS activities which include disruption, denial, or degradation of adversary space systems, or the information they provide, which may be used for purposes hostile to U.S. national security interests. Rapid Reaction Capabilities in response to immediate warfighter needs in the Space Control mission area are developed within this program.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Rapid Reaction Branch (RRB)	3.645	3.560	6.075
Description: Develops advanced capabilities for rapid prototyping and integration into space control programs of record and, if requested, to warfighter Urgent Operational Needs (UONs) and Joint Urgent Operational Needs (JUONs). Conducts prototyping, demonstration, testing, and rapid transition of technology and techniques to space control systems. ***FY 2013 Accomplishments:*** Developed and tested quick reaction capabilities for rapid prototyping and integration into space control programs of record. ***FY 2014 Plans:*** Developing and testing quick reaction capabilities for rapid prototyping and integration into space control programs of record. ***FY 2015 Plans:*** Develop and test quick reaction capabilities for rapid prototyping and integration into space control programs of record. Complete Multi-Mission Processor (MMP) increment 2 prototype and purchase initial eqipment required for final integration and assembly. Support final test to confirm existing and new capabilities on the increment 2 MMP.			
Title: Responsive, Resilient Space Architecture Support	-	1.974	-
Description: Assist space control programs to develop increasingly responsive, resilient and affordable capabilities via architectures emphasizing hostable payloads, small satellites, interface standards and government/commercial hosting opportunities.			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 4	**R-1 Program Element (Number/Name)** PE 0603438F / *Space Control Technology*	**Project (Number/Name)** 642611 / *Technology Insertion Planning and Analysis*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
FY 2013 Accomplishments: N/A ***FY 2014 Plans:*** Assisted space control programs to develop increasingly responsive, resilient and affordable capabilities via architectures emphasizing hostable payloads, small satellites, interface standards and government/commercial hosting opportunities. ***FY 2015 Plans:*** N/A			
Accomplishments/Planned Programs Subtotals	3.645	5.534	6.075

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 element will be awarded using competitive procedures to the maximum extent possible. Program consists of numerous small projects.

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 / 4	**R-1 Program Element (Number/Name)** PE 0603438F / *Space Control Technology*	**Project (Number/Name)** 642611 / *Technology Insertion Planning and Analysis*

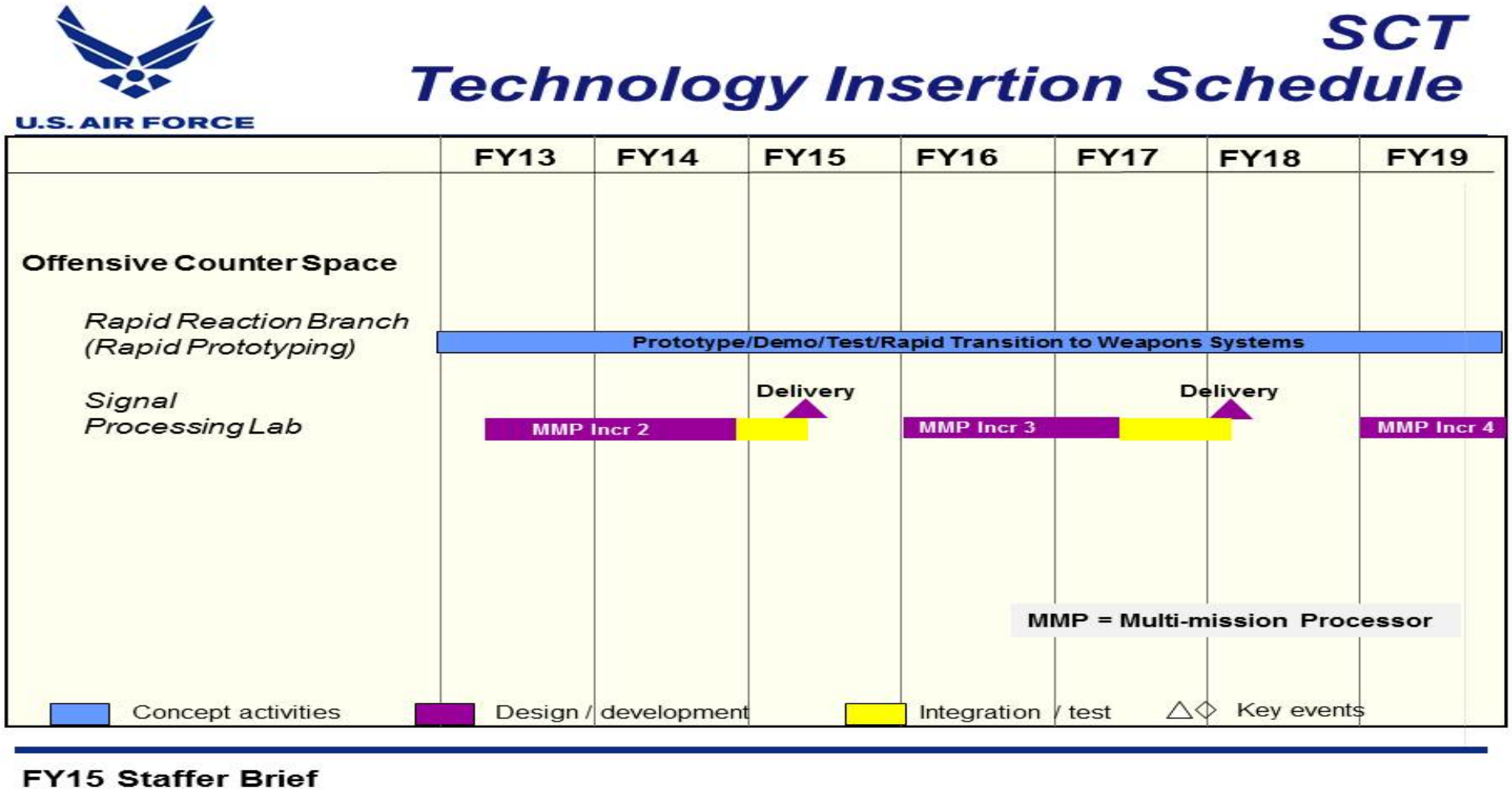


Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 4	R-1 Program Element (Number/Name) PE 0603438F / *Space Control Technology*	Project (Number/Name) 64A007 / *Space Range*	

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
64A007: *Space Range*	-	16.939	17.328	-	-	-	-	-	-	-	-	34.267
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

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

Note

Beginning in FY 2015, all Space Range content and funding is transferred to PE 0606116F, Space Test and Training Range Development

A. Mission Description and Budget Item Justification

This project supports the development of Space Test and Training Range (STTR) capabilities required to support developmental and operational test, training, exercises and tactics development for Space Control systems and related architecture. This includes development, demonstration and delivery of test assets, special test equipment, capabilities and systems required to test, validate, and verify performance of integrated space control systems. The objective of the STTR is to provide a safe, secure, controllable and repeatable environment for the testing and training of Space Control mission systems and operators that is both realistic and relevant. Additionally, this program supports the development of test range assets required to support developmental and operational test, exercises, training, and tactics development for Air Force and Joint-service space control systems/units. Included are both the fixed node Space Range Operation Center (SROC) at Schriever AFB and a deployable capability to support complex Joint and AF exercises. A space range Family of Systems (FoS) called Big Top is being developed to accomplish the STTR mission. The Big Top objective is integration into a Distributed Mission Architecture, tying into both the Information Operations (IO) and Air ranges for increased realism and complexity. This technology will allow for the first-ever use of a realistic signal environment to increase the realism and efficiency of space control squadron training.

Satellite bandwidth is leased in this program for use in support of live testing and training events.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Range Control	15.670	15.019	-
Description: Development and acquisition of mobile, transportable, and fixed range monitoring and communications capabilities for the space range.			
FY 2013 Accomplishments: Completed operational acceptance of both initial Space Range Operations Center (iSROC) and Signal Monitoring Unit (SMU) to meet STTR IOC criteria. Finalized and delivered Space Center Scheduling Enterprise (S-CSE) Spiral-2 for Operational Test and Acceptance. Continued execution of SROC Spiral-1 upgrades. Conducted pre-contract award activities for "Big Top" range family of systems contract for capability development of world-wide distributed capability, analysis and scoring toolsets, scripted scenarios, with emulation and playback capability. Transferred Government Furnished Equipment prototypes to sustainable capabilities.			
FY 2014 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 4	**R-1 Program Element (Number/Name)** PE 0603438F / *Space Control Technology*	**Project (Number/Name)** 64A007 / *Space Range*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Complete initial delivery of the Deployable Range and SMU. Initiate Deployable Package 2. Initiate tech refresh activities for SROC Spiral 0. Complete SROC Spiral 1 upgrades and initiate Spiral 2 development. Continue development of advanced live, virtual and constructive environment and closed loop training capabilities via virtual packages and advanced software simulation tools. ***FY 2015 Plans:*** N/A			
Title: Live Fire Training In Degraded Environments ***Description:*** Development of closed loop trainers that joint forces will use to simulate operating through denied GPS and SATCOM environments. ***FY 2013 Accomplishments:*** N/A ***FY 2014 Plans:*** Will develop and deliver closed loop trainer capability for the STTR that joint forces will use to simulate operating though denied GPS and SATCOM environments. ***FY 2015 Plans:*** N/A	-	1.000	-
Title: Bandwidth Support ***Description:*** Provides for leased SATCOM bandwidth for STTR operations. ***FY 2013 Accomplishments:*** Provided required space range satellite communications bandwidth for exercise, testing and training of both offensive and defensive space control systems on the space range. ***FY 2014 Plans:*** Provide required space range satellite communications bandwidth for exercise, testing and training of both offensive and defensive space control systems on the space range. ***FY 2015 Plans:*** Provide required space range satellite communications bandwidth for exercise, testing and training of both offensive and defensive space control systems on the space range.	1.269	1.309	-
Accomplishments/Planned Programs Subtotals	16.939	17.328	-

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 4	**R-1 Program Element (Number/Name)** PE 0603438F / *Space Control Technology*	**Project (Number/Name)** 64A007 / *Space Range*

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

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

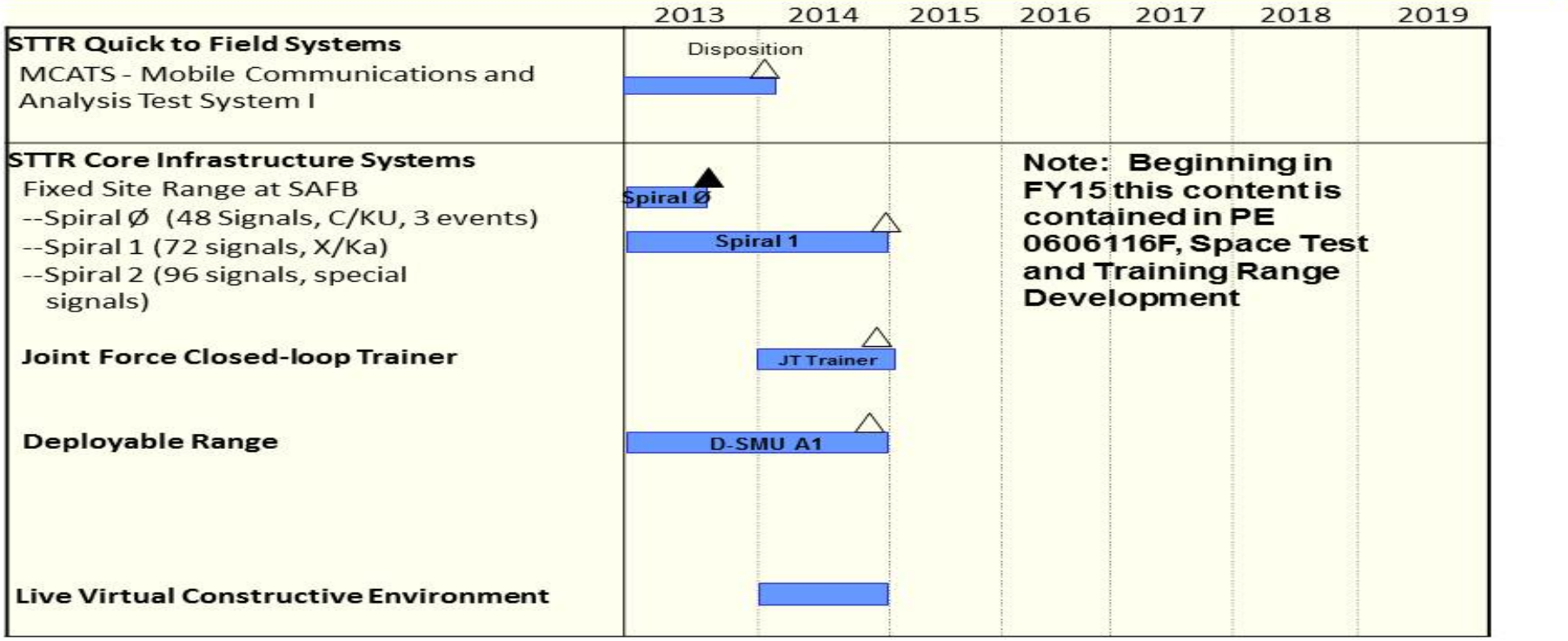
E. Performance Metrics

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 / 4	**R-1 Program Element (Number/Name)** PE 0603438F / *Space Control Technology*	**Project (Number/Name)** 64A007 / *Space Range*

U.S. AIR FORCE

STTR Program Schedule



FY15 Staffer Brief

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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 4: *Advanced Component Development & Prototypes (ACD&P)*					R-1 Program Element (Number/Name) PE 0603742F / *Combat Identification Technology*							
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	-	25.987	13.386	10.980	-	10.980	24.915	23.067	23.573	24.074	Continuing	Continuing
642596: *ADS-B TIP (Technology Insertion Program)*	-	3.990	-	-	-	-	-	-	-	-	Continuing	Continuing
642597: *Non-cooperative Identification Subsystems*	-	20.133	11.512	9.104	-	9.104	23.005	21.121	21.589	22.053	Continuing	Continuing
642599: *Cooperative Identification Techniques*	-	1.864	1.874	1.876	-	1.876	1.910	1.946	1.984	2.021	Continuing	Continuing

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

A. Mission Description and Budget Item Justification

The Combat Identification (CID) Technology program element analyzes, develops, demonstrates and evaluates promising target identification technologies to facilitate platform transition decisions prior to Engineering and Manufacturing Development (EMD). The Joint Capability Document (JCD) for CID BFT (Blue Force Tracking), operational documents, lessons learned, and NATO requirements state the need for positive CID. High confidence CID increases combat effectiveness, prevents fratricide, and reduces collateral damage. It also enables combatant commanders to effectively command and control their forces in all weather, day or night. This program element focuses on the cooperative and non-cooperative technologies that have the capability to positively identify surface and air targets in both air-to-surface and air-to-air engagements.

In order to rapidly make available promising CID technologies for platform EMD decisions, the program element funds design studies, engineering analysis, and other efforts associated with demonstration of prototype CID related technologies and subsystems on platforms. It also supports the development, testing, and implementation of international standards (to include NATO standardization agreements) to ensure joint, Allied, and coalition interoperability.

Non-cooperative CID employs a number of sensing technologies and signal processing techniques. The observations may be compared to a database of known objects to identify surface or air threats from air platforms. These technologies include: (1) Laser Vision, an Electro-Optical/Infrared (EO/IR) imaging system that significantly increases ID ranges and includes exploiting synergies between non-cooperative and cooperative identification systems (radio, millimeter wave, infrared, and laser).

Cooperative CID employs technologies required to rapidly identify friendly platforms. The program develops, integrates and evaluates technologies that provide AF platforms with a means of positively identifing an air or ground platform as a friendly, via active or passive cooperative ID capabilities. Development funded by this program element ensures availability of Automatic Dependent Surveillance - Broadcast (ADS-B) as well as Mode 5 IFF (Identification Friend or Foe) upgrade path for implementing ground and air platforms across the Air Force fleet. 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 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 Program Element (Number/Name)** PE 0603742F / *Combat Identification Technology*

This program is in Budget Activity 4, Advanced Component Development and Prototypes (ACD&P) because efforts are necessary to evaluate integrated technologies, representative modes or prototype systems in a high fidelity and realistic operating environment.

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	32.243	15.899	29.116	-	29.116
Current President's Budget	25.987	13.386	10.980	-	10.980
Total Adjustments	-6.256	-2.513	-18.136	-	-18.136
• Congressional General Reductions	-0.038	-0.025			
• Congressional Directed Reductions	-3.000	-2.488			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.806	-			
• Other Adjustments	-2.412	-	-18.136	-	-18.136

Change Summary Explanation

FY13 Congressional reduction of $3M dollars was a mark against the ADS-B TIP for under-execution in FY12.
Decrease in Other Adjustments (FY13) was due to sequestration.
Decrease in Congressional Directed Reductions in FY14 was due to sequestration.
FY15 funding reduced to support higher AF priorities.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 4	R-1 Program Element (Number/Name) PE 0603742F / *Combat Identification Technology*	Project (Number/Name) 642596 / *ADS-B TIP (Technology Insertion 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
642596: *ADS-B TIP (Technology Insertion Program)*	-	3.990	-	-	-	-	-	-	-	-	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

Automatic Dependent Surveillance - Broadcast (ADS-B) Technology Insertion Program (TIP): This program element will fund preliminary RDT&E for integration of ADS-B architecture into the APX-119 Mark XIIA IFF (Identification Friend or Foe) transponder. The ADS-B TIP will develop ADS-B "Out" capability which leverages synergies between ADS-B and Mode 5 Level 2 (M5L2) to achieve M5L2 "Out" capability. The ADS-B TIP specifically addresses implementing air platforms.

This program element is upgrading the Digital IFF Control Panel as part of the ADS-B TIP to comply with DO-260B and AIMS 03-1000B. This is an upgrade to basic Mode 5 Digital IFF Control Panel for ADS-B, Mode 5 software changes, and Mode 5 Level 2 corrections.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Automatic Dependent Surveillance - Broadcast (ADS-B)	1.608	-	-
Description: Automatic Dependent Surveillance - Broadcast (ADS-B) Technology Insertion Program (TIP): This program element will fund preliminary RDT&E for integration of ADS-B architecture into the APX-119 Mark XIIA IFF (Identification Friend or Foe) transponder. The ADS-B TIP will develop ADS-B "Out" capability which leverages synergies between ADS-B and Mode 5 Level 2 (M5L2) to achieve M5L2 "Out" capability. The ADS-B TIP specifically addresses implementing air platforms. ***FY 2013 Accomplishments:*** Continued ADS-B TIP development of software into the APX-119 transponder. Awarded contract for Phase 2 and ADS-B upgrade for the Digital IFF Control Panel. ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** N/A			
Title: Digital IFF Control Panel ADS-B Upgrade	2.382	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 4	**R-1 Program Element (Number/Name)** PE 0603742F / *Combat Identification Technology*	**Project (Number/Name)** 642596 / *ADS-B TIP (Technology Insertion Program)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Description: This program element is upgrading the Digital IFF Control Panel as part of the ADS-B TIP to comply with DO-260B and AIMS 03-1000B. This is an upgrade to basic Mode 5 Digital IFF Control Panel for ADS-B, Mode 5 software changes, and Mode 5 Level 2 corrections. ***FY 2013 Accomplishments:*** Continued to upgrade the Digital IFF Control Panel for ADS-B, Mode 5 changes, and Mode 5 Level 2 corrections. ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** N/A			
Accomplishments/Planned Programs Subtotals	3.990	-	-

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

ADS-B TIP is a cooperative technology. Schedule for the ADS-B TIP and Digital Control Panel are on Cooperative schedule, page 15.

D. Acquisition Strategy

ACAT III project, sole source, fixed price contract to develop software for the APX-119 transponder. User purchase will be through the GATM catalogue.

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-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 4	R-1 Program Element (Number/Name) PE 0603742F / *Combat Identification Technology*	Project (Number/Name) 642597 / *Non-cooperative Identification Subsystems*	

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
642597: *Non-cooperative Identification Subsystems*	-	20.133	11.512	9.104	-	9.104	23.005	21.121	21.589	22.053	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

Non-cooperative Combat Identification (CID) employs a number of sensing technologies and signal processing techniques. The observations may be compared to a database of known objects to identify surface or air threats from air platforms. These technologies include: (1) Laser Vision, an electro-optical/infrared (EO/IR) imaging system that significantly increases identification ranges and includes exploiting synergies between non-cooperative and cooperative ID systems (radio, millimeter wave, infrared, and laser). The Laser Vision Program is working on performance improvements, laser vibrometry development, 3-dimensional laser detection and ranging, laser radar, synthetic aperture laser (SAL) radar, hyper spectral phenomenology exploitation, aided/automatic target recognition, image fusion and studies to support decisions on future EO/IR technologies; (2) Radar Vision, an air-to-ground radar imaging technique to identify stationary and moving targets using their radar signatures; including passive techniques and electronic warfare identification technologies; (3) Hydra Vision, a balanced (robust) amalgamation of sensor data from multiple sources to provide warfighters with higher confidence CID results on surface or air targets potentially including fusion with intelligence sources, identification of non-traditional targets, fusion to counter camouflage, concealment and deception (CCD), and multi-phenomenology features for sustainable databases; (4) Compact ATR (Aided Target Recognition) and Sustainable Environments (CASE), a CID approach that focuses on tailoring algorithms to utilize smaller, more efficient databases that are faster and less expensive to generate and maintain; and (5) X-Patch, a validated set of prediction codes and analysis tools that predicts realistic far-field radar signatures from 3-D (3 dimensional) target models in order to predict 1D and/or 2D data. X-Patch is vital for development of radar signatures of potential high-threat weapons systems; it is a critical capability of database production centers which support Joint Sensors Signature Database (JSSD) pathfinders.

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: Laser Vision/3-D Ladar	1.015	-	0.800
Description: Laser Vision, a family of electro-optical (EO) systems that significantly increase ID ranges. Provides the demonstration and evaluation data necessary to support decisions on future EO technologies supporting CID. Includes 3-D (3 dimensional) imaging laser radar (Ladar) and exploration of advanced concepts. The 3-D ladar technology provides a display of an 3-D EO image to the pilot for high confidence combat identification and is a potential for the next generation targeting pods for the USAF.			
FY 2013 Accomplishments:			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 4	**R-1 Program Element (Number/Name)** PE 0603742F / *Combat Identification Technology*	**Project (Number/Name)** 642597 / *Non-cooperative Identification Subsystems*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Completed the Advanced Mode Processing (AMP) Project demonstration of prototype 3D video display modes, providing a baseline approach to the use of 3D sensing in the cockpit. Started the development of the 3DTO 2D/3D active receiver with DRS Technologies in Dallas, Texas. Under this contract, completed the design and fabrication of a 16x16 test readout integrated circuit (ROIC). Started the detector processing (attaching photodiodes) on the test chip ROIC. When complete the test chip will be fully evaluated and support the finalization of the ROIC design for submission to the foundry for fabrication in mid CY14. Started development of a full CID 3D simulation (CIDS-3D) to support high-fidelity flight performance predictions. ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** Will continue integration of the 3-D ladar system into form fit function of a podded system for laboratory and field testing.			
Title: Laser Vision/Siren ***Description:*** Develop, demonstrate and evaluate a laser vibrometry sensor in a targeting pod and its utility as a low cost CID discriminator. ***FY 2013 Accomplishments:*** Conducted Preliminary and Critical Design Reviews. Conducted critical risk reduction test utilizing pod and shaker stand. Initiated vibrometry aided target recognitian (ATR) development. Began long lead procurement. ***FY 2014 Plans:*** Continue material procurement and software development for SIREN system. Initiate subsystem requirements validations and laboratory performance testing. Continue ATR development. SEEK EAGLE certification. ***FY 2015 Plans:*** Will complete ground testing. Will initiate flight test planning. Will begin integrating ATR software.	5.233	3.616	2.664
Title: Radar Vision ***Description:*** The Radar Vision (RV) technology applies Aided Target Recognition (ATR) algorithms to Radar Imagery and Radar Signature returns which puts target ID labels on the radar imagery and tracks using a common database of target signatures. Develop technologies that can utilize new wide area radar sensors and signal processing. ***FY 2013 Accomplishments:***	1.020	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 4	**R-1 Program Element (Number/Name)** PE 0603742F / *Combat Identification Technology*	**Project (Number/Name)** 642597 / *Non-cooperative Identification Subsystems*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Completed detailed final performance evaluation of combined fixed and moving target combat identification capability including algorithms and real sensor data. Completed denied target development and demonstration. Completed development and implemention of technologies that will utilize wide area radar identification. ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** N/A			
Title: Hydra Vision ***Description:*** Hydra Vision (Multi-Sensor Enhanced ID) is a family of balanced (robust) amalgamation of sensor data from multiple sources to provide warfighters with higher confidence CID results on surface or air targets. ***FY 2013 Accomplishments:*** Air to Air: An ATR was developed and prepared for a real time demonstration. Air to Ground: Completed a lab and flight testing as well as ATR performance evaluation. Initiated Compact ATR and sustainable environments (CASE) technology analysis efforts. ***FY 2014 Plans:*** Air to Air: Continue to refine fusion algorithms to maximize performance. Demonstrate 2 feature fusion with ground based Radar. Air to Ground: Analyze ATR performance and plan for a real-time flight demonstration. ***FY 2015 Plans:*** Air to Ground: Will continue with a full up real time flight demonstration. Air to Air: Will continue with a real time flight demonstration of a two feature air target Identification.	8.284	4.052	2.715
Title: Compact ATR and Sustainable Environment (CASE) ***Description:*** CASE is a family of efforts to address efficiency and sustainability issues associated with the development, operation and maintenance of non-cooperative ATR technology. Develop sustainable multi-phenomenology ATR based on low fidelity, compact, and inexpensive database technology.(Compact Feature ATR) ***FY 2013 Accomplishments:***	-	0.994	1.925

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 4	**R-1 Program Element (Number/Name)** PE 0603742F / *Combat Identification Technology*	**Project (Number/Name)** 642597 / *Non-cooperative Identification Subsystems*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
N/A ***FY 2014 Plans:*** Continue technology development in compact feature ATR initiated in Hydra Vision study. Analyze feature extraction / uncertainty using low fidelity / physical feature target models. Create compact feature ATR database and assess saliency and target discrimination utility. ***FY 2015 Plans:*** Will finalize a compact feature recognition end to end system. Will prepare for laboratory demonstration in FY16. Will provide expected cost and performance on a set of pre defined metrics.			
Title: Enhanced Combat Identification (ECID) ***Description:*** Develop a robust ability to quantitatively evaluate promising CID technologies using enhanced modeling and simulation (M&S) capabilities. ***FY 2013 Accomplishments:*** Developed and refined M&S tools. Defined Air Interdiction (AI) and Close Air Support (CAS) mission scenarios for F-15E platform within a major conflict scenario (Classified); several potential F-15E sensor suite configurations used in the model. Stressed ECID M&S tool's capabilities to support Combat ID emulation within tactical air-to-ground scenario vignettes. Determined ECID capabilities to support robust analysis efforts of M&S CID activities. ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** N/A	1.000	-	-
Title: Studies ***Description:*** Conduct CID-related studies/demos. ***FY 2013 Accomplishments:*** Continued study projects leading to new concepts for non-cooperative and cooperative CID efforts. ***FY 2014 Plans:*** Continue study projects leading to new concepts for non-cooperative and cooperative CID efforts. ***FY 2015 Plans:***	0.420	0.350	0.500

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 4	**R-1 Program Element (Number/Name)** PE 0603742F / *Combat Identification Technology*	**Project (Number/Name)** 642597 / *Non-cooperative Identification Subsystems*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Will continue study projects leading to new concepts for non-cooperative and cooperative CID efforts.			
Title: X-Patch ***Description:*** X-Patch consists of software code refinement based on feedback from the X-Patch user community. ***FY 2013 Accomplishments:*** Continued funding X-Patch RDT&E tool development and sustainment. ***FY 2014 Plans:*** Continue funding X-Patch RDT&E tool development and sustainment. ***FY 2015 Plans:*** X-Patch transfers to Combat Air Intelligence System Activities, PE 0207431F O&M funding for sustainment.	3.161	2.500	-
Title: Passive RF ID Environment (PRIDE) ***Description:*** Develop passive RF target ID capability for denied access environment utilizing passive RF and EW information with potential non-traditional ISR capabilities. Passive RF ID is a new start in FY15. ***FY 2013 Accomplishments:*** n/a ***FY 2014 Plans:*** n/a ***FY 2015 Plans:*** Will explore concepts for RF-based CID to include bistatic / multi-static, passive incorporation of electronic warfare techniques and multi-mode applications.	-	-	0.500
Accomplishments/Planned Programs Subtotals	20.133	11.512	9.104

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

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

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 4	**R-1 Program Element (Number/Name)** PE 0603742F / *Combat Identification Technology*	**Project (Number/Name)** 642597 / *Non-cooperative Identification Subsystems*

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 / 4	**R-1 Program Element (Number/Name)** PE 0603742F / *Combat Identification Technology*	**Project (Number/Name)** 642597 / *Non-cooperative Identification Subsystems*

Non-Cooperative CID Technology Schedule

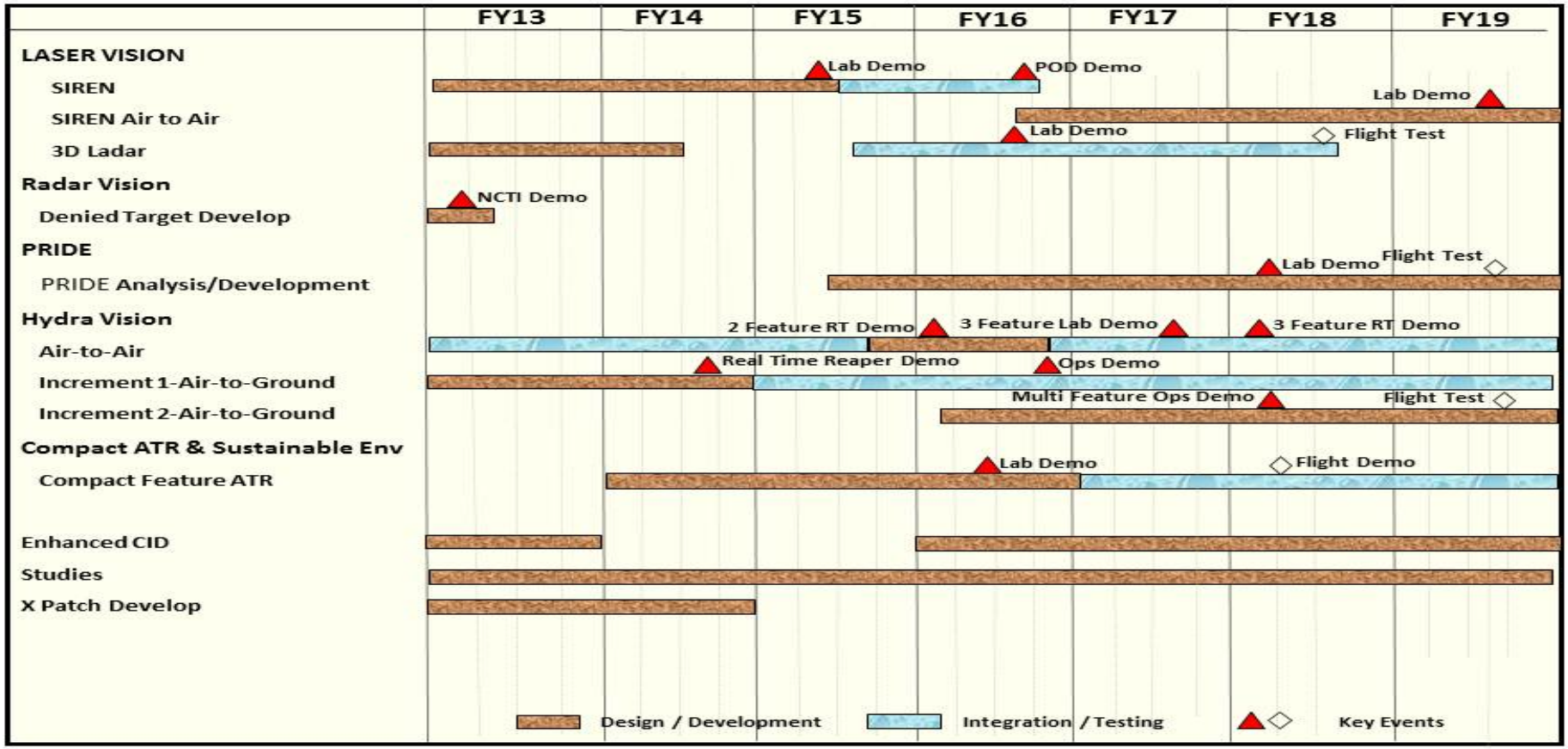

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 4	R-1 Program Element (Number/Name) PE 0603742F / *Combat Identification Technology*	Project (Number/Name) 642599 / *Cooperative Identification Techniques*	

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
642599: *Cooperative Identification Techniques*	-	1.864	1.874	1.876	-	1.876	1.910	1.946	1.984	2.021	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

Cooperative Combat Identification (CID) employs technologies required to rapidly identify friendly platforms. The program develops, integrates and evaluates technologies that provide AF platforms with a means of positively identifying an air or ground platform as a friendly, via active or passive cooperative identification capabilities. Development funded by this project ensures availability of a Mode 5 upgrade path for implementing ground and air platforms across the Air Force fleet.

Within the air-to-air domain, programs funded to meet this intent include:

Mode 5 Technology Insertion Program (TIP): This project funds preliminary RDT&E for Mark XIIA, the next generation Identification Friend or Foe (IFF) standard for the DoD and NATO. Mark XIIA represents a substantial enhancement to the Mark XII IFF system. It is expected to achieve Joint Initial Operational Capability in 2014. The "A" denotes the addition of Mode 5 (an encrypted challenge-and-reply mode) to the other Mark XII system modes (Modes 1, 2, 3/A, C, S, and 4). The Mode 5 secure IFF program is a DoD-wide, Navy-led development and acquisition program. The Mode 5 TIP specifically addresses implemention for air platforms by integrating Mode 5 into APX-119, APX-114, APX-113 and the UPX-40 transponder systems.

Within the air-to-ground domain, development funded by this project ensures development, integration, test and evaluation of friendly identification systems focused on reducing air-to-ground fratricide. CID efforts include investigation of radio based identification technologies; including the exploitation of state of the art digital radios and software defined radios and integration of cooperative and non-cooperative technologies for improved target recognition which could be incorporated into targeting pods or directly into the cockpit.

Fund Air Traffic Control Radar Beacon Systems Identification Friend or Foe Mark XIIA System (AIMS)Program Office test engineers. The DoD International AIMS PO has system level interoperability testing and certification responsibilities for the present Mark XII system, development and integration of Mark XIIA (Mode 5) and transition to Mark XIIA Mode S systems. AIMS PO will continue to test and certify IFF equipment for the services now as long as IFF is used for combat identification.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: AIMS Program Office	1.864	1.874	1.676

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 4	**R-1 Program Element (Number/Name)** PE 0603742F / *Combat Identification Technology*	**Project (Number/Name)** 642599 / *Cooperative Identification Techniques*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Description: Fund Air Traffic Control Radar Beacon Systems Identification Friend or Foe Mark XIIA System (AIMS)Program Office test engineers. The DoD International AIMS PO has system level interoperability testing and certification responsibilities for the present Mark XII system, development and integration of Mark XIIA (Mode 5) and transition to Mark XIIA Mode S systems. ***FY 2013 Accomplishments:*** Continued to fund AIMS for interoperability testing, FAA liason, and support of Mode 4 / Mode 5 equipment. ***FY 2014 Plans:*** Continue to fund AIMS for interoperability testing, FAA liason, and support of Mode 4 / Mode 5 equipment. ***FY 2015 Plans:*** Will continue to fund AIMS for interoperability testing, FAA liason, and support of Mode 4 / Mode 5 equipment.			
Title: RID (Radio ID) ***Description:*** Develop cooperative ID technologies exploiting combined cooperative/non-cooperative technologies, radio based ID, and signals of opportunities such as can be achieved with software programmable radios. Radio ID is a new start in FY15. ***FY 2013 Accomplishments:*** N/A ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** Will begin development of cooperative ID technologies exploiting combined cooperative/non-cooperative technologies, radio based ID, and signals of opportunities such as can be achieved with software programmable radios.	-	-	0.200
Accomplishments/Planned Programs Subtotals	1.864	1.874	1.876

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

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

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 4	**R-1 Program Element (Number/Name)** PE 0603742F / *Combat Identification Technology*	**Project (Number/Name)** 642599 / *Cooperative Identification Techniques*

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 / 4	**R-1 Program Element (Number/Name)** PE 0603742F / *Combat Identification Technology*	**Project (Number/Name)** 642599 / *Cooperative Identification Techniques*

Cooperative CID Technology Schedule

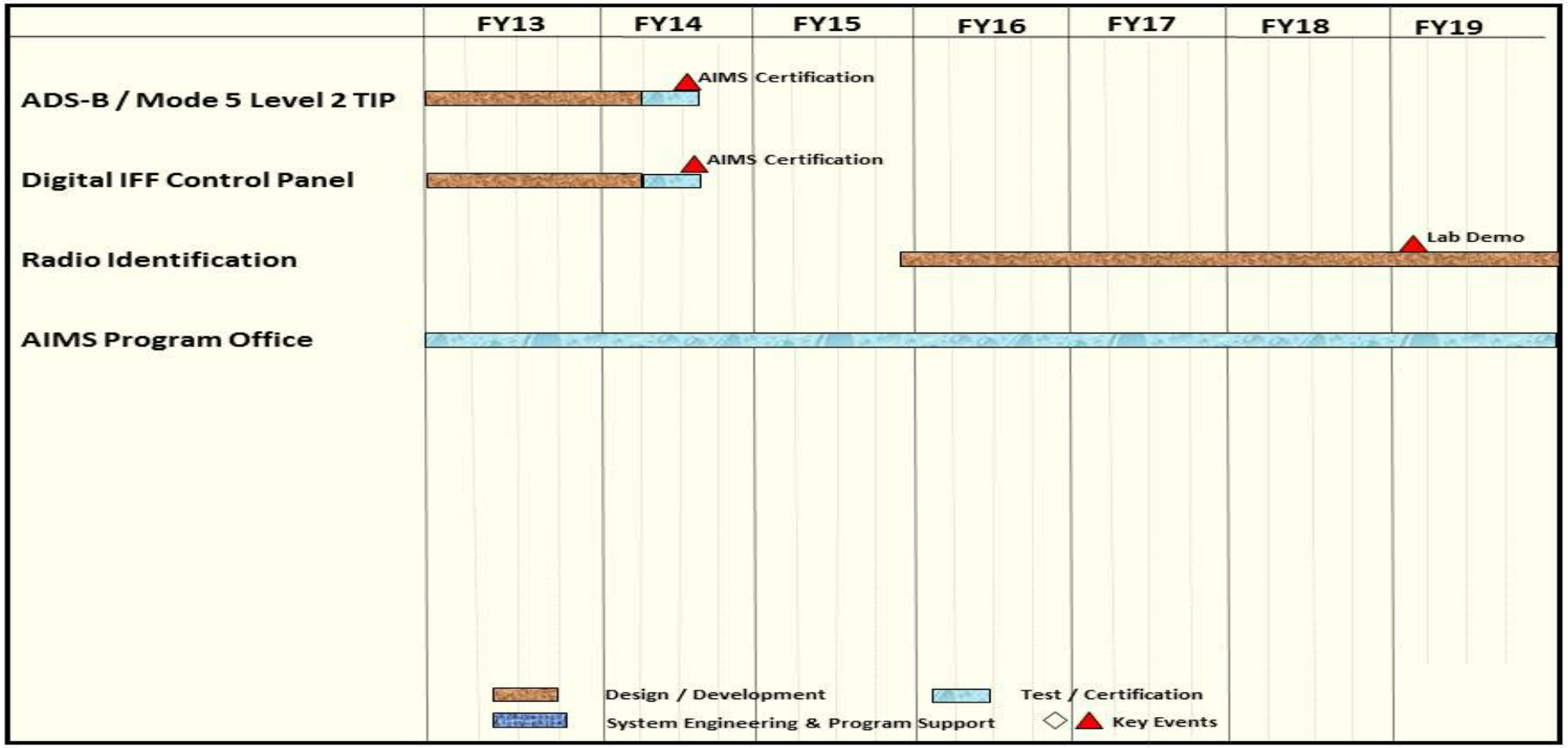

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Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force											Date: March 2014	
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 4: *Advanced Component Development & Prototypes (ACD&P)*					R-1 Program Element (Number/Name) PE 0603790F / *NATO Research and 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	-	3.981	4.568	2.392	-	2.392	4.972	4.748	4.202	4.283	Continuing	Continuing
64NATO: *Nato Coop R&D*	-	3.981	4.568	2.392	-	2.392	4.972	4.748	4.202	4.283	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

These funds will be used to initiate air, space, and cyber international cooperative research, and development (ICR&D) agreements with North Atlantic Treaty Organization (NATO) member states, major non-NATO allies and friendly foreign countries. Each of the selected activities and projects are required to have a concluded international agreement (IA), prior to funds being released, that implements the provisions of Title 10 U.S. Code, Section 2350a. This legislation (Title 10 U.S. Code, Section 2350) authorizes funds to significantly improve U.S. and allied conventional defense capabilities by leveraging the best defense technologies, eliminating costly duplication of R&D efforts, accelerating the availability of defense systems, and promoting US and allied interoperability or commonality. These funds will not be used for government civilian salaries, permanent construction, or spent overseas. This PE funds the implementation of Air Force ICR&D agreements in (1) Basic Research (2) Applied Research (3) Advanced Technology Development (4) Advanced Component Development and Prototypes (5) System Development and Demonstration and (6) RDT&E Management Support.

This program is in Budget Activity 4, Advanced Component Development and Prototypes (ACD&P) because efforts are necessary to evaluate integrated technologies, representative modes or protytype systems in a high fidelity and realistic operating environment.

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	4.507	4.568	4.633	-	4.633
Current President's Budget	3.981	4.568	2.392	-	2.392
Total Adjustments	-0.526	-	-2.241	-	-2.241
• Congressional General Reductions	-0.006	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-0.520	-	-2.241	-	-2.241

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 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 Program Element (Number/Name)** PE 0603790F / *NATO Research and Development*

Change Summary Explanation

Reduction of $2.241M in FY15 due to higher DoD priorities.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: International Cooperative Research and Development	3.981	4.568	2.392

Description: Supports bi- and multi-lateral international agreements that meet USAF RDT&E objectives and goals. Each of the cooperative projects that receive funding must meet one or more of the following requirements: enhance warfighter capabilities and coalition interoperability; accelerate the availability of defense systems; strengthen and reinforce strategic partnerships; gain access to the best defense technologies, capabilities and techniques; build relationships and influence with allies; and/or eliminate duplication of R&D efforts.

FY 2013 Accomplishments:

FY13 cooperative projects included but were not limited to: Surveillance by Thermal Hypersectral Imaging Exploitation and Validation of Technology; Unmanned Aircraft Systems Heavy Fuels Operations; Background Oriented Schlieren Comparison; Global Positioning System (GPS)/Inertial/Vision Integrated Navigation System; Fire and Explosion Vulnerability Assessment; Multi-Interoperability Experiment for Enhanced ISR Applications; Command and Control Information Synergy for Combined Space Operations; Silicon Carbide-fiber-reinforced Silicon Carbide-matrix composites Ultra-High Temperature Ceramic Compositions (SiC/SiC-UHTC Compositions); and others.

FY 2014 Plans:

FY14 cooperative projects include but are not limited to: First Generation Quad-Stimulus Laser Eye Protection; Hot Spots Structural Health Monitoring; Coalition Live, Virtual and Constructive Training Research; Bio-Inspired Technologies for Unmanned Aerial Systems (UAS); Air Vehicle Integrated Energy and Power Management Modeling and Simulation; Non-Invasive Rapid Detection of Stress Levels via Nano Devices; Solid Rocket Motor Critical Defect Analysis and Health Monitoring; Robust Affordable Network Global Navigation Satellite Systems Receiver for Military Applications; and others.

FY 2015 Plans:

FY15 cooperative projects will include, but are not limited to, RDT&E efforts in human performance, directed energy, information systems, aerospace systems, munitions, materials and manufacturing, sensors, and space vehicles. Representative projects include but are not limited to Unmanned Aerial Systems Crew Training Research, Modeling Fatigue from Prolonged Driving, Quantification Standards to Assess the Loss of Thermal Barrier Coating due to Calcium-Magnesia-Alumina-Silicate Exposure, Advanced Rotary Engine Design for Tactical Unmanned Aerial Vehicles, Time Critical Targeting in Urban Environments, Environmental Health and Safety of Advanced Nanomaterials, Panchromatic Materials for Optical Sensor Protection, Resolving High Temperature/Pressure and Unsteady Flow Measurements for Advanced Cycle Diagnostics, Flight Information Exchange

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 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 Program Element (Number/Name)** PE 0603790F / *NATO Research and Development*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Model for Air Force Mission Planning, Tessellated Nanosatellite-enhanced Communications Feasibility, Coalition Performance Evaluation Tracking System, Real-time Coalition Performance Assessment; and others.			
Accomplishments/Planned Programs Subtotals	3.981	4.568	2.392

D. Other Program Funding Summary ($ in Millions)

N/A

Remarks

E. Acquisition Strategy

A principal goal of the NATO Cooperative R&D program is to effectively utilize the aggregate resources invested by the US and our allies in air, space, and cyber R&D. This program element provides the critical funding incentive needed to pursue air, space and cyber related International Cooperative Research Development and Acquisition (ICRD&A) agreements and helps to (a) leverage USAF and allied resources through cost sharing and economies of scale; (b) exploit the best US and allied technologies for equipping coalition forces; (c) demonstrate areas of commonality or interoperability with our allies; and (d) accelerate the availability of defense technology and systems. Candidate projects are reviewed against USAF goals, DoD objectives, and warfighter needs prior to being approved. An international agreement defining project objectives, responsibilities and costs is required prior to release of funds. To obtain these funds and ensure service commitment, projects are selected from existing or new RDT&E programs funded in the Future Years Defense Plan (FYDP). Project offices must show matching funds and contributions from associated program elements and equitable allied funding. As appropriate, funding responsibility for out-year requirements and follow-on efforts are transferred to the project office and associated program elements. Any new contracts are awarded after 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 / 4	**R-1 Program Element (Number/Name)** PE 0603790F / *NATO Research and Development*	**Project (Number/Name)** 64NATO / *Nato Coop R&D*

PE 0603790F – International Cooperative Research and Development Schedule

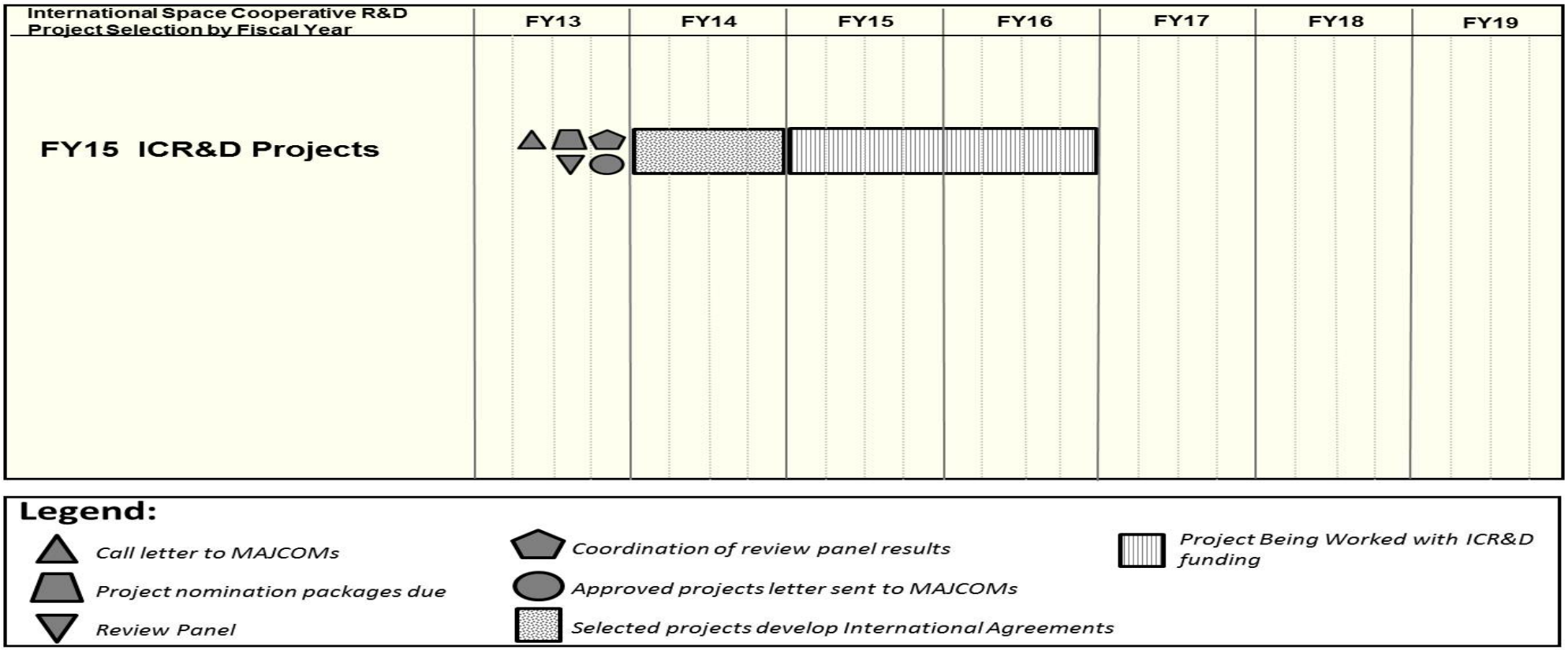


Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force											Date: March 2014	
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 4: *Advanced Component Development & Prototypes (ACD&P)*					R-1 Program Element (Number/Name) PE 0603791F / *International Space Cooperative R&D*							
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	-	0.569	0.379	0.833	-	0.833	0.796	0.695	0.708	0.722	Continuing	Continuing
645035: *Intl Space Coop R&D*	-	0.569	0.379	0.833	-	0.833	0.796	0.695	0.708	0.722	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

These funds will be used to initiate International Space Cooperative Research and Development (ISCR&D) projects with North Atlantic Treaty Organization (NATO) member states, major non-NATO allies and friendly foreign countries. Each of the selected projects are required to have a concluded international agreement (IA), prior to funds being released, that implement the provisions of Title 10 US Code, Section 2350a. This legislation (Title 10 US Code, Section 2350) authorizes funds to significantly improve US and allied conventional defense capabilities by leveraging the best defense technologies, eliminating costly duplication of R&D efforts, accelerating the availability of defense systems, and promoting US and allied interoperability or commonality. These funds will not be used for government civilian salaries, permanent construction, or be spent overseas. This program element funds the implementation of Air Force ISCR&D agreements in (1) Basic Research (2) Applied Research (3) Advanced Technology Development (4) Advanced Component Development and Prototypes (5) System Development and Demonstration and (6) RDT&E Management Support.

This programs is in Budget Activity 4, Advanced Component Development and Prototypes (ACD&P), because efforts are necessary to evaluate integrated technologies, representative modes or protytype systems in a high fidelity and realistic operating environment.

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	0.652	0.379	0.843	-	0.843
Current President's Budget	0.569	0.379	0.833	-	0.833
Total Adjustments	-0.083	-	-0.010	-	-0.010
• Congressional General Reductions	-0.001	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-0.082	-	-0.010	-	-0.010

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 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 Program Element (Number/Name)** PE 0603791F / *International Space Cooperative R&D*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: International Space Cooperative Research and Development	0.569	0.379	0.833
Description: Supports bi- and multi-lateral space-related international agreements that meet USAF RDT&E objectives and goals. Each of the cooperative projects that receive funding must meet one or more of the following requirements: enhance warfighter capabilities and coalition interoperability; accelerate the availability of defense systems; strengthen and reinforce strategic partnerships; gain access to the best defense technologies, capabilities and techniques; build relationships and influence with allies; and/or eliminate duplication of R&D efforts. ***FY 2013 Accomplishments:*** FY13 cooperative projects included but were not limited to: Nanosatellites Plug and Play Architectures II; Hyper-Temporal Imaging Exploitation and Validation of Technology; and others. ***FY 2014 Plans:*** FY14 cooperative projects include but are not limited to: Spacecraft Plasma Expansion Test; Combat Search and Rescue/Blue Force Tracking Enhancements for Nanosatellites; and others. ***FY 2015 Plans:*** FY15 cooperative projects involve, but are not limited to, RDT&E efforts in space situational awareness, missile warning, military satellite communications, global positioning systems, responsive space capabilities, cyber network defense and information assurance, and space vehicles. These projects include but are not limited to Tessellated Nanosatellite-enhanced Communications Feasibility; and others.			
Accomplishments/Planned Programs Subtotals	0.569	0.379	0.833

D. Other Program Funding Summary ($ in Millions)

N/A

Remarks

E. Acquisition Strategy

A principal goal of the International Space Cooperative R&D program is to effectively utilize the aggregate resources invested by the US and our allies in space-related R&D. This program element provides the critical funding incentive needed to pursue space-related International Cooperative Research Development and Acquisition (ICRD&A) agreements and helps to (a) leverage USAF and allied resources through cost sharing and economies of scale; (b) exploit the best US and allied technologies for equipping coalition forces; (c) demonstrate areas of commonality or interoperability with our allies; and (d) accelerate the availability of defense technology and systems. Candidate projects are reviewed against USAF goals, DoD objectives, and warfighter needs prior to being approved. An international agreement defining project objectives, responsibilities and costs is required prior to release of funds. To obtain these funds and ensure service commitment, projects are selected from existing or new space-related RDT&E programs funded in the Future Years Defense Plan (FYDP). Project offices must show matching funds and contributions from

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 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 Program Element (Number/Name)** PE 0603791F / *International Space Cooperative R&D*

associated program elements and equitable allied funding. As appropriate, funding responsibility for out-year requirements and follow-on efforts are transferred to the project office and associated program elements. Most contracts are awarded after 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 / 4	**R-1 Program Element (Number/Name)** PE 0603791F / *International Space Cooperative R&D*	**Project (Number/Name)** 645035 / *Intl Space Coop R&D*

PE 0603791F – International Space Cooperative Research and Development Schedule

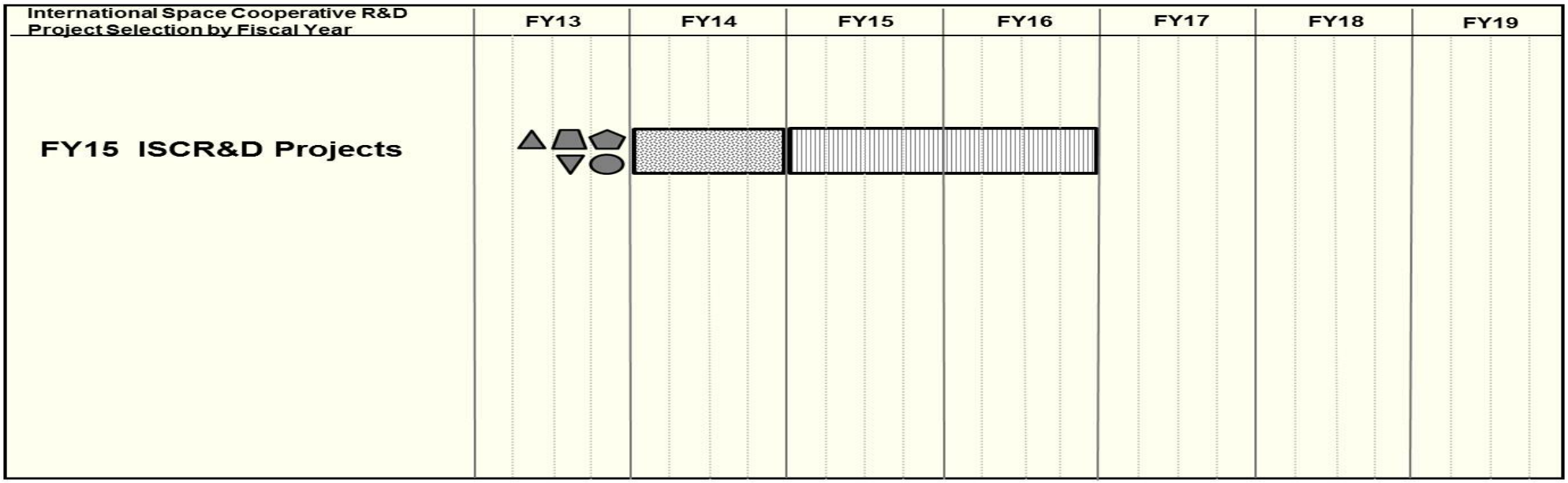


Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force											Date: March 2014	
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 4: *Advanced Component Development & Prototypes (ACD&P)*					R-1 Program Element (Number/Name) PE 0603830F / *Space Security and Defense 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	-	9.557	24.764	32.313	-	32.313	33.302	31.586	31.120	31.514	Continuing	Continuing
64A025: *Space Protection Program*	-	9.557	24.764	32.313	-	32.313	33.302	31.586	31.120	31.514	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 funds the DoD/Air Force component of the Space Security and Defense Program (SSDP). The SSDP is a Joint Department of Defense (DoD) and Office of the Director of National Intelligence (ODNI) organization established to function as the center of excellence for options and strategies (materiel, non-materiel, cross-Title, cross-domain) leading to a more resilient and enduring National Security Space (NSS) Enterprise. Formerly known as the Space Protection Program (SPP), the SSDP was chartered by the DoD and ODNI to expand the existing authorities and roles/responsibilities of the SPP; effectively integrating and unifying space protection efforts on a National level to better meet the evolving threat to our NSS systems and capabilities.

The SSDP Operates under the authority of the Deputy Secretary of Defense (DEPSECDEF) and Principal Deputy Director of National Intelligence (PDDNI) to lead and collaborate on space protection vulnerability, susceptibility, and mitigation assessments of NSS services for the purpose of identifying and introducing protection recommendations into existing requirements, budgeting, acquisition, and operational development processes. This unique mission provides an ongoing and crucial core protection competency that advances specific projects/activities (including cyber) to deliver comprehensive, economical and actionable solutions for both programmatic and operational domains.

The SSDP scope spans multiple space missions and stakeholders including the DoD, Intelligence Community (IC), civil, commercial, and international space entities that support NSS missions in both peacetime and throughout all phases of conflict. The program works within existing processes spanning requirements, budgeting, acquisition, and operational development to carry-out its protection mission. It is focused on being responsive to NSS stakeholders in providing technical and operational assessments of emergent threat concepts, and developing near- and far-term plans to address strategies, threats, and vulnerabilities. In the context of its projects and activities, the SSDP employs a cooperative, objective, and enterprise-level approach to implement the capabilities, plans and options to deter, defend against, and if necessary, defeat efforts to interfere with or attack U.S. or allied space systems in an increasingly constrained and hostile environment.

SSDP projects/activities center on identifying solutions to current space protection needs with a common sense approach to balancing near-term results with long-term acquisition, architecture, and strategic objectives. Given the ever-changing elements of the space protection landscape, the SSDP is designed to remain flexible and responsive to fluctuating NSS priorities and objectives. Protection projects/activities in one year are typically dependent upon or advised by the results/findings or progress made on tasks in the preceding FY, and must remain responsive to annual DEPSECDEF and PDDNI - approved SSDP Work Plans that take such variability into consideration. As such, SSDP FY15 projects/activities will be structured to address the priorities and objectives of the SSDP Work Plan and meet the National space survivability and protection needs as directed by the DEPSECDEF and the PDDNI. In order to ensure resiliency in a contested space environment, FY15 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 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 Program Element (Number/Name)** PE 0603830F / *Space Security and Defense Program*

will leverage available resources to support NSS survivability requirements and address protection issues, options, and strategies in the priority articulated in the annual SSDP Work Plan. SSDP will translate resilience, protection, endurance, and survivability into protection strategy/policy and threat mitigation projects and/or activities in specific mission areas to inform/impact budget and program formulation, influence the development of system or segment requirements, provide technical parameters to systems and capabilities, improve Concept of Operations (CONOPS) / Tatics, Techniques and Procedures (TTP) for operational systems, shape and inform protection-related policies, and identify areas for additional collection and/or analysis by the IC to feed threat mitigation efforts.

The FY15 President Budget request represents the resources required to operate and execute a synchronized and effective space protection effort for the Nation; fulfilling a unique, objective and independent role that considers comprehensive, enterprise-level, space and non-space, material and non-material solutions across NSS systems and architectures. The FY15 request preserves the skill-set, knowledge base and multi-organizational construct required to remain ahead of the threat and to evolve programmatic direction and operational CONOPS across multiple orbital regimes in a way that minimizes duplication and inefficiency. This essentially enables the SSDP to deliver the research, analysis, studies, tools and capabilities necessary to identify, prioritize, develop, and implement the most effective and economical solutions to preserve NSS capabilities.

This program is in Budget Activity 4, Advanced Component Development and Prototypes (ACD&P) because efforts are necessary to evaluate integrated technologies, representative modes or prototype systems in a high fidelity and realistic operating environment.

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	10.429	28.764	21.717	-	21.717
Current President's Budget	9.557	24.764	32.313	-	32.313
Total Adjustments	-0.872	-4.000	10.596	-	10.596
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-4.000			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-0.872	-	10.596	-	10.596

Change Summary Explanation

FY13: -$0.872M for Sequestration
FY14: -$4.00M due to Congressional reduction
FY15: +$10.596M to increase capacity and for additional low-cost/high-impact protection projects/activities

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Threat Mitigation Project and Activities	9.557	15.214	26.389

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 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 Program Element (Number/Name)** PE 0603830F / *Space Security and Defense Program*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015

Description: Entails the prioritized, project-specific technical efforts and activities supporting SSDP mission objectives. Encompasses all SSDP efforts to deliver and implement actionable solutions based on methodical, data-driven systems engineering and technical analysis to inform/impact both programmatic and operational domains. Includes associated program support/infrastructure and operating costs to sustain a coherent program effort and adhere to the legal demands/requirements of executing a program-specific baseline.

FY 2013 Accomplishments:
Engaged in a disciplined methodology to prioritize efforts and execute priority protection projects under a constrained budget baseline. Completed efforts resulting in the delivery and implementation of actionable solutions for key mission areas (Operations, Satellite Communication (SATCOM), Position-Navigation and Timing (PNT), Missile Warning, Cyber/Non-Kinetic Operations, Space Situational Awareness (SSA), Indications and Warning (I&W), and Intelligence - Surveillance - Reconnaissance (ISR)), as well as the initiation of several space protection vulnerability, susceptibility, and mitigation assessment activities. Specifically, conducted a number of campaign-specific efforts which integrated intelligence with operations to ensure resiliency of space systems in a contested environment. Designed, developed, and delivered validated response options to Combatant Commanders (COCOM) for varied threats and fully incorporated a pathfinder process for integrating new/revised space concepts into USSTRATCOM operations/plans. Identified, evaluated and implemented low-cost means to leverage current capabilities to significantly improve decision support. Completed a focused FY13 protection study and leveraged determinations to inform specific NSS architectures and enable protection-level response options. Delivered Space Based Space Surveillance (SBSS) analysis and metrics which influenced budget/program formulation and enabled architecture decisions to optimize sensor performance and better satisfy protection metrics at a lower cost. Tested and matured key alternatives and metrics from the final Geosynchronous Earth Orbit (GEO) SSA study; resulting in implementation of a common GEO threat baseline by the IC and the use of an alternative evaluation methodology for the SSA architecture. Made significant progress and provided initial solutions to the Joint Space Operations Center (JSpOC) for a functional Electomagnetic Interference (EMI) architecture. Completed Office of the Secretary of Defense (OSD)-directed study and began implementation of Cyber support to defensive space alternatives to mitigate threats against specific systems and architectures. Supported a limited number of wargames and exercises to help refine TTPs and CONOPS along a space protection-specific tenet; providing ongoing modifications to COCOM response options. Engaged in an expanded National protection role consistent with the approved SSDP charter with more comprehensive scope of analyses and multi-agency considerations and involvement. Began the enhancement of existing strategic protection capabilities to meet an expanded chartered responsibility in this arena beginning in FY14.

FY 2014 Plans:
FY14 projects/activities are structured to address the priorities and objectives of the SSDP work plan and meet the Nation's space survivability and protection needs as directed by the DEPSECDEF and the PDDNI. Projects/activities, as planned, increase the existing program's scope and capability to execute a more comprehensive National protection mission and make further progress

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 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 Program Element (Number/Name)** PE 0603830F / *Space Security and Defense Program*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
on systematically developing, reviewing and integrating protection-specific measures into policy, requirements, acquisitions and operations. The targeted objectives of FY14 projects/activities allow SSDP to better understand and deliver what is expected from the NSS community with regard to the protection of space-enabled capabilities in specific mission areas including Operations, SATCOM, PNT, Missile Warning, Cyber/Non-Kinetic, SSA, I&W, ISR. ***FY 2015 Plans:*** FY15 projects/activities will be prioritized to be consistent with the annual work plan that represents the NSS community's interests, priorities, and equities as well as the priorities articulated by the DEPSECDEF and PDDNI. SSDP will increase project capacity in FY15 to address additional high-priority space protection issues; applying existing processes/methodology to add specific project efforts for Advanced Space Combat Tactics, Counter Network Exploitation Analysis, WGS Defense Exploration, and GEO Catalog Expansion. The entire compliment of planned FY15 projects will continue to be focused on meeting the demands for operational planning, ongoing coordination of Title 10/50 activities, and the advancement of specific efforts to actionable solutions that have operational and/or programmatic impact. FY15 projects/activities are focused on providing effective and timely deliverables that approach space protection today as if we are in tomorrow's conflict, offer solutions to real problems in a methodical way consistent with National guidance, maintain appropriate balance between mitigating near-term threats and pursuing foundational analytical activities, and operate within DoD and ODNI authorities to provide value added injections into existing and future processes. SSDP will continue to address protection within key mission areas and be flexible and responsive to the evolving protection needs and priorities throughout the NSS Enterprise.			
Title: Strategic Protection Activities and Products ***Description:*** Efforts within this category were identified in the SSDP charter as a specific thrust area beginning in FY14. This encompasses the program strategic efforts to evaluate architectures, develop and support protection-related policy, influence and integrate protection requirements, analyze impacts of various policy recommendations on mitigation options, and inform/assist policy-makers on opportunities to leverage policy actions to enhance the space protection posture across the NSS Enterprise. These efforts provide critical data and support to the Threat Mitigation Projects and Activities as outlined in the previous section. ***FY 2013 Accomplishments:*** This activity existed as an inherent function of the Threat Mitigation Projects and Activities through FY13. Identified as a specific enhanced thrust area beginning in FY14. ***FY 2014 Plans:*** Engage in amplified strategic protection efforts for the SSDP with a FY14 focus on establishing integrated activities to support space survivability and protection objectives across policy, requirements, threat analysis, and architecture evaluation regimes. Specifically, SSDP will provide specialized technical support to assess, propose, inform/influence and/or develop (if necessary) policies relating to defensive space control and resilience. Additionally, the program will formalize its function and process	-	3.550	3.924

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 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 Program Element (Number/Name)** PE 0603830F / *Space Security and Defense Program*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
to recommend policy considerations related to space protection and analyze the impacts of such proposals on mitigation development options. ***FY 2015 Plans:*** Continue dedicating strategic protection and policy integration efforts across all facets of the NSS Enterprise. Complete the evolution of this function to be fully integrated into the strategic protection aspect of all SSDP stakeholder processes and responsibilities. Focus in FY15 will evolve to provide more comprehensive technical assistance, advice, and strategic solutions in support of policy-related processes across the NSS Enterprise. Moreover, SSDP will inform and assist policy makers at every level on opportunities to shape policy to enhance space protection posture. Policy makers will also receive specialized technical assistance, protection-specific data/findings, and validated recommendations regarding the impacts that policy/strategy changes may/can have on our protection of NSS capabilities.			
Title: SATCOM Resiliency Enhancement ***Description:*** This is a protection-related enhancement funded through and advised/informed by the SSDP. It is a four-year incremental effort to enhance the ground-based software and associated operating/processing procedures used to plan WGS operations. It will leverage current system capabilities and planned software updates to improve code that will make a manually-intensive build cycle more automated/responsive. ***FY 2013 Accomplishments:*** N/A ***FY 2014 Plans:*** Kicks off a four-year incremental effort to implement a software code improvement to the ground based software used to plan WGS operations. As a protection-related enhancement, this effort is being funded through and overseen by the SSDP to have PM DCATS (Project Manager Defense Communications and Army Transmission Systems) execute specific software code improvements (within the framework of the existing system) to process data more efficiently. The effort encompasses improving code within the scope of the current ground processing contract to automate aspects of the planning software to make it more tactically responsive. The effort will also entail technique development and operational integration through the wideband architecture by exploring enabling infrastructure such as spectrum monitoring for electromagnetic interference. ***FY 2015 Plans:*** Efforts will lead to a planned initial software code update in early FY15 and planned implementation of the enhancement (to include revised operational techniques) by FY17. FY15 activities will encompass initial implementation tasks, testing and	-	6.000	2.000

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 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 Program Element (Number/Name)** PE 0603830F / *Space Security and Defense Program*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
amending the proposed code, and ongoing efforts to seamlessly integrate the enhancement into the ground-based WGS planning process.			
Accomplishments/Planned Programs Subtotals	9.557	24.764	32.313

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
• none: *N/A*	-	-	-	-	-	-	-	-	-	-	-

Remarks

Note: The AF/DoD portion of the SSDP is funded entirely from this Program Element. Funding to support the complimentary/partnership National Reconnaissance Office (NRO) activities (as part of the joint/integrated program effort between AFSPC and the NRO) are programmed in the NRO classified funding request.

E. Acquisition Strategy

All contracts funded in this program element will be awarded using competitive procedures to the maximum extent possible. The program consists of numerous small projects.

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 / 4	**R-1 Program Element (Number/Name)** PE 0603830F / *Space Security and Defense Program*	**Project (Number/Name)** 64A025 / *Space Protection Program*

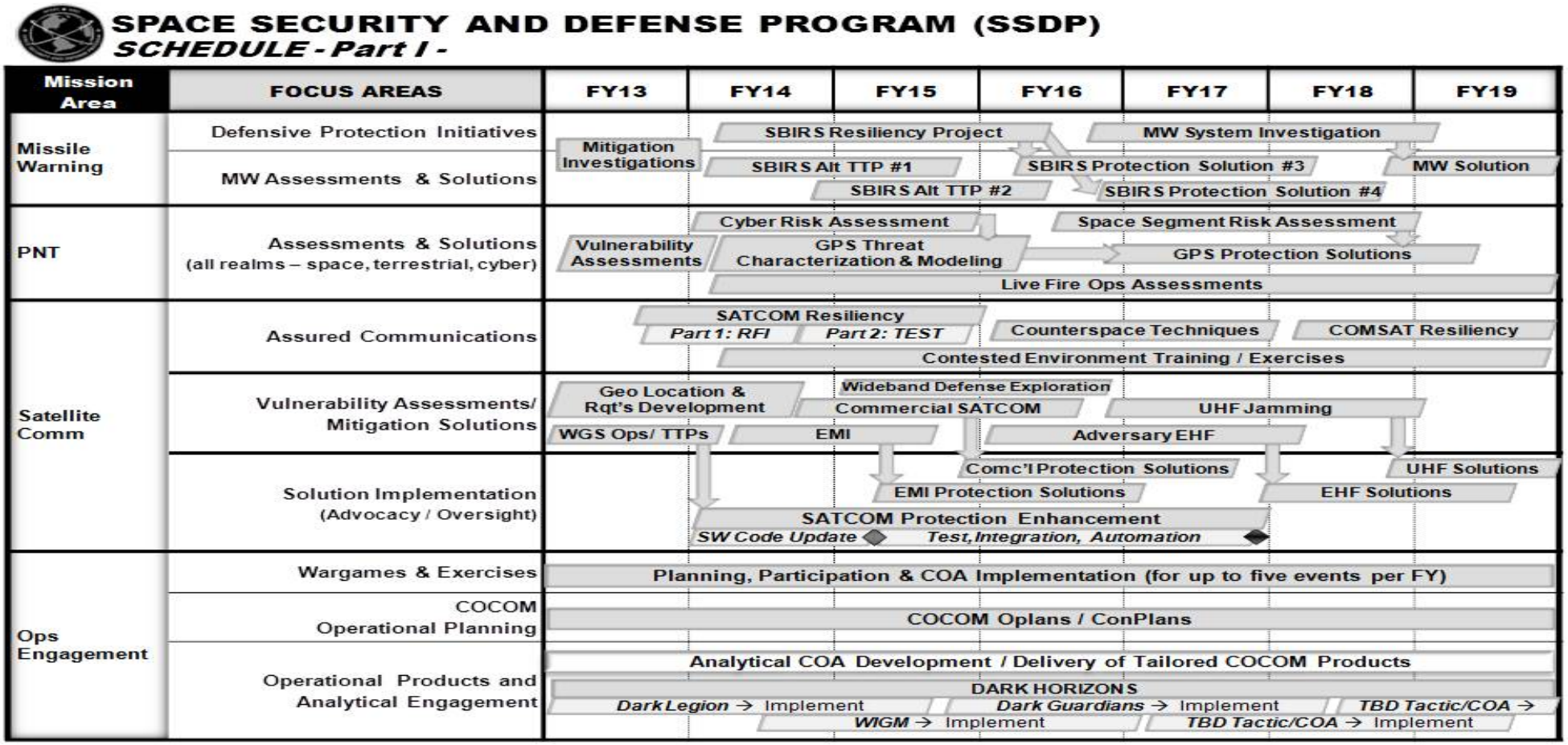


Exhibit R-4, RDT&E Schedule Profile: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 4	**R-1 Program Element (Number/Name)** PE 0603830F / *Space Security and Defense Program*	**Project (Number/Name)** 64A025 / *Space Protection Program*

SPACE SECURITY AND DEFENSE PROGRAM (SSDP)
SCHEDULE - Part II -

Mission Area	FOCUS AREAS	FY13	FY14	FY15	FY16	FY17	FY18	FY19
Cyber	Cyber Protection (of blue space capabilities)	Space Mission Threat Assessment	Protection Project "DC"			Protection Project "DC Phase II"		
			MW Risk Assessment				SATCOM Vulnerability Assessment	
			AFSCN Follow-On			Missile Warning Follow-On		
	Cyber Prevention (of adversary space threats)	C2 and Information Systems and Sensors						
		THREAT → Demo			THREAT → Demo			THREAT
			THREAT → Demo				THREAT → Demo	
			DIA Rqt's Task					
		Space Defense Initiatives						
		Assessments | Operations | Tool R&D | Integration/Implementation						
SSA	SSA Enterprise Requirements	SSA Data Integration (LHF Projects)						
		SBSS Follow-On Analysis	Quantitative Assessment Capability			NSS Enterprise Survivability		
		GEO Rqt's	Protection-Level Requirements, Metrics and Analysis					
	Defensive Protection Initiatives	ZIMA Pt. I	ZIMA Pt. II		Initiative X		Initiative Y	Initiative Z
	SSA Assessments and Solutions	GEO Study	Hosted Sensor Study		Other Sensors		Protection COAs & Response Options	
		GEO KPPs	SSA Cross-Cuing & CONOPS		Space Enterprise Architectural Assessments			
	SSA Indications and Warning		JSpOC Integration & Support Plan		SSA Data Fusion & Sensor Employment		IC Data Cloud Fusion and Employment	
Strategic Protection	Space Protection Policy and Strategy		Technical Spt for Policies/Strategies Relating to Nat'l Space Protection					
			Strategic Narrative Development & Execution					
			Project I	Project II	Project III	Project IV	Project V	Project VI
	Requirements and Acquisition Integration		Spt for Enterprise & System Level Requirements and Acquisitions to Address Vulnerabilities					
			Threat Mitigation Strategies | Independent Program Assessments | Req'ts/Acq Reviews | Advise, Influence and Monitor Protection-Related Solutions Early in Req'ts/Acq Processes					
	Strategic Resiliency		TREC			Resiliency Project TBD		
			Threat Interface Activity and Assessments					

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 4: *Advanced Component Development & Prototypes (ACD&P)*					R-1 Program Element (Number/Name) PE 0603850F / *Integrated Broadcast Service - Dem/Val*							
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	-	18.216	-	-	-	-	-	-	-	-	-	18.216
644778: *Integrated Broadcast Service*	-	18.216	-	-	-	-	-	-	-	-	-	18.216
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 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/have previously funded IBS system development 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 the 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.

- An XML-based Common Message Format (CMF) Data Element Dictionary (DED) that defines IBS messages for broadcast of IBS information over available communications paths including the CIB and other Global Information Grid (GIG) networks.

- A Modular Advanced TRanslation Interchange with XML (MATRIX) Reformatter that provides a modular, platform-independent, multi-use translator to support migration with legacy radios and provide a long term solution for IBS Full Operational Capability (FOC) radio users.

Funds development 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.

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 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 Program Element (Number/Name)** PE 0603850F / *Integrated Broadcast Service - Dem/Val*

This program is in Budget Activity 4, Advanced Component Development and Prototypes (ACD&P) because efforts are necessary to evaluate integrated technologies, representative modes or prototype systems in a high fidelity and realistic operating environment.

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	19.938	-	-	-	-
Current President's Budget	18.216	-	-	-	-
Total Adjustments	-1.722	-	-	-	-
• Congressional General Reductions	-0.026	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-1.696	-	-	-	-

Change Summary Explanation

In FY13, -$1.696M Sequestration Reduction.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: IBS-NS (GINS/TINs) Development	14.620	-	-
Description: Continue the Phase II/System Development and Demonstration of the GINS and TINs efforts. ***FY 2013 Accomplishments:*** Completed the integration and testing of the Spiral 4 release of the GINS and TINs efforts and transitioning Spiral 4 IBS-NS capability to sustainment. Continued advanced development of Spiral 4 release of GINS and TINs. ***FY 2014 Plans:*** N/A			
Title: Test & Evaluation	1.396	-	-
Description: Continue Test & Evaluation of the IBS 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 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 Program Element (Number/Name)** PE 0603850F / *Integrated Broadcast Service - Dem/Val*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
FY 2013 Accomplishments: Continued Test and Evaluation of the IBS System. ***FY 2014 Plans:*** N/A			
Title: Enterprise Systems Eng ***Description:*** Enterprise Systems Engineering/CMF Integration/CIB Integration ***FY 2013 Accomplishments:*** Continued Enterprise Systems Engineering/CMF Integration/CIB Integration efforts. ***FY 2014 Plans:*** N/A	0.700	-	-
Title: CIB Failover to IBS Alternate Communications Path using the Common Message Format (CMF) in A2AD Environment ***Description:*** Develop Common Interactive Broadcast (CIB) Failover to Alternate Communications Path using the Common Message Format (CMF) in Anti-Access/Anti-Denial (A2/AD) Environment. ***FY 2013 Accomplishments:*** Developed Common Interactive Broadcast (CIB) Failover to Alternate Communications Path using the Common Message Format (CMF) in Anti-Access/Anti-Denial (A2/AD) Environment.	1.000	-	-
Title: Integrated Waveform Modifications to Support the CIB ***Description:*** Modify Integrated Waveform to support the CIB. ***FY 2013 Accomplishments:*** Modified the Integrated Waveform to support the CIB.	0.500	-	-
Accomplishments/Planned Programs Subtotals	18.216	-	-

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: 0305179F: *Integrated Broadcast Service*	-	6.954	8.592	-	8.592	8.556	8.606	8.623	8.787	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 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 Program Element (Number/Name)** PE 0603850F / *Integrated Broadcast Service - Dem/Val*

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*	13.070	14.121	14.949	-	14.949	13.987	15.221	16.395	16.687	Continuing	Continuing

Remarks

E. Acquisition Strategy

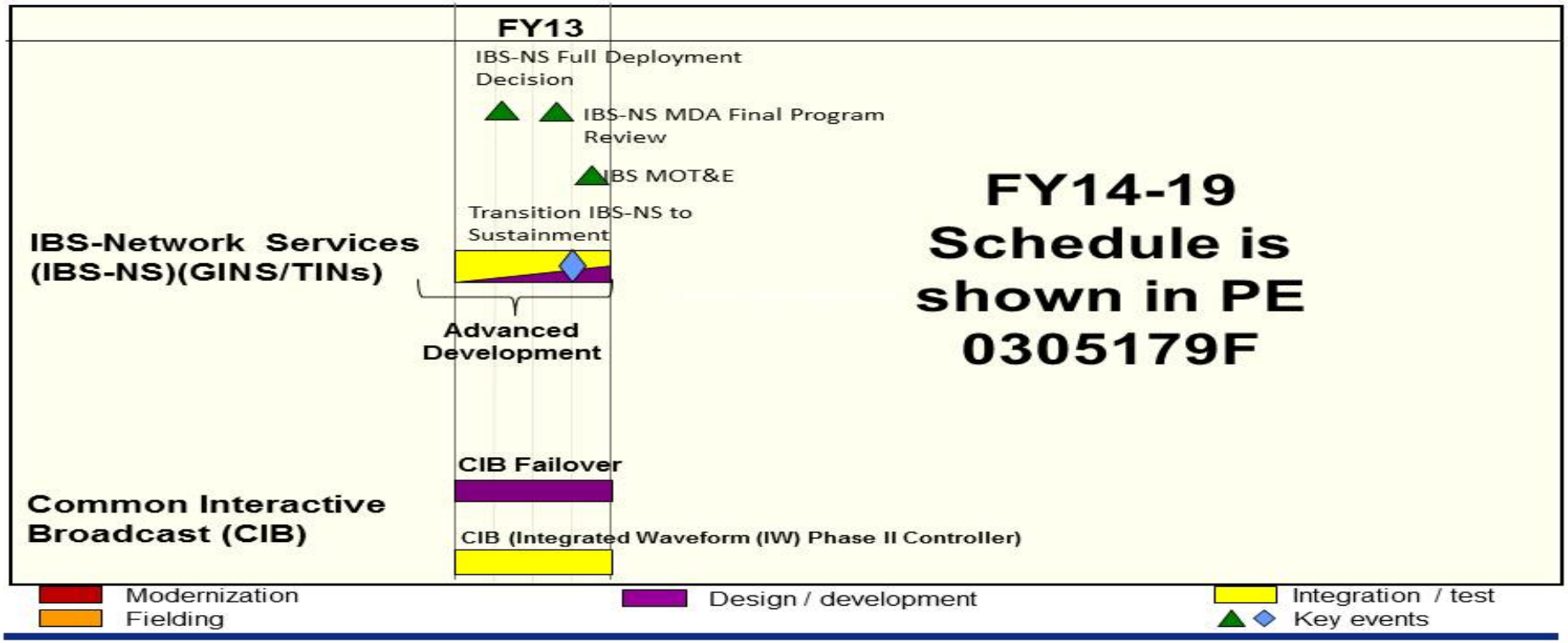
IBS uses an evolutionary acquisition approach. The Program Definition/Risk Reduction phase (Spiral 1) was awarded via a full and open competition. A full and open competition award to BTG/Titan/L-3Comm/L-3 National Security Solutions was awarded for the Engineering, Manufacturing and Development (EMD) phase (Spiral 2-4).

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 / 4	**R-1 Program Element (Number/Name)** PE 0603850F / *Integrated Broadcast Service - Dem/Val*	**Project (Number/Name)** 644778 / *Integrated Broadcast Service*

IBS Broadcast Segment Schedule
PE 0603850F



FY15 PB

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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 4: *Advanced Component Development & Prototypes (ACD&P)*					R-1 Program Element (Number/Name) PE 0603851F / *Intercontinental Ballistic Missile - Dem/Val*							
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	-	63.153	72.696	30.885	-	30.885	18.029	16.327	9.916	9.889	Continuing	Continuing
641020: *ICBM Guidance Applications*	-	13.221	28.513	0.493	-	0.493	1.285	1.287	0.496	1.945	Continuing	Continuing
641021: *ICBM Propulsion Applications*	-	39.230	34.810	16.072	-	16.072	6.956	5.239	0.991	1.986	Continuing	Continuing
641022: *ICBM Reentry Vehicle Applications*	-	-	-	3.951	-	3.951	4.943	4.950	4.463	1.986	Continuing	Continuing
641024: *ICBM Command & Control (C2) Applications*	-	-	-	2.469	-	2.469	3.362	3.366	2.974	1.986	Continuing	Continuing
641025: *Ground Based Strategic Deterrence (GBSD)*	-	10.702	9.373	6.913	-	6.913	-	-	-	-	Continuing	Continuing
644209: *Long Range Planning (LRP)*	-	-	-	0.987	-	0.987	1.483	1.485	0.992	1.986	Continuing	Continuing

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

A. Mission Description and Budget Item Justification

This program ensures a responsive design and development engineering infrastructure to address emerging issues and technology insertion within the current Intercontinental Ballistic Missile (ICBM), future strategic systems/capability, and other common strategic mission areas, where appropriate, to develop enhanced multi-use capabilities. Efforts identify methods to reduce life cycle costs, improve nuclear safety and surety, and ensure strategic missile viability. On-going demonstration and validation projects include guidance applications, propulsion applications and Ground Based Strategic Deterrent (GBSD), and FY15 restarts funding for reentry vehicles, development of enhanced command/control capabilities and long range planning efforts.

BA4 - This program is in Budget Activity 4, Advanced Component Development and Prototypes (ACD&P) because efforts are necessary to evaluate integrated technologies, representative modes or prototype systems in a high fidelity and realistic operating 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 4: *Advanced Component Development & Prototypes (ACD&P)*		R-1 Program Element (Number/Name) PE 0603851F / *Intercontinental Ballistic Missile - Dem/Val*			
B. Program Change Summary ($ in Millions)	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO**	**FY 2015 Total**
Previous President's Budget	71.181	86.737	93.549	-	93.549
Current President's Budget	63.153	72.696	30.885	-	30.885
Total Adjustments	-8.028	-14.041	-62.664	-	-62.664
• Congressional General Reductions	-0.094	-0.070			
• Congressional Directed Reductions	-	-13.971			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-1.661	-			
• Other Adjustments	-6.273	-	-62.664	-	-62.664

Change Summary Explanation

FY13 Significant Changes include: $6.273M for Sequestration and $1.661M for Small Business Innovative Research (SBIR)

FY14 Significant Changes include: $13.971M for Congressional reduction: "Program Decrease"

FY15 Significant Changes include: $62.664M reduction for transition to guidance efforts in PE 0101213F, Minuteman Squadrons: MM Operational Equipment and for higher AF priorities

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 4	R-1 Program Element (Number/Name) PE 0603851F / *Intercontinental Ballistic Missile - Dem/Val*	Project (Number/Name) 641020 / *ICBM Guidance 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
641020: *ICBM Guidance Applications*	-	13.221	28.513	0.493	-	0.493	1.285	1.287	0.496	1.945	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 Guidance Applications Program ensures the development of strategic capability in response to the Nuclear Posture Review, recommendations of the United States Strategic Command (USSTRATCOM) Strategic Advisory Group, USSTRATCOM Commander guidance, and the Defense Science Board Task Force on Nuclear Deterrence. Efforts are focused on current and future requirements and technologies, reduced life cycle costs, and increased nuclear surety and safety. Activities leverage the efforts of the Science and Technology community and are coordinated with the Navy strategic applications program to enhance synergy and avoid duplication. Key elements include developing responsive technologies with common applications for future strategic guidance capabilities.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Guidance Applications	13.221	28.513	0.493
Description: Develop and mature, in coordination with the Navy, advanced guidance technologies and concepts to support future requirements. ***FY 2013 Accomplishments:*** Developed, prototyped and tested advanced guidance technologies, such as solid-state instruments (accelerometers and gyroscopes) and inertial measurement unit (IMU) concepts. Assessed, evaluated and tested radiation hard electronics for strategic guidance applications. Conducted experiments to demonstrate future strategic system concepts. ***FY 2014 Plans:*** Continue to develop, analyze and evaluate strategic guidance technologies, concepts and architectures for use in current or future ICBM systems. ***FY 2015 Plans:*** Continue to identify develop, analyze and evaluate advanced strategic guidance technologies for potential use in the current or future ICBM systems.			
Accomplishments/Planned Programs Subtotals	13.221	28.513	0.493

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 4	**R-1 Program Element (Number/Name)** PE 0603851F / *Intercontinental Ballistic Missile - Dem/Val*	**Project (Number/Name)** 641020 / *ICBM Guidance 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
• RDT&E: BA07: PE 0101213F: *Minuteman Squadrons*	-	-	16.359	-	16.359	63.966	107.253	197.764	222.957	-	-

Remarks

PE 0101213F, Minuteman Squadrons, funding related to this effort is included in Project Number 672987, MM Operational Equipment

D. Acquisition Strategy

Accomplish studies, analyses, concept development and engineering; efforts will be conducted using contracting strategies deemed most appropriate, generally using competitive contracts.

E. Performance Metrics

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

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 4	**R-1 Program Element (Number/Name)** PE 0603851F / *Intercontinental Ballistic Missile - Dem/Val*	**Project (Number/Name)** 641020 / *ICBM Guidance Applications*

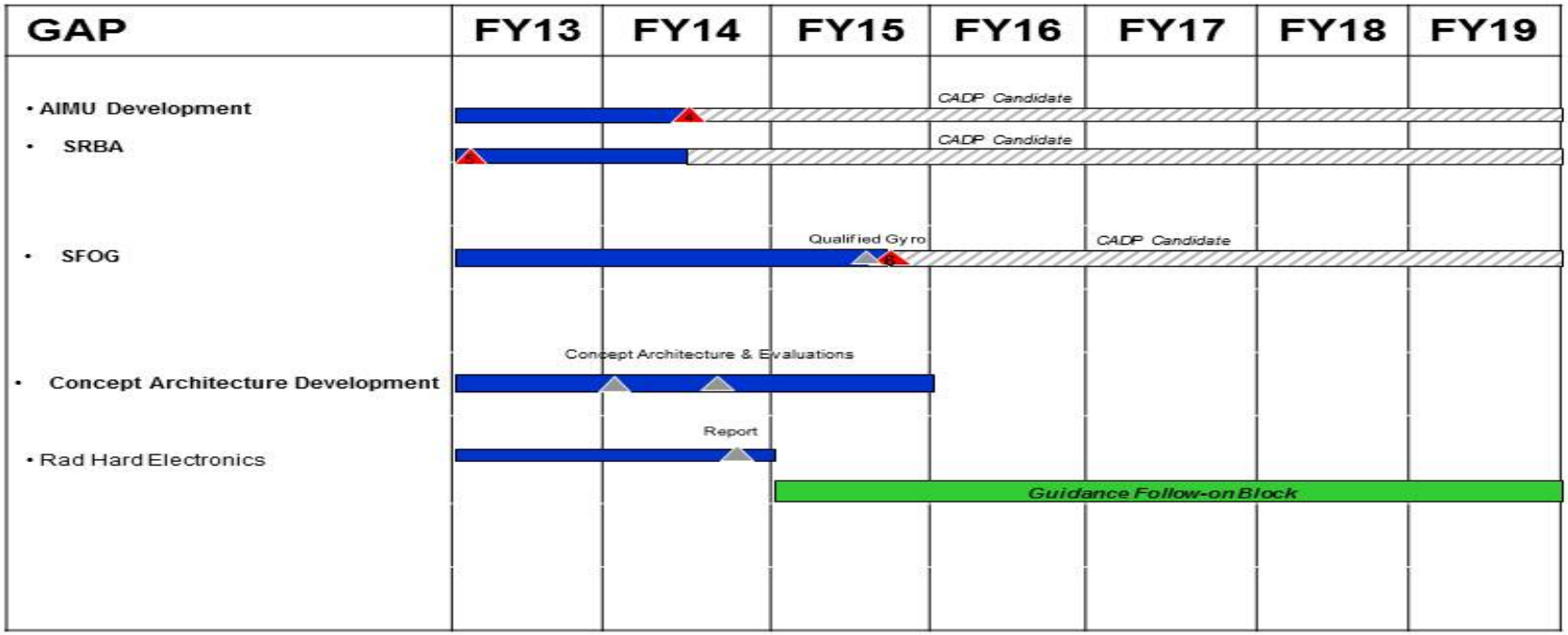


Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 4	R-1 Program Element (Number/Name) PE 0603851F / *Intercontinental Ballistic Missile - Dem/Val*	Project (Number/Name) 641021 / *ICBM Propulsion Applications*	

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
641021: *ICBM Propulsion Applications*	-	39.230	34.810	16.072	-	16.072	6.956	5.239	0.991	1.986	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 Intercontinental Ballistic Missile (ICBM) Propulsion Applications Program develops strategic propulsion capability through projects exploring improvements and/or alternatives to current propulsion systems, conducting studies assessing application of new technologies to meet future common propulsion systems requirements, assessing opportunities for applying common materials and technology between the ICBM, submarine-launched ballistic missile (SLBM) propulsion systems, and other rocket motor propulsion capabilities to demonstrate a potential family of motors capability. Efforts are focused on current and future requirements and technologies, reduced life cycle costs, and increased nuclear surety and safety.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Propulsion Application Program	39.230	34.810	16.072
Description: Assess, develop, evaluate, and demonstrate common solid and liquid propulsion technology and manufacturing leading up to a static fire and test of the medium class stage motors. Develop strategic propulsion capability and explore improvements to current and future systems. Support the research and development industrial base and critical infrastructure.			
FY 2013 Accomplishments: Supported the solid rocket motor (SRM) research and development industrial base and critical infrastructure. Assessed and demonstrated ordnance and post-boost technology development. Completed large class stage (LCS) I & II efforts. Completed transition from LCS to Medium Class Stages (MCS) development, leveraging existing launch vehicle integration efforts. Continued to design and develop MCS III motor. Continued to integrate and analyze medium class motors and technology insertion opportunities.			
FY 2014 Plans: Continue to support the SRM research and development industrial base and critical infrastructure. Continue assessment and demonstration of ordnance and post-boost technology development. Continue MCS III development and prepare for static fire testing. Continue to integrate and analyze medium class motors and technology insertion opportunities. Design and begin qualification of MCS I and MCS II motors and prepare for static fire testing, as necessary.			
FY 2015 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 4	**R-1 Program Element (Number/Name)** PE 0603851F / *Intercontinental Ballistic Missile - Dem/Val*	**Project (Number/Name)** 641021 / *ICBM Propulsion Applications*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Continue to support the SRM research and development industrial base and critical infrastructure. Continue assessment and demonstration of ordnance and post-boost technology development. Continue MCS III development and conduct static fire testing. Continue to integrate and analyze medium class motors and technology insertion opportunities. Continue development and testing of MCS I and MCS II motor designs, as necessary.			
Accomplishments/Planned Programs Subtotals	39.230	34.810	16.072

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 0101213F: *Minuteman Squadrons*	-	-	16.359	-	16.359	63.966	107.253	197.764	222.957	-	-

Remarks

PE 0101213F, Minuteman Squadrons, funding related to this effort is included in Project Number 672987, MM Operational Equipment

D. Acquisition Strategy

Studies, analyses, limited engineering, hardware development and testing will be accomplished; efforts will be conducted using contracting strategies deemed most appropriate, generally using comptitive contracts.

E. Performance Metrics

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

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 4	**R-1 Program Element (Number/Name)** PE 0603851F / *Intercontinental Ballistic Missile - Dem/Val*	**Project (Number/Name)** 641021 / *ICBM Propulsion Applications*

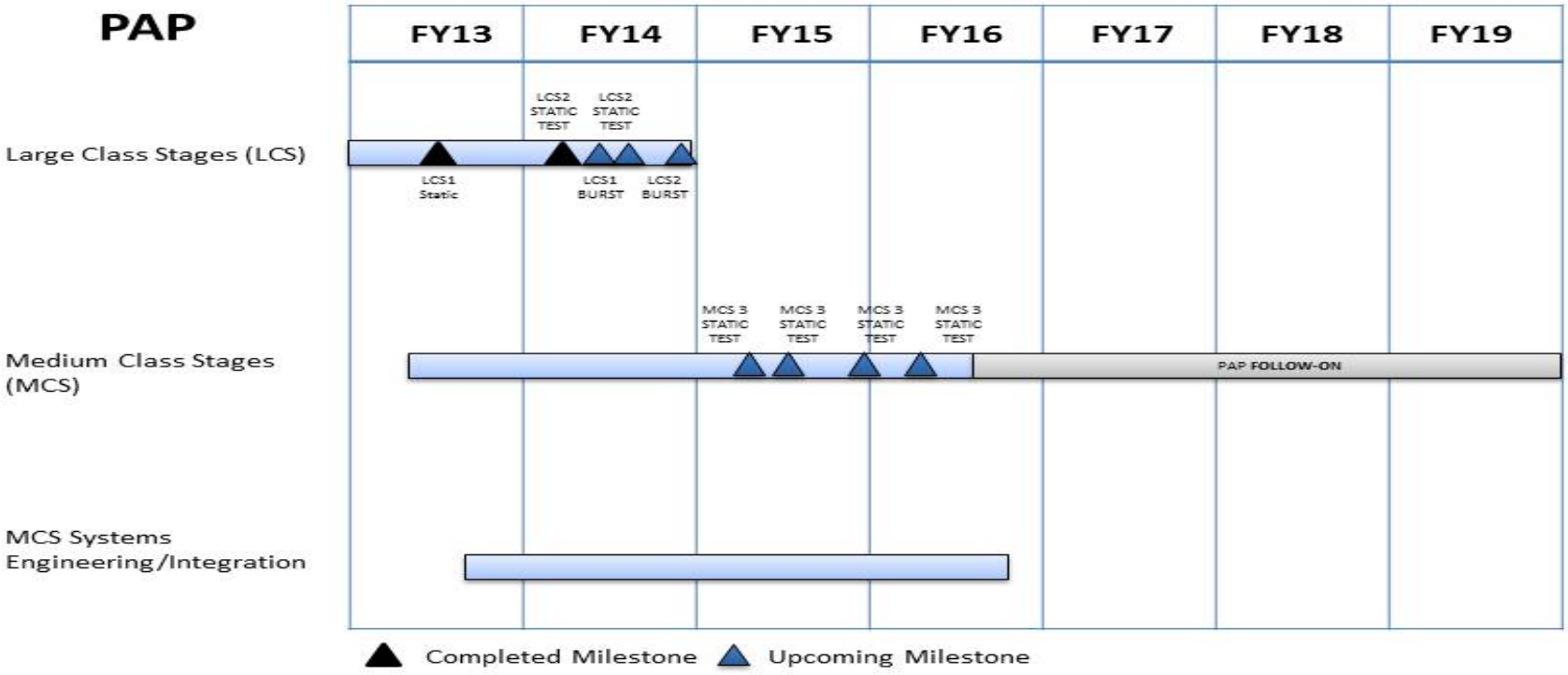


Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 4	R-1 Program Element (Number/Name) PE 0603851F / *Intercontinental Ballistic Missile - Dem/Val*	Project (Number/Name) 641022 / *ICBM Reentry Vehicle Applications*	

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
641022: *ICBM Reentry Vehicle Applications*	-	-	-	3.951	-	3.951	4.943	4.950	4.463	1.986	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

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

Note

In FY15, 641022, ICBM Reentry Vehicle Applications includes new start efforts.

A. Mission Description and Budget Item Justification

The Intercontinental Ballistic Missile (ICBM) Reentry Vehicle (RV) Applications Program ensures the ICBM force is equipped with the safest, most reliable Reentry Systems, and explores options for common, multi-mission capabilities. The program enables a responsive engineering infrastructure to support Reentry Systems beyond their original design life by addressing operational system issues and ensuring the availability of long-lead components and materials while identifying life cycle cost reduction methods. In addition, the program develops and tests advanced Reentry System technologies to meet future requirements. The program leverages investments by the Science & Technology community and Navy reentry systems applications program. Products are tested on a space available basis on AF and Navy Force Development Evaluation (FDE) flights.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: ICBM Reentry Vehicle Applications - FY15 New Start	-	-	3.951
Description: Develop, evaluate, and test reentry system materials and technologies for use in current and future strategic applications. ***FY 2013 Accomplishments:*** N/A ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** Assess, develop and evaluate Nosetip and Thermal Protection System (TPS) Material Development, Penetration Aid Suites and conduct testing activities.			
Accomplishments/Planned Programs Subtotals	-	-	3.951

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 4	**R-1 Program Element (Number/Name)** PE 0603851F / *Intercontinental Ballistic Missile - Dem/Val*	**Project (Number/Name)** 641022 / *ICBM Reentry Vehicle 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
• None: *N/A*	-	-	-	-	-	-	-	-	-	-	-

Remarks

D. Acquisition Strategy

Studies, analyses, limited engineering, and pre-prototype hardware development will be accomplished; efforts will be conducted using contracting strategies deemed most appropriate, generally using competitive contracts.

E. Performance Metrics

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

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 4	**R-1 Program Element (Number/Name)** PE 0603851F / *Intercontinental Ballistic Missile - Dem/Val*	**Project (Number/Name)** 641022 / *ICBM Reentry Vehicle Applications*

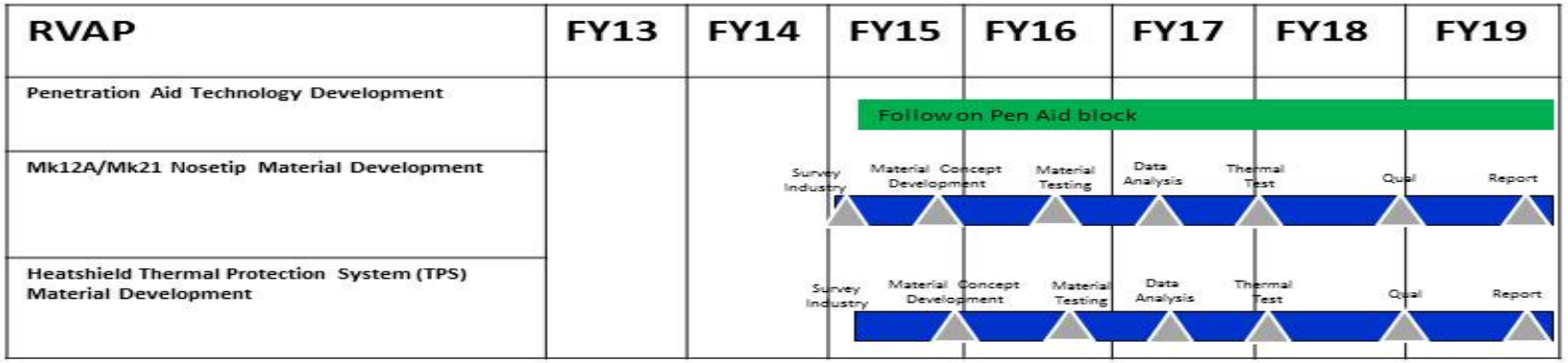


Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 4	R-1 Program Element (Number/Name) PE 0603851F / *Intercontinental Ballistic Missile - Dem/Val*	Project (Number/Name) 641024 / *ICBM Command & Control (C2) Applications*	

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
641024: *ICBM Command & Control (C2) Applications*	-	-	-	2.469	-	2.469	3.362	3.366	2.974	1.986	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

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

Note

In FY15, 641024, ICBM Command & Control (C2) Applications includes new start efforts.

A. Mission Description and Budget Item Justification

The Command and Control (C2) Applications Program supports ICBM weapon system connectivity to the President and National Command Authorities. C2 Applications evaluates and develops assured, survivable, and secure communications and battlespace awareness between the missile Launch Control Centers (LCCs) and Launch Facilities (LFs) essential for mission execution. Efforts include identifying and developing current and future technologies, as well as concepts that exploit state-of-the-art communications and information transfer techniques to both current and future ICBM systems. Products include studies, demonstrations and tests such as ICBM C2 architectures, networks, and systems to meet nuclear command and control requirements.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Command & Control - FY15 New Start	-	-	2.469
Description: Examine and develop concepts for transforming ICBM command and control to meet current and future ICBM requirements. ***FY 2013 Accomplishments:*** N/A ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** Initiate studies to identify, assess, and preserve unique strategic C2 skills and technologies to meet current and future ICBM C2 requirements			
Accomplishments/Planned Programs Subtotals	-	-	2.469

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 4	**R-1 Program Element (Number/Name)** PE 0603851F / *Intercontinental Ballistic Missile - Dem/Val*	**Project (Number/Name)** 641024 / *ICBM Command & Control (C2) 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
• None: *None*	-	-	-	-	-	-	-	-	-	-	-

Remarks

D. Acquisition Strategy

Studies and analyses, and limited engineering and pre-prototype hardware development will be accomplished; efforts will be conducted using contracting strategies deemed most 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 / 4	**R-1 Program Element (Number/Name)** PE 0603851F / *Intercontinental Ballistic Missile - Dem/Val*	**Project (Number/Name)** 641024 / *ICBM Command & Control (C2) Applications*

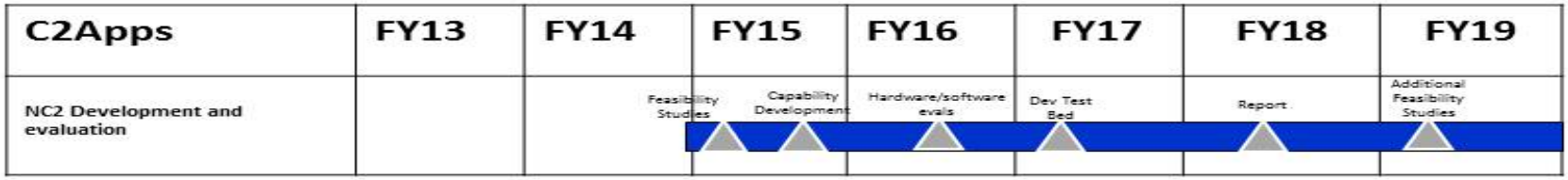


Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 4	R-1 Program Element (Number/Name) PE 0603851F / *Intercontinental Ballistic Missile - Dem/Val*	Project (Number/Name) 641025 / *Ground Based Strategic Deterrence (GBSD)*	

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
641025: *Ground Based Strategic Deterrence (GBSD)*	-	10.702	9.373	6.913	-	6.913	-	-	-	-	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 Ground-Based Strategic Deterrence (GBSD) will identify viable concepts and materiel solutions in support of the Air Force's strategic deterrence and global strike capabilities. Funding supports pre-Milestone A activities, to include an Analysis of Alternatives (AoA) and associated concept refinement activities of potential materiel solutions. This effort will explore materiel technology alternatives at the system and sub-system levels and during the Materiel Solution Analysis (MSA) Phase leading to a Milestone-A decision.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Ground-based Strategic Deterrent (GBSD)	10.702	9.373	6.913
Description: Perform Pre-Milestone A activities to identify potential materiel solutions for a future GBSD. ***FY 2013 Accomplishments:*** Performed pre-Materiel Solution Analysis Phase activities and initiated a GBSD AoA. Identified and refined viable concepts and materiel solutions for a follow-on strategic deterrent in support of the global strike capabilities. ***FY 2014 Plans:*** Complete GBSD AoA. Continue concept refinement, technology analyses, modeling and simulation support, engineering studies, program cost and schedule estimation, acquisition strategy development, risk reduction efforts, initial requirements definition, and Milestone A preparation. ***FY 2015 Plans:*** Continue concept refinement, technology analyses, modeling and simulation support, engineering studies, program cost and schedule estimation, acquisition strategy development, risk reduction efforts, initial requirements definition, Milestone A preparation to include development of Milestone A exit/Technology Development phase entrance documentation.			
Accomplishments/Planned Programs Subtotals	10.702	9.373	6.913

C. Other Program Funding Summary ($ in Millions)

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 4	**R-1 Program Element (Number/Name)** PE 0603851F / *Intercontinental Ballistic Missile - Dem/Val*	**Project (Number/Name)** 641025 / *Ground Based Strategic Deterrence (GBSD)*

C. Other Program Funding Summary ($ in Millions)

Remarks

D. Acquisition Strategy

During the MSA phase, an AoA will be completed. Multiple contracts may be awarded to refine materiel solution concepts. A technology development strategy will be developed during the MSA phase.

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 / 4	**R-1 Program Element (Number/Name)** PE 0603851F / *Intercontinental Ballistic Missile - Dem/Val*	**Project (Number/Name)** 641025 / *Ground Based Strategic Deterrence (GBSD)*

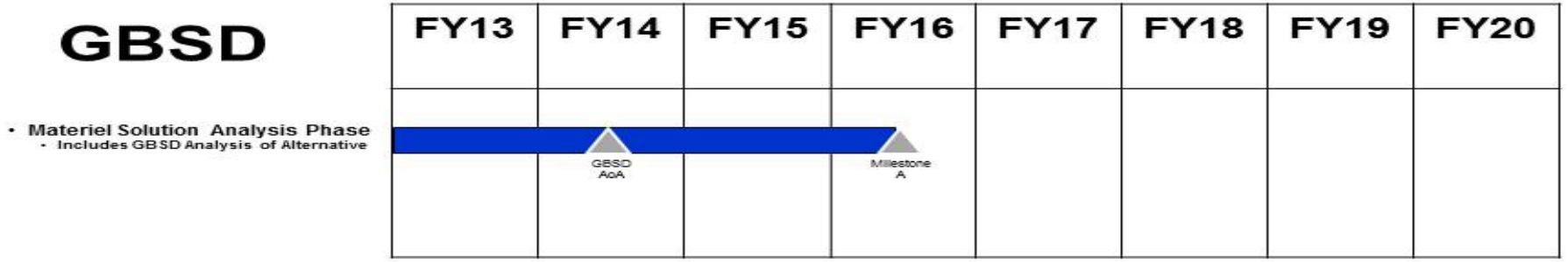


Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 4	R-1 Program Element (Number/Name) PE 0603851F / *Intercontinental Ballistic Missile - Dem/Val*	Project (Number/Name) 644209 / *Long Range Planning (LRP)*	

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
644209: *Long Range Planning (LRP)*	-	-	-	0.987	-	0.987	1.483	1.485	0.992	1.986	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

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

Note

In FY15, 644209, Long Range Planning includes new start efforts.

A. Mission Description and Budget Item Justification

Long Range Planning (LRP) effort identifies and analyzes potential modifications to current and future Intercontinental Ballistic Missile (ICBM) Weapon Systems required to meet objectives relative to long term sustainment, technology insertion, battlespace awareness, employment, and force structure. The studies will focus on system supportability, operability, reliability, innovation and maintainability. Options/concepts generated by these studies are evaluated for feasibility, system impacts, and cost. The LRP also lays the groundwork for analysis supporting future weapon systems development and deployment. Pre-milestone activities may be conducted for current or future ICBM weapon systems to include entry criteria for milestone activities.

BA4 - This program is in Budget Activity 4, Advanced Component Development and Prototypes (ACD&P) because efforts are necessary to evaluate integrated technologies, representative modes or prototype systems in a high fidelity and realistic operating environment.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Long Range Planning - FY15 New Start	-	-	0.987
Description: Analyze, study and plan current and future ICBM activities to meet requirements for long term sustainment, technology insertion, employment and force structure. ***FY 2013 Accomplishments:*** N/A ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** Initiate feasibility and life extension studies. Conduct early phase acquisition activities that are focused on the current ICBM system and development of any future ground based system.			
Accomplishments/Planned Programs Subtotals	-	-	0.987

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 4	**R-1 Program Element (Number/Name)** PE 0603851F / *Intercontinental Ballistic Missile - Dem/Val*	**Project (Number/Name)** 644209 / *Long Range Planning (LRP)*

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

Studies and analyses will be accomplished; efforts will be conducted using contracting strategies deemed most appropriate, generally using competitive contracts.

E. Performance Metrics

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

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 4	**R-1 Program Element (Number/Name)** PE 0603851F / *Intercontinental Ballistic Missile - Dem/Val*	**Project (Number/Name)** 644209 / *Long Range Planning (LRP)*

ILRP

Continue support of the consolidated long range plan

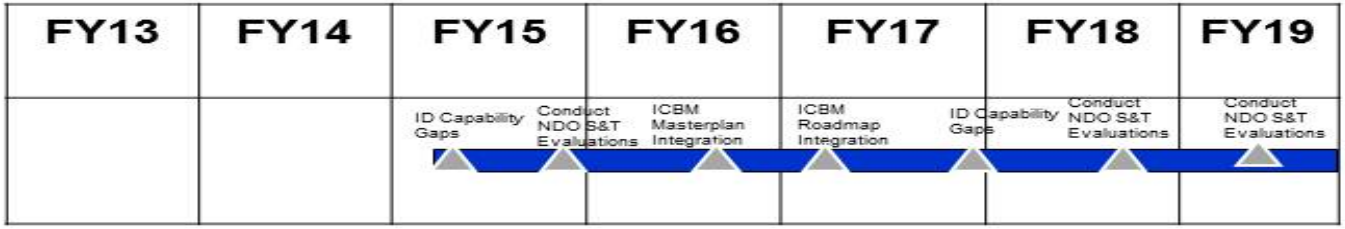


Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force												Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 4: *Advanced Component Development & Prototypes (ACD&P)*					R-1 Program Element (Number/Name) PE 0603854F / *Wideband Global SATCOM RDT&E (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	-	10.438	-	-	-	-	-	-	-	-	-	10.438
644870: *Command and Control System Consolidated (CCSC)*	-	10.438	-	-	-	-	-	-	-	-	-	10.438
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

MDAP/MAIS Code: 326

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

Note

Since FY2011 was the last year of RDT&E funding for Project 644811, Wideband Gapfiller, reporting for this project has terminated.

In FY2014, Project 644870, Command and Control System - Consolidated (CCS-C), efforts were transferred to PE 0605433F, Wideband Global SATCOM (Space), Project 657102, CCS-C, in order to transition to Budget Activity 5.

A. Mission Description and Budget Item Justification

The Military Satellite Communications (MILSATCOM) Command and Control System-Consolidated (CCS-C) system provides integrated launch and on-orbit command and control (C2) functionality, and backup operations at Schriever AFB and Vandenberg AFB, for MILSATCOM satellites as the legacy capability provided by the Air Force Satellite Control Network (PE 0305110F) has phased out according to plan. CCS-C uses modified commercial off the shelf hardware/software to control all emerging and legacy MILSATCOM systems including Milstar, Defense Satellite Communications System (DSCS), Wideband Global SATCOM (WGS) and Advanced Extremely High Frequency (AEHF) satellites.

The CCS-C project 644870 funds software and database development for WGS Block I and II satellites, and AEHF satellites 1 through 3. The WGS and AEHF procurement program elements will fund the mission unique software and databases for the WGS Block II Follow-On satellites and the AEHF 4-6 satellites, respectively. CCS-C will also evolve the system architecture to provide increased performance for additional satellites; to comply with DoD, Air Force, and AFSPC-directed standards for Information Assurance, Satellite Control Standardization, and Net-Readiness; and to add space situational awareness and new C2 training system capabilities.

In FY14, due to a change in Budget Activity from 4 to 5, funds transfer to PE 0605433F, Project 657102.

Funding is in Budget Activity 4, Advanced Component Development and Prototypes, as it supports component development and prototyping for MILSATCOM 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 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 Program Element (Number/Name)** PE 0603854F / *Wideband Global SATCOM RDT&E (Space)*

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	12.027	-	-	-	-
Current President's Budget	10.438	-	-	-	-
Total Adjustments	-1.589	-	-	-	-
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-0.016	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.585	-			
• Other Adjustments	-0.988	-	-	-	-

Change Summary Explanation

FY13: Other Adjustment row: -$0.988M, due to sequestration.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: CCS-C development	10.438	-	-
Description: Develop and acquire satellite-specific software to support handover of on-orbit operations of WGS satellites and launch, early-orbit, and on-orbit operations of AEHF satellites. ***FY 2013 Accomplishments:*** Funded the development completion to support launch of WGS SV-5 and SV-6. Completed development and conducted launch and early orbit operations for AEHF SV-3. Initiated technical analysis for CCS-C architecture evolution. ***FY 2014 Plans:*** In FY14, funds transfer to PE 0605433F, Project 657102.			
Accomplishments/Planned Programs Subtotals	10.438	-	-

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 # 836780: *Milsatcom Space*	0.259	0.261	0.265	-	0.265	0.271	0.276	0.280	0.285	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 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 Program Element (Number/Name)** PE 0603854F / *Wideband Global SATCOM RDT&E (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
• RDT&E: BA05: PE 0605433F: *Wideband Global SATCOM (Space)*	-	12.489	31.426	-	31.426	41.615	37.727	18.275	18.624	Continuing	Continuing

Remarks

E. Acquisition Strategy

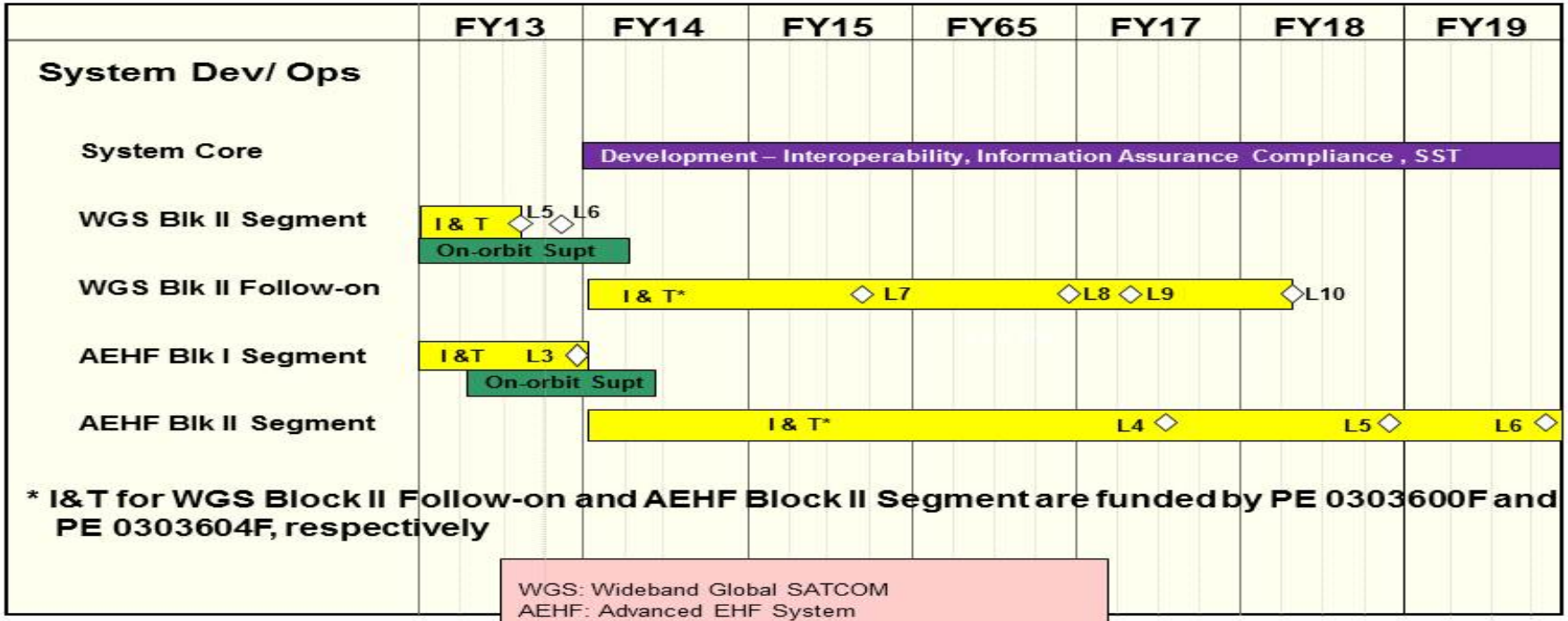
Competitive contracts with cost plus award fee options were awarded in February 2001 to two teams to demonstrate capabilities for the concept demonstration phase. A downselect to a single team was awarded in March 2002 to develop the system for the development phase. The initial CCS-C contract was extended through 2012 to provide launch readiness support to ongoing WGS and AEHF satellite development. A follow-on competitive FPIF contract began performance in January 2013 to sustain and provide post-production development for the current CCS-C system for telemetry, tracking and commanding (TT&C) of current and future MILSATCOM satellites.

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 / 4	**R-1 Program Element (Number/Name)** PE 0603854F / *Wideband Global SATCOM RDT&E (Space)*	**Project (Number/Name)** 644870 / *Command and Control System Consolidated (CCSC)*

These efforts are funded in PE 0603854F, Project 644870 through FY13. Beginning FY14 these efforts are funded in PE 0605433F, Project 657102.



Note: All CCS-C WGS-6 effort is funded by Australia

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 4: *Advanced Component Development & Prototypes (ACD&P)*					R-1 Program Element (Number/Name) PE 0603859F / *Pollution Prevention - Dem/Val*							
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	-	0.956	0.953	1.798	-	1.798	1.750	1.153	1.177	1.197	Continuing	Continuing
644852: *Pollution Prevention*	-	0.956	0.953	1.798	-	1.798	1.750	1.153	1.177	1.197	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

Funds will be used to target R&D activities that demonstrate and prototype alternative weapon system manufacturing, remanufacturing, and maintenance materials and processes that reduce or eliminate hazardous chemicals, materials and waste streams through cost-effective programs and practices, while improving energy efficiency and reducing greenhouse gas emissions. Upon proof of the new process or materials, the resulting product can be transitioned to depot maintenance processes, which results in reduced maintenance costs, reduced depot flow time, and increases asset availability. Specifically, funds target pollution prevention technologies that reduce or eliminate chromium, cadmium, and nickel, as well as reduce or eliminate Hazardous Air Pollutants (HAPS), Volatile Organic Compounds (VOCs), and Class I and II Ozone Depleting Substances (ODS), global warmers and biochemical oxygen demand (BOD) and to increase the use of renewable and alternative fuels.

This effort is in Budget Activity 04, Advanced Component Development and Prototypes, because the emphasis is on proving component and subsystem maturity prior to integration in major and complex systems and may involve risk reduction initiatives.

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	2.054	0.953	2.488	-	2.488
Current President's Budget	0.956	0.953	1.798	-	1.798
Total Adjustments	-1.098	-	-0.690	-	-0.690
• Congressional General Reductions	-0.001	-			
• Congressional Directed Reductions	-1.000	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-0.097	-	-0.690	-	-0.690

Change Summary Explanation

FY13: Congressional reduction of $1M due to forward financing.

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 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 Program Element (Number/Name)** PE 0603859F / *Pollution Prevention - Dem/Val*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Aircraft Laser Depainting System Prevention ***Description:*** Develop and demonstrate weapon system robotic laser depainting for both Air Logistics Complexes (ALC) and Contract Logistic Support (CLS) platforms. Supports AF Environmental Management System (EMS) #2 ranked AF-wide significant aspect. Critical element of AF response to 2009-2013 OSHA violations at three ALCs. ***FY 2013 Accomplishments:*** Completed final validation tests requested by aircraft program offices and materials experts. Technology transitioned to OO-ALC F-16 and C-130 production lines. ***FY 2014 Plans:*** No FY14 funding requested. ***FY 2015 Plans:*** No FY15 funding requested.	0.310	-	-
Title: Low Observable Laser De-coating System ***Description:*** Investigations and demonstrations to adapt the ALC-deployed whole aircraft laser depainting system to remove low-observable coatings used on B-2, F-22, F-35 aircraft and other low observable applications. ***FY 2013 Accomplishments:*** N/A ***FY 2014 Plans:*** Transition effort from Strategic Environmental Research and Development Program (SERDP). Qualify lasers against technical requirements to remove low-observable coatings from weapon systems. ***FY 2015 Plans:*** Demonstrate ability to successfully remove low-observable coatings.	-	0.350	0.457
Title: Hexavalent Chromium Replacement RDT&E ***Description:*** Effort to reduce hexavalent chromium in weapon system paints, coatings, sealants, adhesives, and plating. Supports AF Environmental Management System (EMS) #1 ranked AF-wide significant aspect. Critical element of AF response to 2009-2013 OSHA violations at three ALCs. ***FY 2013 Accomplishments:***	0.323	0.295	0.660

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 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 Program Element (Number/Name)** PE 0603859F / *Pollution Prevention - Dem/Val*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Conducted lab and beach testing for for aircraft outer moldline applications. Based upon test results, developing implementation plan for field evaluation testing. Promising candidates will move forward for evaluation of weapon systems' specific processes. ***FY 2014 Plans:*** Investigate technical requirements across multiple weapon systems; identify technically feasible hexavalent chromium alternatives. ***FY 2015 Plans:*** Demonstrate and validate alternative solutions for specific weapon system processes.			
Title: Cadmium Replacement RDT&E ***Description:*** Effort to reduce cadmium in weapon system coatings and plating. Supports AF Environmental Management System (EMS) #1 ranked AF-wide significant aspect. Critical element of AF response to 2009-2013 OSHA violations at three ALCs. ***FY 2013 Accomplishments:*** Conducted initial testing. Based upon initial testing, eliminated non-promising candidates. Promising candidates will move forward for evaluation of weapon systems' specific processes. ***FY 2014 Plans:*** Focus on repair operations and Cadmium plated fasteners for substitution. ***FY 2015 Plans:*** Demonstrate and validate alternative solutions for Cadmium plated connectors.	0.323	0.295	0.660
Title: 2014 Emerging Environmental Issues ***Description:*** Investigations and demonstrations to resolve significant environmental aspects; P2 dem/val of technologies to address high-priority weapon system environmental issues and increase aircraft availability. ***FY 2013 Accomplishments:*** N/A. ***FY 2014 Plans:*** Address emerging environmental issues, reduce negative impact on aircraft availability. ***FY 2015 Plans:*** No FY15 funding requested.	-	0.013	-
Title: 2015 Emerging Environmental Issues	-	-	0.021

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 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 Program Element (Number/Name)** PE 0603859F / *Pollution Prevention - Dem/Val*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Description: Investigations and demonstrations to resolve significant environmental aspects; P2 dem/val of technologies to address high-priority weapon system environmental issues and increase aircraft availability. ***FY 2013 Accomplishments:*** N/A. ***FY 2014 Plans:*** N/A. ***FY 2015 Plans:*** Address emerging environmental issues, reduce negative impact on aircraft availability.			
Accomplishments/Planned Programs Subtotals	0.956	0.953	1.798

D. Other Program Funding Summary ($ in Millions)

N/A

Remarks

E. Acquisition Strategy

Pollution Prevention activities are level of effort and use time and materials support 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 / 4	**R-1 Program Element (Number/Name)** PE 0603859F / *Pollution Prevention - Dem/ Val*	**Project (Number/Name)** 644852 / *Pollution Prevention*

POLLUTION PREVENTION DEM/VAL

NOTIONAL SCHEDULE FOR CONTINUOUS CYCLE

	FY12	FY13	FY14	FY15	FY16	FY17	FY18	CONTINUING
REQUIREMENTS ID				■				■
POTENTIAL ALTERNATIVES				■				■
TEST PLAN				■				■
TESTING	■				■			
TEST REPORT	■				■			
DEMONSTRATION		■	■			■	■	
FINAL REPORT								■

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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 4: *Advanced Component Development & Prototypes (ACD&P)*					R-1 Program Element (Number/Name) PE 0604015F / *Long Range Strike*							
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	-	258.707	359.437	913.728	-	913.728	1,590.578	2,372.230	3,090.831	3,451.225	Continuing	Continuing
643308: *Long Range Strike Bomber*	-	258.707	359.437	913.728	-	913.728	1,590.578	2,372.230	3,090.831	3,451.225	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 is reported in accordance with Title 10, United States Code, Section 119(a)(1) in the Special Access Program Annual Report to Congress. For further information, please contact the Director of Special Programs, OUSD(AT&L)/DSP.

This program is in Budget Activity 4, Advanced Component Development and Prototypes (ACD&P) because efforts are necessary to evaluate integrated technologies, representative modes or prototype systems in a high fidelity and realistic operating environment.

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	291.742	379.437	1,045.328	-	1,045.328
Current President's Budget	258.707	359.437	913.728	-	913.728
Total Adjustments	-33.035	-20.000	-131.600	-	-131.600
• Congressional General Reductions	-0.385	-			
• Congressional Directed Reductions	-	-20.000			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-7.532	-			
• Other Adjustments	-25.118	-	-131.600	-	-131.600

Change Summary Explanation

FY13 Other Adjustments row: -$24.014M due to Sequestration.

This program is reported in accordance with Title 10, United States Code, Section 119(a)(1) in the Special Access Program Annual Report to Congress. For further information, please contact the Director of Special Programs, OUSD(AT&L)/DSP.

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 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 Program Element (Number/Name)** PE 0604015F / *Long Range Strike*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Long Range Strike Bomber	258.707	359.437	913.728
Description: Long Range Strike Bomber ***FY 2013 Accomplishments:*** This program is reported in accordance with Title 10, United States Code, Section 119(a)(1) in the Special Access Program Annual Report to Congress. For further information, please contact the Director of Special Programs, OUSD(AT&L)/DSP. ***FY 2014 Plans:*** This program is reported in accordance with Title 10, United States Code, Section 119(a)(1) in the Special Access Program Annual Report to Congress. For further information, please contact the Director of Special Programs, OUSD(AT&L)/DSP. ***FY 2015 Plans:*** This program is reported in accordance with Title 10, United States Code, Section 119(a)(1) in the Special Access Program Annual Report to Congress. For further information, please contact the Director of Special Programs, OUSD(AT&L)/DSP.			
Accomplishments/Planned Programs Subtotals	258.707	359.437	913.728

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
• Not applicable: *N/A*	-	-	-	-	-	-	-	-	-	-	-

Remarks

E. Acquisition Strategy

This program is reported in accordance with Title 10, United States Code, Section 119(a)(1) in the Special Access Program Annual Report to Congress. For further information, please contact the Director of Special Programs, OUSD(AT&L)/DSP.

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 / 4	**R-1 Program Element (Number/Name)** PE 0604015F / *Long Range Strike*	**Project (Number/Name)** 643308 / *Long Range Strike Bomber*

PE 0604015F

No Schedule at this time

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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 4: *Advanced Component Development & Prototypes (ACD&P)*					R-1 Program Element (Number/Name) PE 0604283F / *Battle Mgmt Com & Ctrl Sensor 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	28.740	100.507	-	-	-	-	-	-	-	-	-	129.247
645363: *MP-RTIP*	0.000	8.805	-	-	-	-	-	-	-	-	-	8.805
646002: *Three Dimensional Expeditionary Long Range Radar*	28.740	91.702	-	-	-	-	-	-	-	-	-	120.442
MDAP/MAIS Code: 393												

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

Note

In FY 2013, PE 0604283F includes Congressional funding added for the Joint Surveillance Target Attack Radar System (JSTARS) Recapitilization (Recap). This program is in Budget Activity 04, Advanced Component Development and Prototypes (ACD&P). Efforts are necessary to evaluate integrated technologies, representative modes, or prototype systems in a high fidelity and realistic operating environment.

In FY 2014, Project 646002, Three-Dimensional Expeditionary Long-Range Radar (3DELRR), efforts were transferred to PE 0207455F, Three-Dimensional Expeditionary Long-Range Radar, Project 646002, in order to provide this program its own Program Element.

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.

A. Mission Description and Budget Item Justification

JSTARS Recap will provide a unique blend of Battle Management Command and Control (BMC2) and Intelligence, Surveillance, and Reconnaissance (ISR) that enables the central tenant of Air Forces doctrine "Centralized Control and Decentralized Execution". Air Battle Managers onboard the JSTARS use its wide area ground surveillance radar to build situational awareness and identify targets which are passed to strike assets or crossed cued with ISR platforms. The capability to perform this dual mission at the tactical edge both reduces the time to execute the kill chain and improves ISR collections across the range of military options.

This program element enhances the warfighter's ability to achieve the joint vision of combat operations. It develops advanced battle management aids and information fusion technologies to enable rapid decisions by automating tracking and addressing time-critical targets. Concept exploration, program definition/risk reduction efforts, and studies support continuous improvements in development of BMC2 capabilities, network centric operational capabilities, and interoperability with joint service, allied, and coalition systems.

The JSTARS Recap Program efforts in this program element include: BMC2 System and Sensor Systems. It may also include the furtherance of other related activities to include, but not be limited to, Open System Architecture (OSA) development and/or refinement for sensor systems and BMC2. Future JSTARS Recap efforts not in

this program element include Air Vehicle & Avionics Systems; Data, Voice, & Advanced Communications Systems; and Systems Engineering & Integration (SE&I). For further details on these future efforts, see PE 0307581F.

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

JSTARS Recap:

The JSTARS Recap program was initiated to satisfy the JSTARS Mission Area capability gaps and life-cycle affordability challenges as defined in the Synthetic Aperture Radar/Moving Target Indicator (SAR/MTI); JSTARS Mission Area Analysis of Alternative (AoA) and the SAR/MTI, BMC2 Initial Capabilities Document (ICD). The JSTARS Recap program consists of multiple efforts for the development and integration of all sub-systems necessary to satisfy the requirements documented in the ICD, AOA and, upon completion, the Capability Development Document (CDD). The efforts include, but are not limited to: BMC2 System and Sensor Systems; as well as related OSA development or refinement activities to improve AF weapon system life-cycle affordability. These efforts are detailed below.

1. BMC2 System - The BMC2 System development effort builds upon a broad body of work in OSA by evaluating and applying lessons learned from system designs across many areas such as Air Operations Centers (AOC), AWACS Block 40/45, and the Open Mission Systems (OMS) Working Group. The BMC2 System will provide an on-board BMC2 solution that meets the Joint/Air Force Requirements as defined in the AoA, ICD, and CDD, using an evolutionary approach, made possible by an OSA design that firmly defines interfaces and messaging standards, thereby enabling rapid technology insertion based on mission need and funds availability. The BMC2 System development effort will also inform the AF OSA concept and frameworks with regard to applicability and efficacy of on-board BMC2 mission systems.

2. Sensor Systems - The Sensor Systems development effort intends to leverage the government owned, platform-independent, radar OSA enterprise specification to develop a modern radar that meets the Joint/Air Force Requirements as defined in the AoA, ICD, and CDD. JSTARS Recap is the first planned Major Defense Acquisition Program (MDAP) to leverage this body of work. JSTARS Recap also takes into considerations lessons learned from the Dismount Detection Radar (DDR) Quick Reaction Capability (QRC) program, which was a pathfinder for OSA radar in a small, pod configured for surface surveillance missions. The JSTARS Recap Sensor Systems development effort will not only satisfy the requirements of the JSTARS Recap, but also intends to provide critical feedback to an OSA radar concept and framework with regard to applicability and efficacy in a wide area surface surveillance mission. Other sensor systems may include, but are not limited to, Electro-Optical/Infrared (EO/IR) and multi/hyper-spectral.

Beginning in FY 2012, PE 0604283F funds the development of the Three-Dimensional Expeditionary Long-Range Radar (3DELRR) which will replace the current legacy AN/TPS-75 radar. 3DELRR will be the principal United States Air Force (USAF) long-range, ground-based sensor for detecting, identifying, tracking, and reporting aerial targets for the Joint Force Air Component Commander (JFACC) through the Theater Air Control System (TACS). 3DELRR will respond to the operational need to detect and report highly maneuverable, small radar cross section targets to enable battlefield awareness while at the same time mitigating the reliability, maintainability, and sustainability issues plaguing the AN/TPS-75 radar system. The 3DELRR will provide air controllers with a precise, real-time air picture of sufficient quality to conduct control of individual aircraft under a wide range of environmental and operational conditions. It will replace the aging USAF AN/TPS-75 radar system as the AN/

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 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 Program Element (Number/Name)** PE 0604283F / *Battle Mgmt Com & Ctrl Sensor Development*

TPS-75 is incapable of detecting some current and emerging threats. In addition, as the AN/TPS-75 is reaching the end of its service life, it is more difficult and costly to maintain. The United States Marine Corps (USMC) is considering 3DELRR as a potential replacement for the AN/TPS-59, at the end of its service life, to support the Marine Air-Ground Task Force (MAGTF) Commander through the Marine Air Command and Control System (MACCS).

3DELRR will address system sustainability, transportability and operational availability shortfalls while providing long-range surveillance, detection, and tracking of Air Breathing Targets (ABTs) and, potentially, Theater Ballistic Missiles (TBMs). This capability will support the USAF contribution to the primary roles of the Airspace Control Authority (ACA) and the Area Air Defense Commander (AADC) and enhance the USAF contributions to the Integrated Air and Missile Defense (IAMD) mission area. This new radar will provide the USAF Control and Reporting Center (CRC) and, if purchased by the USMC, the Tactical Air Operations Center (TAOC), with real-time data to display air activity.

The Pre-Engineering & Manufacturing Development (Pre-EMD) efforts of the 3DELRR Program began in FY 2012 and continued through FY 2013. Acquisition activities included, but were not limited to: full and open source selection to award up to three competing contracts; requirements refinement; completion of the preliminary design development; continued software and hardware subsystem-level development; modeling and simulation to support the system development; implementation of mitigation techniques to combat existing and emerging system threats (including cyber warfare), test planning, and implementation of the program protection plan. A Preliminary Design Review (PDR) and Capability Demonstration C Event were conducted during this timeframe to ensure success in the development of a preliminary system design. Activities also included studies and analyses to support both current program planning and execution, and future program planning, as well as Milestone (MS) B documentation and preparation for a MS B review.

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	114.417	-	-	-	-
Current President's Budget	100.507	-	-	-	-
Total Adjustments	-13.910	-	-	-	-
• Congressional General Reductions	-0.147	-			
• Congressional Directed Reductions	-13.000	-			
• Congressional Rescissions	-	-			
• Congressional Adds	10.000	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-1.559	-			
• Other Adjustments	-9.204	-	-	-	-

Change Summary Explanation

FY13: -13M Congressional Directed Reduction was excess to need for the 3DELRR Program
FY13: +10M Congressional Add was for SAR/MTI Alternatives
FY13: -1.559M SBIR Bill
FY13: -9.204M Other Adjustment was for Sequestration

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 4	R-1 Program Element (Number/Name) PE 0604283F / *Battle Mgmt Com & Ctrl Sensor Development*	Project (Number/Name) 645363 / *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
645363: *MP-RTIP*	-	8.805	-	-	-	-	-	-	-	-	-	8.805
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

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

Note

In FY 2013, PE 0604283F includes Congressional funding added for the Joint Surveillance Target Attack Radar System (JSTARS) Recapitilization (Recap). This program is in Budget Activity 04, Advanced Component Development and Prototypes (ACD&P). Efforts are necessary to evaluate integrated technologies, representative modes, or prototype systems in a high fidelity and realistic operating environment.

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.

A. Mission Description and Budget Item Justification

The Joint Surveillance Target Attack Radar System (JSTARS) Recapitalization (Recap) will provide a unique blend of Battle Management Command and Control (BMC2) and Intelligence, Surveillance, and Reconnaissance (ISR) that enables the central tenant of Air Forces doctrine "Centralized Control and Decentralized Execution". Air Battle Managers onboard the JSTARS use its wide area ground surveillance radar to build situational awareness and identify targets which are passed to strike assets or crossed cued with ISR platforms. The capability to perform this dual mission at the tactical edge both reduces the time to execute the kill chain and improves ISR collections across the range of military options.

This program element enhances the warfighter's ability to achieve the joint vision of combat operations. It develops advanced battle management aids and information fusion technologies to enable rapid decisions by automating tracking and addressing time-critical targets. Concept exploration, program definition/risk reduction efforts, and studies support continuous improvements in development of BMC2 capabilities, network centric operational capabilities, and interoperability with joint service, allied, and coalition systems.

The JSTARS Recap Program efforts in this program element include: BMC2 System and Sensor Systems. It may also include the furtherance of other related activities to include, but not be limited to, Open System Architecture (OSA) development and/or refinement for sensor systems and BMC2. Future JSTARS Recap efforts not in this program element include Air Vehicle & Avionics Systems; Data, Voice, & Advanced Communications Systems; and Systems Engineering & Integration (SE&I). For further details on these future efforts, see PE 0307581F.

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

JSTARS Recap:

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 4	**R-1 Program Element (Number/Name)** PE 0604283F / *Battle Mgmt Com & Ctrl Sensor Development*	**Project (Number/Name)** 645363 / *MP-RTIP*

The JSTARS Recap program was initiated to satisfy the JSTARS Mission Area capability gaps and life-cycle affordability challenges as defined in the Synthetic Aperture Radar/Moving Target Indicator (SAR/MTI); JSTARS Mission Area Analysis of Alternative (AoA) and the SAR/MTI, BMC2 Initial Capabilities Document (ICD). The JSTARS Recap program consists of multiple efforts for the development and integration of all sub-systems necessary to satisfy the requirements documented in the ICD, AOA and, upon completion, the Capability Development Document (CDD). The efforts include, but are not limited to: BMC2 System and Sensor Systems; as well as related OSA development or refinement activities to improve AF weapon system life-cycle affordability. These efforts are detailed below.

1. BMC2 System - The BMC2 System development effort builds upon a broad body of work in OSA by evaluating and applying lessons learned from system designs across many areas such as Air Operations Centers (AOC), AWACS Block 40/45, and the Open Mission Systems (OMS) Working Group. The BMC2 System will provide an on-board BMC2 solution that meets the Joint/Air Force Requirements as defined in the AoA, ICD, and CDD, using an evolutionary approach, made possible by an OSA design that firmly defines interfaces and messaging standards, thereby enabling rapid technology insertion based on mission need and funds availability. The BMC2 System development effort will also inform the AF OSA concept and frameworks with regard to applicability and efficacy of on-board BMC2 mission systems.

2. Sensor Systems - The Sensor Systems development effort intends to leverage the government owned, platform-independent, radar OSA enterprise specification to develop a modern radar that meets the Joint/Air Force Requirements as defined in the AoA, ICD, and CDD. JSTARS Recap is the first planned Major Defense Acquisition Program (MDAP) to leverage this body of work. JSTARS Recap also takes into considerations lessons learned from the Dismount Detection Radar (DDR) Quick Reaction Capability (QRC) program, which was a pathfinder for OSA radar in a small, pod configured for surface surveillance missions. The JSTARS Recap Sensor Systems development effort will not only satisfy the requirements of the JSTARS Recap, but also intends to provide critical feedback to an OSA radar concept and framework with regard to applicability and efficacy in a wide area surface surveillance mission. Other sensor systems may include, but are not limited to, Electro-Optical/Infrared (EO/IR) and multi/hyper-spectral.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: BMC2 System	2.777	-	-
Description: Multiple efforts to define reference architecture, demonstrate prototypes, and develop an Open System Architecture BMC2 system.			
FY 2013 Accomplishments: Technology risk reduction and program office support to initiate a new program as a result of the JSTARS mission area AoA. Included studies, analysis, market research, Open System Architecture interface definition, and risk reduction.			
Title: Sensor Systems	6.028	-	-
Description: Multiple efforts to define reference architecture, demonstrate prototypes, and develop an Open System Architecture Radar Wide Area Surveillance system.			
FY 2013 Accomplishments:			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 4	**R-1 Program Element (Number/Name)** PE 0604283F / *Battle Mgmt Com & Ctrl Sensor Development*	**Project (Number/Name)** 645363 / *MP-RTIP*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Technology risk reduction and program office support to initiate a new program as a result of the JSTARS mission area AoA. Included studies, analysis, market research, Open System Architecture interface definition, and risk reduction.			
Accomplishments/Planned Programs Subtotals	8.805	-	-

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
• PE 0307581F, BPAC 650003: *JSTARS Recap*	-	-	73.088	-	73.088	334.137	640.589	536.459	376.198	287.000	2,247.471
• APAF: BA05: Line Item # TBD: *JSTARS Recap APAF Production*	-	-	-	-	-	-	-	111.214	272.277	3,925.464	4,309.000

Remarks

D. Acquisition Strategy

The JSTARS Recap Acquisition Strategy is designed to enable maximum competition for each major sub-system through the EMD phase. Each major sub-system has a capable industry base large enough to make competition an effective tool in achieving the goal of system affordability.

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 / 4	R-1 Program Element (Number/Name) PE 0604283F / *Battle Mgmt Com & Ctrl Sensor Development*	Project (Number/Name) 645363 / *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
BMC2 System	SS/CPFF	Various : Various,	0.000	2.777	Aug 2013	-		-		-		-	-	2.777	-
Sensor Systems	C/CPFF	Various : Various,	0.000	3.000	Mar 2014	-		-		-		-	-	3.000	-
		Subtotal	0.000	5.777		-		-		-		-	-	5.777	-

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	-	-		-		-		-		-	-	-	-

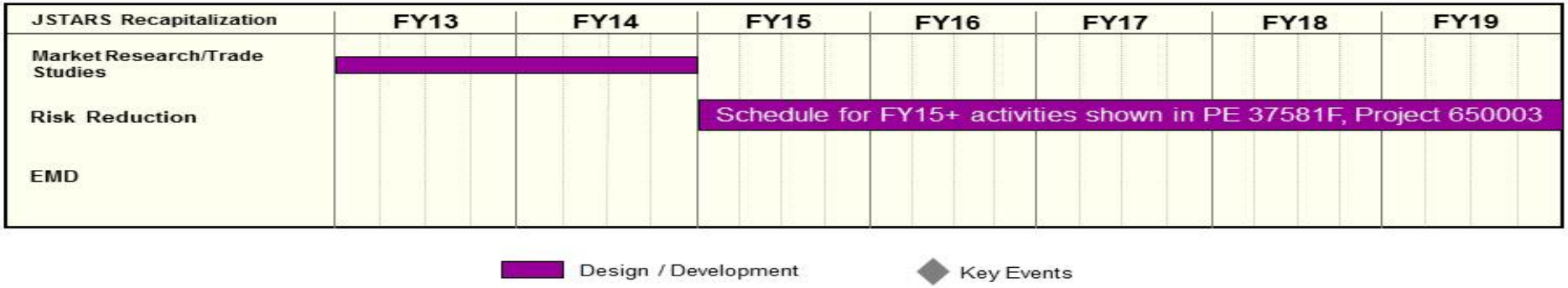
Management Services ($ in Millions)

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	Various	Various : Various,	0.000	3.028	Aug 2013	-		-		-		-	-	3.028	-
		Subtotal	0.000	3.028		-		-		-		-	-	3.028	-

	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	8.805		-		-		-		-	-	8.805	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 4	**R-1 Program Element (Number/Name)** PE 0604283F / *Battle Mgmt Com & Ctrl Sensor Development*	**Project (Number/Name)** 645363 / *MP-RTIP*



Integrity - Service - Excellence

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 4	R-1 Program Element (Number/Name) PE 0604283F / *Battle Mgmt Com & Ctrl Sensor Development*	Project (Number/Name) 646002 / *Three Dimensional Expeditionary Long Range 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
646002: *Three Dimensional Expeditionary Long Range Radar*	28.740	91.702	-	-	-	-	-	-	-	-	-	120.442
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

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

Note

In FY 2014, Project 646002, Three-Dimensional Expeditionary Long-Range Radar (3DELRR), efforts were transferred to PE 06027455F, Battle Management Command and Control (BMC2) Sensor Development, Project 646002, in order to provide this program its own Program Element.

A. Mission Description and Budget Item Justification

Beginning in FY12, PE 0604283F funds the development of the Three-Dimensional Expeditionary Long-Range Radar (3DELRR) which will replace the current legacy AN/TPS-75 radar. 3DELRR will be the principal United States Air Force (USAF) long-range, ground-based sensor for detecting, identifying, tracking, and reporting aerial targets for the Joint Force Air Component Commander (JFACC) through the Theater Air Control System (TACS). 3DELRR will respond to the operational need to detect and report highly maneuverable, small radar cross section targets to enable battlefield awareness while at the same time mitigating the reliability, maintainability, and sustainability issues plaguing the AN/TPS-75 radar system. The 3DELRR will provide air controllers with a precise, real-time air picture of sufficient quality to conduct control of individual aircraft under a wide range of environmental and operational conditions. It will replace the aging USAF AN/TPS-75 radar system as the AN/TPS-75 is incapable of detecting some current and emerging threats. In addition, as the AN/TPS-75 is reaching the end of its service life, it is more difficult and costly to maintain. The United States Marine Corps (USMC) is considering 3DELRR as a potential replacement for the AN/TPS-59, at the end of its service life, to support the Marine Air-Ground Task Force (MAGTF) Commander through the Marine Air Command and Control System (MACCS).

3DELRR will address system sustainability, transportability and operational availability shortfalls while providing long-range surveillance, detection, and tracking of Air Breathing Targets (ABTs) and, potentially, Theater Ballistic Missiles (TBMs). This capability will support the USAF contribution to the primary roles of the Airspace Control Authority (ACA) and the Area Air Defense Commander (AADC) and enhance the USAF contributions to the Integrated Air and Missile Defense (IAMD) mission area. This new radar will provide the USAF Control and Reporting Center (CRC) and, if purchased by the USMC, the Tactical Air Operations Center (TAOC), with real-time data to display air activity.

The Pre-Engineering & Manufacturing Development (Pre-EMD) efforts of the 3DELRR Program began in FY12 and continued through FY13. Acquisition activities included, but were not limited to: full and open source selection to award up to three competing contracts; requirements refinement; completion of the preliminary design development; continued software and hardware subsystem-level development; modeling and simulation to support the system development; implementation of mitigation techniques to combat existing and emerging system threats (including cyber warfare), test planning, and implementation of the program protection plan. A Preliminary Design Review (PDR) and Capability Demonstration C Event were conducted during this timeframe to ensure success in the development of a preliminary

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 4	**R-1 Program Element (Number/Name)** PE 0604283F / *Battle Mgmt Com & Ctrl Sensor Development*	**Project (Number/Name)** 646002 / *Three Dimensional Expeditionary Long Range Radar*

system design. Activities also included studies and analyses to support both current program planning and execution, and future program planning, as well as Milestone (MS) B documentation and preparation for a MS B review.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: 3DELRR Technology Development (TD); Pre-EMD Period	91.702	-	-
Description: TD phase and Pre-EMD efforts associated with delivering a new long-range ground-based sensor. ***FY 2013 Accomplishments:*** The pre-EMD period of the 3DELRR Program continued through FY13. Acquisition activities during FY13 included but were not limited to, a full and open source selection, managing up to three concurrent prime contracts, completion of the preliminary design development, continuation of software and hardware subsystem-level development to support the system development, implementation of mitigation techniques to combat existing and emerging system threats (including cyber warfare), test planning, and implementation of the program protection plan. A combined System Requirements and Function Review (SRFR), Preliminary Design Review (PDR), and Capability Demonstration C Event ensured the program achieved a preliminary system design. Activities also included studies and analyses to support both current program planning and execution and future program planning as well as continued development of MS B documentation.			
Accomplishments/Planned Programs Subtotals	91.702	-	-

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: BA04: PE 0207455F: *Three Dimensional Long Range Radar*	-	54.191	88.825	-	88.825	98.250	68.613	24.790	35.734	Continuing	Continuing
• OPAF: BA04: Line Item # 646002: *Three Dimensional Long Range Radar*	-	-	-	-	-	-	-	73.393	162.656	Continuing	Continuing

Remarks

D. Acquisition Strategy

The Three-Dimensional Expeditionary Long-Range Radar (3DELRR) Project will provide full capability via limited competition to further advance command and control (C2) capabilities supporting Battlefield Management.

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 / 4	**R-1 Program Element (Number/Name)** PE 0604283F / *Battle Mgmt Com & Ctrl Sensor Development*	**Project (Number/Name)** 646002 / *Three Dimensional Expeditionary Long Range Radar*	

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
3DELRR Modeling & Simulation	SS/CPFF	MIT/Lincoln Laboratory : Lexington, MA	3.220	2.115	Dec 2012	-		-		-		-	-	5.335	5.275
3DELRR System Threat Assessment	SS/CPFF	MITRE : Bedford, MA	0.317	0.408	Nov 2012	-		-		-		-	-	0.725	0.636
3DELRR Pre-EMD Period	C/FFP	Various : Various,	19.996	82.492	Oct 2012	-		-		-		-	-	102.488	122.157
		Subtotal	23.533	85.015		-		-		-		-	-	108.548	128.068

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
3DELRR System Engineering - A	SS/CPFF	MIT/Lincoln Laboratory : Lexington, MA	0.929	1.173	Jan 2013	-		-		-		-	-	2.102	3.827
3DELRR System Engineering - B	MIPR	Naval Research Laboratory : Washington, DC	0.016	0.106	Oct 2012	-		-		-		-	-	0.122	0.181
3DELRR System Engineering - C	SS/CPFF	Carnegie Mellon University : Pittsburgh, PA	0.000	0.177	Dec 2012	-		-		-		-	-	0.177	0.538
		Subtotal	0.945	1.456		-		-		-		-	-	2.401	4.546

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
3DELRR 46th Test Wing	PO	46th TW : Ft Walton Beach, FL	0.100	0.110	Oct 2012	-		-		-		-	-	0.210	0.400
3DELRR Joint Interoperability Test Command	MIPR	JITC : Ft. Huachuca, AZ	0.000	0.015	Apr 2013	-		-		-		-	-	0.015	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 4	**R-1 Program Element (Number/Name)** PE 0604283F / *Battle Mgmt Com & Ctrl Sensor Development*	**Project (Number/Name)** 646002 / *Three Dimensional Expeditionary Long Range Radar*	

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	0.100	0.125		-		-		-		-	-	0.225	-

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
3DELRR Program Management Administration	Various	Various : Various,	4.162	5.106	Oct 2012	-		-		-		-	-	9.268	11.765
		Subtotal	4.162	5.106		-		-		-		-	-	9.268	11.765

	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	28.740	91.702		-		-		-		-	-	120.442	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 4	**R-1 Program Element (Number/Name)** PE 0604283F / *Battle Mgmt Com & Ctrl Sensor Development*	**Project (Number/Name)** 646002 / *Three Dimensional Expeditionary Long Range Radar*

3DELRR Program Schedule

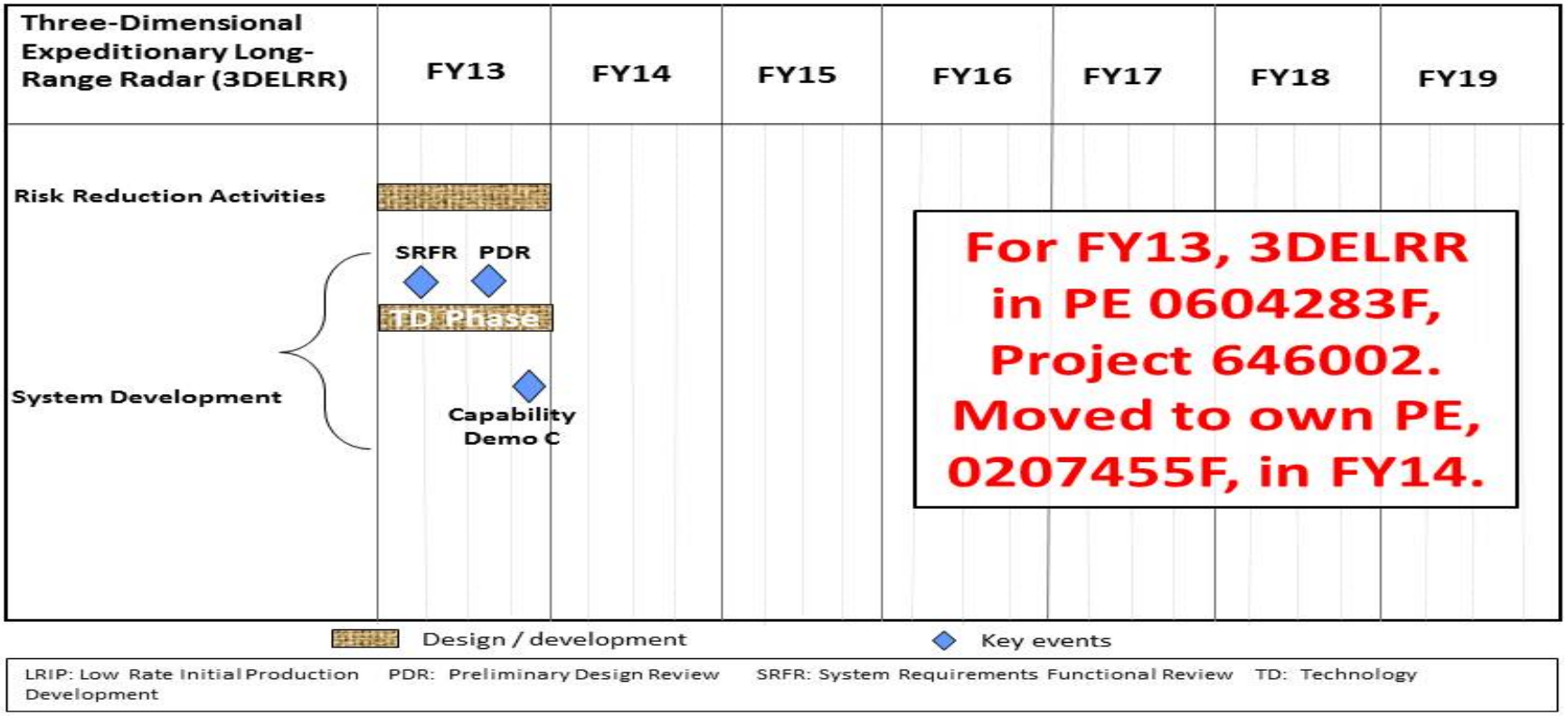

Exhibit R-4A, RDT&E Schedule Details: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 4	**R-1 Program Element (Number/Name)** PE 0604283F / *Battle Mgmt Com & Ctrl Sensor Development*	**Project (Number/Name)** 646002 / *Three Dimensional Expeditionary Long Range Radar*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
3DELRR Tech Development (TD) Phase	1	2013	4	2013
3DELRR System Requirement Functional Review	2	2013	2	2013
3DELRR Preliminary Design Review	3	2013	3	2013
3DELRR Capability Demonstration C	4	2013	4	2013

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 4: *Advanced Component Development & Prototypes (ACD&P)*					R-1 Program Element (Number/Name) PE 0604317F / *Technology Transfer*							
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	-	2.295	2.606	2.669	-	2.669	4.255	2.997	3.056	3.114	Continuing	Continuing
646003: *Partnership Intermediary Agreement(s)*	-	2.295	2.606	2.669	-	2.669	4.255	2.997	3.056	3.114	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

Technology Transfer was titled Defense Technology Transfer and Defense Technology Link (TechLink) in previous OSD budgets. This program was devolved from OSD to achieve efficiencies in program management.

The three-fold mission of Technology Transfer is:
(1) integrate advanced commercial-sector technologies into Department of Defense (DoD) systems, particularly from non-traditional defense contractors;
(2) convey DoD-developed technologies to industry to make these technologies available for military acquisition; and
(3) establish collaborative Research and Development (R&D) projects with the private sector for cost-sharing of new dual-use technology development.

This program is in Budget Activity 4, Advanced Component Development and Prototypes (ACD&P) because efforts are necessary to evaluate integrated technologies, representative modes or prototype systems in a high fidelity and realistic operating environment.

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	2.576	2.606	3.053	-	3.053
Current President's Budget	2.295	2.606	2.669	-	2.669
Total Adjustments	-0.281	-	-0.384	-	-0.384
• Congressional General Reductions	-0.004	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.060	-			
• Other Adjustments	-0.217	-	-0.384	-	-0.384

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 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 Program Element (Number/Name)** PE 0604317F / *Technology Transfer*

Change Summary Explanation

Decrease in FY13 Other Adjustments was due to Sequestration.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Technology Transfer	2.295	2.606	2.669
Description: Enhance and expand transfer of technologies between DoD and the commercial sector. ***FY 2013 Accomplishments:*** Through the use of a Partnership Intermediary Agreement (PIA), promoted and brokered patent license agreements and Cooperative Research and Development Agreements (CRADAs) between DoD labs and industry for development of technology with both commercial and military applications. Examples of each are a patent license agreement with the U.S. Army Corps of Engineers, Construction Engineering Research Laboratory and Tetra Tech for BUILDER software, a suite of integrated tools to support engineered asset lifecycle management; and a limited-purpose CRADA between the Naval Air Warfare Center Aircraft Division and Randolph Products to provide samples and proprietary information for the evaluation of aluminum-rich coatings as a corrosion-resistant primer for metals. This activity is focused on non-traditional defense contractors with the intention of helping lower the expense of new defense-related technology development through cost-sharing with industry and provided DoD benefit from private-sector technology investments and innovations. Actively marketed DoD-developed technologies to U.S. companies and establish Patent License Agreements to commercialize these technologies for both civilian and military application. ***FY 2014 Plans:*** Continue to actively promote and broker CRADAs between DoD labs and industry for development of technology with both commercial and military applications. This activity will particularly focus on non-traditional defense contractors and is intended to help lower the expense of new defense-related technology development through cost-sharing with industry and to help DoD benefit from private-sector technology investments and innovations. Continue to actively market DoD-developed technologies to U.S. companies and establish Patent License Agreements to commercialize these technologies for both civilian and military application. ***FY 2015 Plans:*** Continue to actively promote and broker CRADAs between DoD labs and industry for development of technology with both commercial and military applications. This activity will particularly focus on non-traditional defense contractors and is intended to help lower the expense of new defense-related technology development through cost-sharing with industry and to help DoD benefit from private-sector technology investments and innovations. Continue to actively market DoD-developed technologies to U.S. companies and establish Patent License Agreements to commercialize these technologies for both civilian and military application.			
Accomplishments/Planned Programs Subtotals	2.295	2.606	2.669

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 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 Program Element (Number/Name)** PE 0604317F / *Technology Transfer*

D. Other Program Funding Summary ($ in Millions)

N/A

Remarks

N/A

E. Acquisition Strategy

N/A

F. Performance Metrics

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

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 4	**R-1 Program Element (Number/Name)** PE 0604317F / *Technology Transfer*	**Project (Number/Name)** 646003 / *Partnership Intermediary Agreement(s)*

	FY11				FY12				FY13				FY14				FY15				FY16				FY17			
FISCAL YEAR	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
FY12 FUNDING AWARD						X																						
FY12 PROGRESS REVIEW									O																			
FY13 FUNDING AWARD										X																		
FY13 PROGRESS REVIEW													O															
FY14 FUNDING AWARD														X														
FY14 PROGRESS REVIEW																	O											
FY15 FUNDING AWARD																		X										
FY15 PROGRESS REVIEW																					O							
FY16 FUNDING AWARD																						X						
FY16 PROGRESS REVIEW																									O			
FY17 FUNDING AWARD																										X		

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 4: *Advanced Component Development & Prototypes (ACD&P)*					R-1 Program Element (Number/Name) PE 0604327F / *Hard and Deeply Buried Target Defeat System (HDBTDS) 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	324.812	16.626	0.103	-	-	-	-	-	-	-	-	341.541
645341: *Direct Strike Penetrator Systems*	324.812	16.626	0.103	-	-	-	-	-	-	-	-	341.541
Quantity of RDT&E Articles	21.000	-	-	-	-	-	-	-	-	-		
MDAP/MAIS Code: 475												

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

A. Mission Description and Budget Item Justification

Direct Strike Penetrator Systems project includes the development of a Quick Reaction Capability (QRC) known as Massive Ordnance Penetrator (MOP) and analysis efforts for the follow-on Hard Target Munitions (HTM) program. The Hard and Deeply Buried Target Defeat System (HDBTDS) development activity is based on the Initial Capabilities Document (ICD) for HDBTDS, 1 Aug 2005, and the MOP development is based on the 2007 Urgent Operational Need (UON) document (resubmitted in 2009). The Direct Strike Penetrator System is an advanced precision guided penetrator munition that will provide the Air Force with an improved capability using air-to-surface conventional munitions to attack Hard & Deeply Buried Targets (HDBT), such as bunker and tunnel facilities. This system holds HDBTs at risk using fewer weapons and reducing the number of missions necessary to defeat targets, resulting in an increase to overall mission survivability. The Direct Strike Penetrator provides a critical global strike capability not currently met by inventory conventional weapons. It will hold at risk those highest priority assets essential to the enemy's warfighting ability, which are heavily defended and protected. The Direct Strike Penetrator Systems project is also conducting a HTM analysis-of-alternative (AoA) to determine the best weapons and/or development efforts for addressing the Hard and Deeply Buried Targets (HDBT) mission area. At the completion of the AoA, the Air Force will add funds to start the development, production, modification activities for the HDBT attack weapons identified in the AoA as the most effective and affordable weapons. The AoA will include the performance, operational suitability, and cost of alternative hard target defeat systems. HTM is a pre-MDAP program.

This program is in Budget Activity 4, Advanced Component Development and Prototypes (ACD&P) because effort is necessary to evaluate integrated technologies, representative modes or prototype systems in high fidelity and realistic operating 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 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 Program Element (Number/Name)** PE 0604327F / *Hard and Deeply Buried Target Defeat System (HDBTDS) Program*

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	16.711	0.103	-	-	-
Current President's Budget	16.626	0.103	-	-	-
Total Adjustments	-0.085	-	-	-	-
• Congressional General Reductions	-0.022	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.063	-			
• Other Adjustments	-	-	-	-	-

Change Summary Explanation

No Significant Changes

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Massive Ordnance Penetrator (MOP) Weapon Development, Target Construction, and System Test and Evaluation	16.626	0.103	-
Description: MOP Weapon development/redesign and test and integration on the B-2. Develop the Enhanced Threat Response (ETR-1 and ETR-2) capability for the baseline MOP weapon. Construct several hard and deeply buried targets for live weapon testing. Conduct ground and flight tests to verify ETR-1 and ETR-2 design changes, including MOP system test and evaluation, qualification testing, weapon certification on B-2A ***FY 2013 Accomplishments:*** Complete development of MOP ETR-2 capability. Incorporate ETR-2 changes in three test weapons. Construct test targets and conduct three tests to evaluate the ETR-2 capability ***FY 2014 Plans:*** Complete AoA efforts. ***FY 2015 Plans:*** N/A			
Accomplishments/Planned Programs Subtotals	16.626	0.103	-

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 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 Program Element (Number/Name)** PE 0604327F / *Hard and Deeply Buried Target Defeat System (HDBTDS) Program*

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 0604240F: *B-2 Bomber*	-	-	-	-	-	-	-	-	-	-	80.683
• APAF: BA05: Line Item # B01B00: *B-2 Squadrons, PE 0101127F*	7.000	-	-	-	-	-	-	-	-	-	75.651
• PAAF: BA01: Line Item #353020: *WRM-Ammunition (General Purpose Bombs)*	4.158	-	-	-	-	-	-	-	-	-	57.484

Remarks

E. Acquisition Strategy

MOP is a Quick Reaction Capability (QRC) with a sole source cost plus incentive fee contract to a single contractor.

F. Performance Metrics

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

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 4	**R-1 Program Element (Number/Name)** PE 0604327F / *Hard and Deeply Buried Target Defeat System (HDBTDS) Program*	**Project (Number/Name)** 645341 / *Direct Strike Penetrator Systems*	

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
MOP Weapon Development	SS/CPIF	Boeing : St Louis, MO	190.063	5.709	Mar 2013	-		-		-		-	-	195.772	195.772
Hard Target Munitions (HTM) Capabilities Analysis	Various	Whitney, Bradley & Brown; ARA; Booz Allen : Eglin, FL	3.614	-		-		-		-		-	-	3.614	3.614
HTM Concept/Technology Study	Various	Several Local Companies : Eglin, FL	2.779	-		-		-		-		-	-	2.779	2.779
HTM Weapons Effects/ Target Analysis	RO	Defense Threat Reduction Agency : Eglin AFB, FL	1.087	-		-		-		-		-	-	1.087	1.087
HTM Concept Tech Data	Various	Several Local Conpanies : Eglin AFB, FL	1.811	-		-		-		-		-	-	1.811	1.811
HTM Technical Support	Various	Jacobs Engr. : Eglin, FL	1.751	-		-		-		-		-	-	1.751	1.751
		Subtotal	201.105	5.709		-		-		-		-	-	206.814	206.814

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
Govt Support	Various	Several Govt Labs and test Centers : Eglin AFB, FL	9.484	0.715		-		-		-		-	-	10.199	10.199
		Subtotal	9.484	0.715		-		-		-		-	-	10.199	10.199

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 4	R-1 Program Element (Number/Name) PE 0604327F / *Hard and Deeply Buried Target Defeat System (HDBTDS) Program*	Project (Number/Name) 645341 / *Direct Strike Penetrator Systems*	

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
MOP System Test & Evaluation	RO	AAC : Eglin AFB, FL	4.088	2.281		-		-		-		-	-	6.369	6.369
MOP Flight Test Range Support	Various	White Sands Missile Range : White Sands Missile Range, NM	12.144	1.500	Jan 2014	-		-		-		-	-	13.644	13.644
Target Construction and Instrumentation (MOP)	Various	Defense Threat Reduction Agency : Albuquerque, NM	79.797	1.730		-		-		-		-	-	81.527	81.527
MOP Test and Evaluation Activities	Various	AF Flight Test Center : Albuquerque, NM	12.406	0.717		-		-		-		-	-	13.123	13.123
		Subtotal	108.435	6.228		-		-		-		-	-	114.663	114.663

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) for MOP	Various	AFLCMC/EBD : Eglin AFB, FL	5.402	3.850		-		-		-		-	-	9.252	-
Program Management Administration (PMA) for Hard Target Munitions	Various	AFLCMC/XR : Eglin AFB, FL	0.386	0.124		0.103		-		-		-	-	0.613	-
		Subtotal	5.788	3.974		0.103		-		-		-	-	9.865	-

	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	324.812	16.626		0.103		-		-		-	-	341.541	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 4	**R-1 Program Element (Number/Name)** PE 0604327F / *Hard and Deeply Buried Target Defeat System (HDBTDS) Program*	**Project (Number/Name)** 645341 / *Direct Strike Penetrator Systems*

U.S. AIR FORCE

HDBTDS (MOP and HTM AoA) Schedule

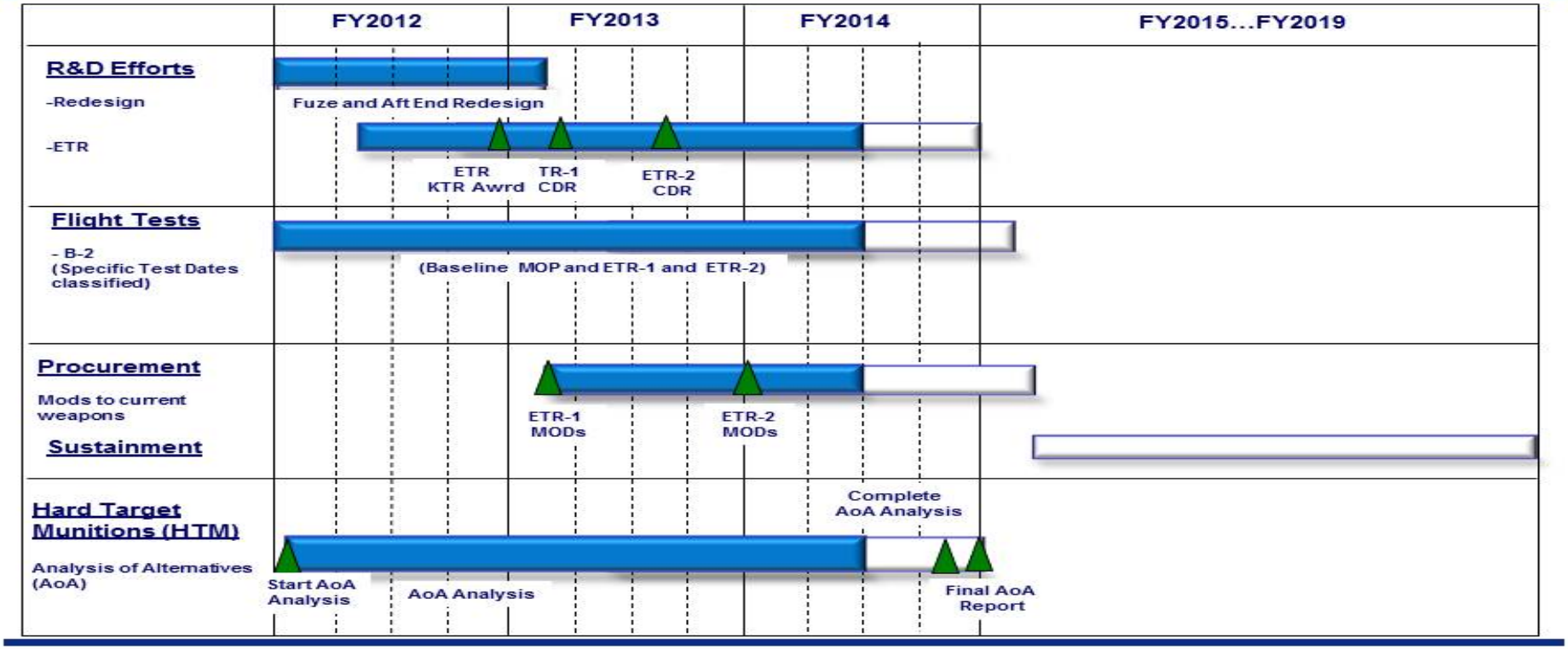

Exhibit R-4A, RDT&E Schedule Details: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 4	**R-1 Program Element (Number/Name)** PE 0604327F / *Hard and Deeply Buried Target Defeat System (HDBTDS) Program*	**Project (Number/Name)** 645341 / *Direct Strike Penetrator Systems*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
MOP Design Modification & Qualification Testing for ETR-1	1	2013	2	2013
MOP Design Modification & Qualification Testing for ETR-2	1	2014	1	2015
MOP ETR-1 Flight Testing	3	2013	3	2013
MOP ETR-2 Flight Testing	3	2014	1	2015
Conduct Hard Target Munitions (HTM) Analysis of Alternatives (AoA)	1	2013	3	2014
Complete Hard Target Munitions (HTM) AoA Report	3	2014	4	2014

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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 4: *Advanced Component Development & Prototypes (ACD&P)*					R-1 Program Element (Number/Name) PE 0604337F / *Requirements Analysis and Maturation*							
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	-	14.760	11.884	-	-	-	-	-	-	-	Continuing	Continuing
645349: *Development Planning*	-	10.377	11.884	-	-	-	-	-	-	-	Continuing	Continuing
64A024: *Space Systems Requirements Analysis & Maturation*	-	4.383	-	-	-	-	-	-	-	-	Continuing	Continuing

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

A. Mission Description and Budget Item Justification

The Requirements Analysis and Maturation (RAM) program funds early systems engineering and pre-acquisition planning and analysis activities. These activities include requirements analysis, capability decomposition and trade space characterization, concept development (system of systems, air, space, and cyber), cost analysis, modeling and simulation of representative or prototype systems, and costs associated with these activities to include analytical tools and travel. Outcomes of these activities are fiscally and technologically informed requirements, mature concepts that are technically feasible, and areas for science and technology (S&T) investment to reduce technology risks. These activities provide the analytic basis for cost and capability trades to inform weapon systems requirements and acquisition milestones, decision points, and phases; for example, the Materiel Development Decision (MDD). A number of Department of Defense (DoD), Government Accountability Office(GAO), and independent industry studies point to a need for more disciplined, early phase systems engineering and pre-systems acquisition planning to produce decision-quality acquisition information that previously did not surface until after the initiation of a program. Early-phase systems engineering and technical planning activities funded by this program provide the foundation for informed investment decisions leading to successful acquisition programs. Specific efforts are determined each year based upon the highest Air Force priorities. This effort is in Budget Activity 4, Advanced Component Development and Prototypes (ACD&P) because efforts are necessary to evaluate integrated technologies, representative modes or prototype systems in a high fidelity and realistic operating environment.

For FY 2014 and out Space and Non-Space RAM program activities were combined into a single Development Planning project, 45349

In FY 2015 and out, 645349, Development Planning, efforts were transferred to PE 0606017F, Requirements Analysis and Maturation, 666157, Development Planning, due to an internal DoD budget activity realignment.

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 4: *Advanced Component Development & Prototypes (ACD&P)*		R-1 Program Element (Number/Name) PE 0604337F / *Requirements Analysis and Maturation*			
B. Program Change Summary ($ in Millions)	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO**	**FY 2015 Total**
Previous President's Budget	16.343	16.018	15.844	-	15.844
Current President's Budget	14.760	11.884	-	-	-
Total Adjustments	-1.583	-4.134	-15.844	-	-15.844
• Congressional General Reductions	-0.021	-0.109			
• Congressional Directed Reductions	-	-4.025			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.478	-			
• Other Adjustments	-1.084	-	-15.844	-	-15.844

Change Summary Explanation

Decrease in FY13 Other Adjustments was due to Sequestration.

Decrease in FY14 Congressional Directed Reduction due to program decrease.

Decrease in FY15 due to program efforts transferring to PE 0606017F, Requirements Analysis and Maturation, due to an internal DoD budget activity realignment.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 4	R-1 Program Element (Number/Name) PE 0604337F / *Requirements Analysis and Maturation*	Project (Number/Name) 645349 / *Development Planning*	

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
645349: *Development Planning*	-	10.377	11.884	-	-	-	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

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

Note

In FY 2015, Project 645349 Developmental Planning efforts were transferred to PE 0606017F Project 666157 Development Planning to improve alignment with the budget activity.

A. Mission Description and Budget Item Justification

The Development Planning project is responsible for analyzing documented capability needs and requirements to identify potential materiel shortfalls and opportunities; devising candidate materiel solution options to address Air Force capability needs and shortfalls; and conducting coordinated pre-systems acquisition planning activities that address requirements, schedule, cost, technology, and acquisition strategy.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Long-range Capability Analyses	1.660	1.900	-
Description: Conduct long-range capability analyses by analyzing documented warfighter capability needs and requirements to identify potential materiel shortfalls and opportunities.			
FY 2013 Accomplishments: Developed capability roadmaps, advanced concept studies and analyses, and derived technology needs required to realize future materiel solutions to warfighter capability needs.			
FY 2014 Plans: Develop capability roadmaps, advanced concept studies and analyses, and derive technology needs required to realize future materiel solutions to warfighter capability needs.			
FY 2015 Plans: N/A			
Title: Concept Development	6.952	7.964	-
Description: Conduct concept development activities, including early-phase systems engineering, by devising candidate materiel solution options to address Air Force air, space, and cyber capability needs and shortfalls.			
FY 2013 Accomplishments:			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 4	**R-1 Program Element (Number/Name)** PE 0604337F / *Requirements Analysis and Maturation*	**Project (Number/Name)** 645349 / *Development Planning*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Executed concept development activities, to include requirements support and analysis, early-phase systems engineering, early concept characterization and technical descriptions, market research, budget estimates, and technology assessments. ***FY 2014 Plans:*** Execute concept development activities, to include requirements support and analysis, early-phase systems engineering, early concept characterization and technical descriptions, market research, budget estimates, and technology assessments. ***FY 2015 Plans:*** N/A			
Title: Pre-systems Acquisition Planning ***Description:*** Conduct coordinated pre-systems acquisition planning activities that address requirements, schedule, cost, technology, and acquisition strategy. ***FY 2013 Accomplishments:*** Performed pre-systems acquisition planning activities, to include concept refinement, cost estimates, acquisition courses of action, and acquisition milestone documentation. ***FY 2014 Plans:*** Perform pre-systems acquisition planning activities, to include concept refinement, cost estimates, acquisition courses of action, and acquisition milestone documentation. ***FY 2015 Plans:*** N/A	1.765	2.020	-
Accomplishments/Planned Programs Subtotals	10.377	11.884	-

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

For FY 2015 and out the RAM program is funded in PE 0606017F.

D. Acquisition Strategy

All contracts funded in this program element will be awarded using competitive procedures.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 4	**R-1 Program Element (Number/Name)** PE 0604337F / *Requirements Analysis and Maturation*	**Project (Number/Name)** 645349 / *Development Planning*

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 / 4	**R-1 Program Element (Number/Name)** PE 0604337F / *Requirements Analysis and Maturation*	**Project (Number/Name)** 645349 / *Development Planning*

Requirements Analysis and Maturation (RAM) Master Schedule

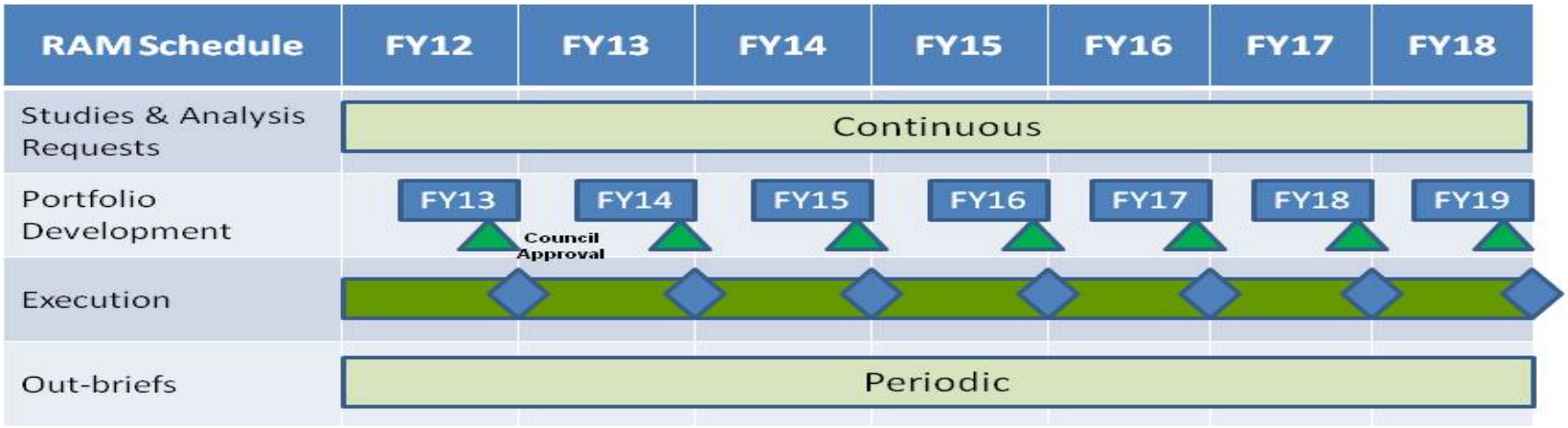

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 4	R-1 Program Element (Number/Name) PE 0604337F / *Requirements Analysis and Maturation*	Project (Number/Name) 64A024 / *Space Systems Requirements Analysis & Maturation*	

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
64A024: *Space Systems Requirements Analysis & Maturation*	-	4.383	-	-	-	-	-	-	-	-	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 Space Systems project is responsible for analyzing documented capability needs and requirements to identify potential materiel shortfalls and opportunities; devising candidate materiel solution options to address Air Force space capability needs and shortfalls; and conducting coordinated pre-systems acquisition planning activities that address requirements, schedule, cost, technology, and acquisition strategy for space efforts.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Long-range Capability Analyses ***Description:*** Conduct long-range capability analyses by analyzing documented warfighter capability needs and requirements to identify potential materiel shortfalls and opportunities. ***FY 2013 Accomplishments:*** Developed capability roadmaps, advanced concept studies and analyses, and derive technology needs required to realize future materiel solutions to warfighter capability needs. ***FY 2014 Plans:*** For FY 2014 and out Space and Non-Space RAM PE activities were combined into a signe Development Planning project, BPAC 645349. ***FY 2015 Plans:*** N/A	0.653	-	-
Title: Concept Development ***Description:*** Conduct concept development activities, including early-phase systems engineering, by devising candidate materiel solution options to address Air Force space capability needs and shortfalls. ***FY 2013 Accomplishments:***	2.612	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 4	**R-1 Program Element (Number/Name)** PE 0604337F / *Requirements Analysis and Maturation*	**Project (Number/Name)** 64A024 / *Space Systems Requirements Analysis & Maturation*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Executed concept development activities, to include requirements support and analysis, early-phase systems engineering, early concept characterization and technical descriptions, market research, budget estimates, and technology assessments. ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** N/A			
Title: Pre-systems Acquisition Planning ***Description:*** Conduct coordinated pre-systems acquisition planning activities that address requirements, schedule, cost, technology, and acquisition strategy. ***FY 2013 Accomplishments:*** Performed pre-systems acquisition planning activities, to include concept refinement, cost estimates, acquisition courses of action, and acquisition milestone documentation. ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** N/A	1.118	-	-
Accomplishments/Planned Programs Subtotals	4.383	-	-

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

For FY 2015 and out the RAM program is funded in PE 0606017F.

D. Acquisition Strategy

All contracts funded in this program element will be awarded using competitive procedures.

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 / 4	**R-1 Program Element (Number/Name)** PE 0604337F / *Requirements Analysis and Maturation*	**Project (Number/Name)** 64A024 / *Space Systems Requirements Analysis & Maturation*

Requirements Analysis and Maturation (RAM) Master Schedule

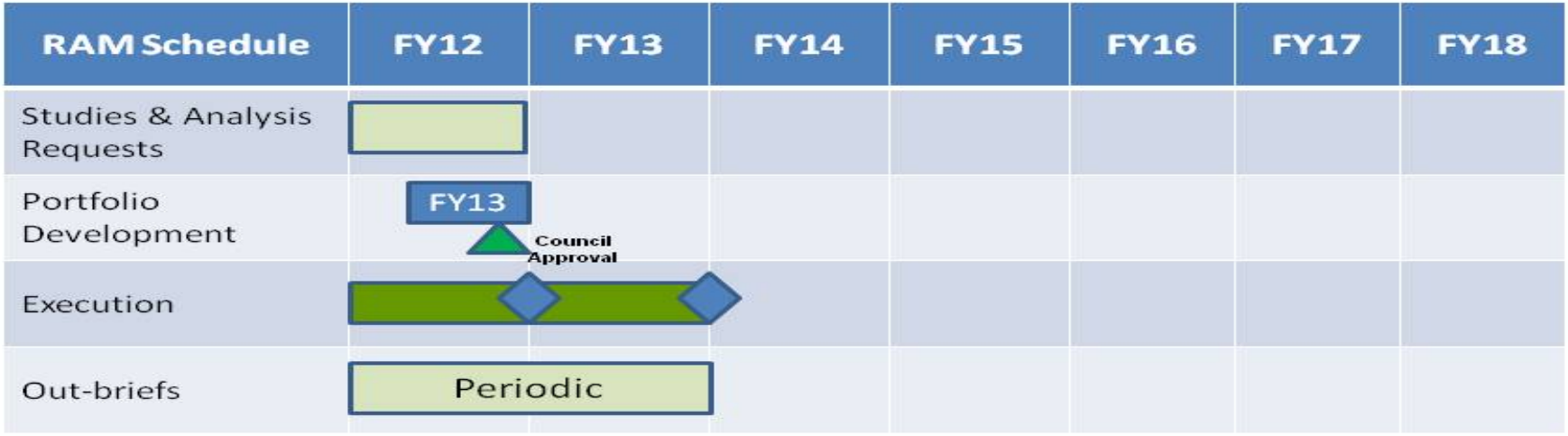

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Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force												Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 4: *Advanced Component Development & Prototypes (ACD&P)*					R-1 Program Element (Number/Name) PE 0604422F / *Weather System Follow-on*							
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	123.681	-	-	39.901	-	39.901	76.614	110.493	138.130	142.539	164.818	796.176
644289: *Weather Satellite Follow-On*	123.681	-	-	39.901	-	39.901	76.614	110.493	138.130	142.539	164.818	796.176
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		
MDAP/MAIS Code: 488												

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

Note

In FY 2015, the Weather System Follow-on (WSF) Project 644289, is a New Start.

A. Mission Description and Budget Item Justification

WSF is the Department of Defense's (DoD) follow-on system to the Defense Meteorological Satellite Program (DMSP) and other DoD environmental monitoring satellites.

WSF will be comprised of a group of systems to provide timely, reliable, and high quality space-based remote sensing capabilities that will make global environmental observations of atmospheric, terrestrial, oceanographic, solar-geophysical and other requirements validated by the Joint Staff.

The Space-Based Environmental Monitoring (SBEM) Analysis of Alternatives (AoA) concluded that all except one of the JROC endorsed Category A capability gaps demonstrated military utility. Some of these capability gaps may materialize immediately; therefore, the earliest possible launch is critical to mitigate potential gaps in meeting DoD's space-based weather requirements. The planned deployment for an operational weather satellite to fully meet validated requirements is in the early 2020s.

DoD established WSF as a Pre-Major Defense Acquisition Program (MDAP). Based on the SBEM AoA results, WSF's primary thrusts will be to enable:
1) DoD use of data collected by civil, international and other DoD space systems.
2) Timely weather collection over broad oceans in support of maneuver forces.
3) Space weather capabilities to characterize operational orbits, space situational awareness, and the ionosphere.
Secondary investments may be supported to address weather gaps identified in the SBEM AoA and validated by the Joint Staff.

This program is in Budget Activity 4, Advanced Component Development and Prototypes (ACD&P) because efforts are necessary to evaluate integrated technologies, representative modes or prototype systems in a high fidelity and realistic operating 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 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 Program Element (Number/Name)** PE 0604422F / *Weather System Follow-on*

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	2.000	-	-	-	-
Current President's Budget	-	-	39.901	-	39.901
Total Adjustments	-2.000	-	39.901	-	39.901
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-2.000	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-	-	39.901	-	39.901

Change Summary Explanation

FY13: Congressional Directed Reduction -$2.00 for carryover of fiscal year 2012 funds.

FY15: Funding added for Weather System Follow-on development

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: WSF	-	-	39.901

Description: The Weather System Follow-on (WSF) is the Department of Defense's follow-on system to the Defense Meterological Satellite Program (DMSP) and other DoD environmental monitoring satellites. The program will be comprised of a group of systems to provide timely, reliable, and high quality space-based remote sensing capabilities that will make global environmental observations of atmospheric, terrestrial, oceanographic, solar-geophysical and other requirements validated by the Joint Staff.

FY 2013 Accomplishments:
N/A

FY 2014 Plans:
N/A

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 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 Program Element (Number/Name)** PE 0604422F / *Weather System Follow-on*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Conduct requirements development, definition and analysis. Perform acquisition planning and development. Begin sensor interface design and development to cover mission area capability gaps as identified in the SBEM AoA. Begin ground processing system upgrades to ingest civil and international partner data. Fund program support activities.			
Accomplishments/Planned Programs Subtotals	-	-	39.901

D. Other Program Funding Summary ($ in Millions)

N/A

Remarks

E. Acquisition Strategy

DoD established WSF as a Pre-Major Defense Acquisition Program (MDAP). The acquisition strategy for WSF will be informed by review and validation of the SBEM AoA results and the acquisition strategy development activities to be conducted in FY15.

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 / 4	R-1 Program Element (Number/Name) PE 0604422F / *Weather System Follow-on*	Project (Number/Name) 644289 / *Weather Satellite Follow-On*	

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
WSF Space Segment	TBD	TBD : ,	0.000	-		-		25.871	Jan 2015	-		25.871	485.267	511.138	TBD
WSF Ground Segment	TBD	TBD : ,	0.000	-		-		4.560	Jan 2015	-		4.560	54.843	59.403	TBD
Microwave: Modify Legacy GMI Sensor Design	SS/CPFF	Ball Aerospace and Technologies Corp : Boulder, CO	5.794	-		-		-		-		-	-	5.794	TBD
Microwave: Sensor Design Trades & Demonstration	SS/CPFF	Boeing Company Space and Intelligence Systems : El Segundo, CA	2.811	-		-		-		-		-	-	2.811	TBD
Sys/Spacecraft: Hosted Payload on Highly Eliptical Orbit Study	SS/CPFF	Loral Space Communications : Palo Alto, CA	1.000	-		-		-		-		-	-	1.000	TBD
Microwave:Research Concepts to Decrease MW Sensors size	SS/CPFF	JPL : Pasadena, CA	1.796	-		-		-		-		-	-	1.796	TBD
Systems/Spacecraft: Small Space Vehicle Options Study	SS/CPFF	Orbital Sciences Corp : Los Angeles, CA	3.545	-		-		-		-		-	-	3.545	TBD
WSF requirements analysis, risk reduction, and early pre-acquisition activities	SS/ Various	Various : ,	25.615	-		-		-		-		-	-	25.615	TBD
EO/IR - Advanced Very High Resolution Radiometer (AVHRR) Sensor Design Update/ Demo	SS/CPFF	ITT Exelis : Fort Wayne, IN	12.706	-		-		-		-		-	-	12.706	TBD
Electro-Optical/Infra-red (EO/IR) - Lightweight COTS	SS/CPFF	Johns Hopkins U Applied Physics Lab : Laurel, MD	8.844	-		-		-		-		-	-	8.844	TBD
Systems/Spacecraft: Net-Centric Architecture study	SS/CPFF	Alliant Techsystems, Incorporated : Beltsville, MD	5.983	-		-		-		-		-	-	5.983	TBD

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 4	R-1 Program Element (Number/Name) PE 0604422F / *Weather System Follow-on*	Project (Number/Name) 644289 / *Weather Satellite Follow-On*	

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
System/Spacecraft: Ground Architecture Alternatives	SS/CPFF	Harris Government Communications Systems Division : Melbourne, FL	2.034	-		-		-		-		-	-	2.034	TBD
Systems/Spacecraft: Flight-proven Class C mission bus	SS/FP	Millennium Space Systems : Torrance, CA	1.944	-		-		-		-		-	-	1.944	TBD
Sys/Spacecraft: Weather Architecture Trade Studies	SS/FP	U.S. Space LLC : Dulles, VA	1.592	-		-		-		-		-	-	1.592	TBD
Sys/Spacecraft: High-TRL Sensor for Space Weather	SS/CPFF	John Hopkins U Applied Physics Lab : Laurel, MD	2.997	-		-		-		-		-	-	2.997	TBD
Systems/Spacecraft: Leverage OPIR Data from Commercially Hosted Infra-red Payload (CHIRP)	SS/CPFF	SAIC : Seal Beach, CA	0.982	-		-		-		-		-	-	0.982	TBD
Microwave:Compact MW Sensor Study for Ocean Surface Vector Wind	SS/CPFF	JPL : Pasadena, CA	1.584	-		-		-		-		-	-	1.584	TBD
Spacecraft Risk Reduction Effort/Space Weather Launch Vehicle integration	SS/FP	Space Exploration Technology Corporation : Hawthorne, CA	3.030	-		-		-		-		-	-	3.030	TBD
Dosimeter Study - low cost Particle Counter	Various	Various : Various,	4.275	-		-		-		-		-	-	4.275	TBD
Risk Reduction - Microwave Sensor Activities	MIPR	Naval Research Laboratory : Washington, DC	9.900	-		-		-		-		-	-	9.900	TBD
Analysis of Alternatives (AoA) activities	Various	AFSPC/A5 : Peterson AFB, CO	7.000	-		-		-		-		-	-	7.000	TBD
		Subtotal	103.432	-		-		30.431		-		30.431	540.110	673.973	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 4	R-1 Program Element (Number/Name) PE 0604422F / *Weather System Follow-on*	Project (Number/Name) 644289 / *Weather Satellite Follow-On*	

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
Systems Engineering & Integration	TBD	Various : ,	0.000	-		-		1.899	Jun 2015	-		1.899	25.678	27.577	TBD
Requirements/Engineering Analysis Support	MIPR	Defense Information Technical Center (DTIC)/Surviac Contract : Los Angeles, CA	1.500	-		-		-		-		-	-	1.500	TBD
Engineering Risk Reduction Studies	Various	Various : ,	1.171	-		-		-		-		-	-	1.171	TBD
		Subtotal	2.671	-		-		1.899		-		1.899	25.678	30.248	-

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
Not specified.	TBD	Not specified. : ,	0.000	-		-		-		-		-	-	-	TBD
		Subtotal	0.000	-		-		-		-		-	-	-	-

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	MIPR	Aerospace : Los Angeles, CA	11.863	-		-		5.100	Oct 2014	-		5.100	35.539	52.502	TBD
Program Office Support	Various	Various : ,	5.378	-		-		1.971	Nov 2014	-		1.971	19.567	26.916	TBD
Business Operations Support	Various	Various : ,	0.337	-		-		0.500	Nov 2014	-		0.500	11.700	12.537	TBD
		Subtotal	17.578	-		-		7.571		-		7.571	66.806	91.955	-

	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	123.681	-		-		39.901		-		39.901	632.594	796.176	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 4	R-1 Program Element (Number/Name) PE 0604422F / *Weather System Follow-on*	Project (Number/Name) 644289 / *Weather Satellite Follow-On*	

	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 4	**R-1 Program Element (Number/Name)** PE 0604422F / *Weather System Follow-on*	**Project (Number/Name)** 644289 / *Weather Satellite Follow-On*

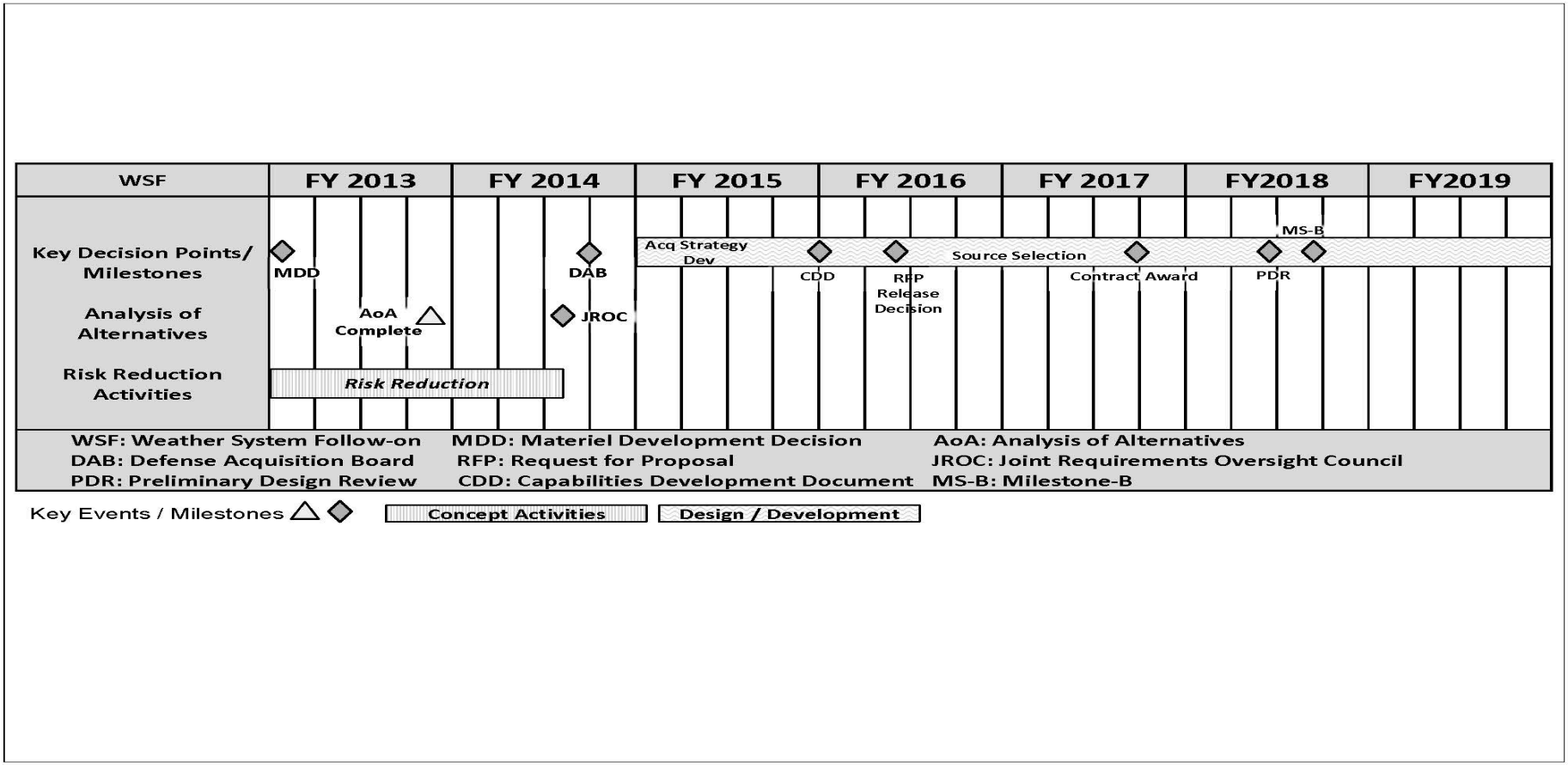

Exhibit R-4A, RDT&E Schedule Details: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 4	**R-1 Program Element (Number/Name)** PE 0604422F / *Weather System Follow-on*	**Project (Number/Name)** 644289 / *Weather Satellite Follow-On*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Analysis of Alternatives (AoA) analysis Completed	4	2013	4	2013
Joint Requirements Oversight Council (JROC) AoA Review	3	2014	3	2014
Defense Acquisition Board	3	2014	3	2014
Capabilities Development Document (CDD)	1	2016	1	2016
Contract Award	3	2017	3	2017
Preliminary Design Review (PDR)	2	2018	2	2018
Milestone B	3	2018	3	2018

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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 4: *Advanced Component Development & Prototypes (ACD&P)*					R-1 Program Element (Number/Name) PE 0604458F / *Air & Space Ops 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	0.000	-	58.861	-	-	-	-	-	-	-	-	58.861
644945: *AOC Inc 10.2*	0.000	-	58.861	-	-	-	-	-	-	-	-	58.861
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

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

Note

In FY 2014, Project Number 644945, AOC Inc. 10.2, efforts were transferred from PE 0207410F, AOC WS, Project Number 675117 in order to improve transparency of ACAT 1 Acquisition programs.

AOC Increment 10.2 received a Milestone B decision 11 October 2013. In FY 2015, PE 0604458F, Air & Space Ops Center, project number 644945 AOC Increment 10.2 development efforts, were transferred to PE 0605458F Air & Space Ops Center 10.2, project number 654945 AOC 10.2 Development, in order to align post Milestone B development efforts with funding in RDT&E Budget Activity 05, System Development & Demonstration (SDD).

A. Mission Description and Budget Item Justification

The Air Operations Center Weapon System (AOC WS), AN/USQ-163 Falconer, the senior element of the Theater Air Control System (TACS), is the weapon system the Commander, Air Force Forces (COMAFFOR) provides the Combined/Joint Force Air Component Commander (C/JFACC) for planning, executing, and assessing theater-wide air and space operations. The C/JFACC provides air, space and cyber support to the Combined/Joint Forces Commander (C/JFC) by coordinating, deconflicting and assessing the progress of various weapon systems to advance the C/JFC's campaign. The AOC WS develops operations strategy and planning documents. The weapon system also disseminates tasking orders; executes day-to-day peacetime and combat air, space and cyber operations; and provides rapid reaction to immediate situations by exercising positive control of friendly forces.

The AOC WS Increment 10.2 program keeps the AOC interoperable, certified, supportable, and compliant through the integration, testing and fielding of new capabilities and sustainment upgrades to the AOC WS baseline. The program supports mission requirements at Geographic and Functional AOCs, as well as Support and Manpower Augmentation units. To keep the AOC current and interoperable with the COCOMs, cyber requirements, and fifth generation weapon system/weapons, the AOC WS program plans to evolve the AOC through the integration and test of progressively improving capabilities. These activities ensure a system of systems engineering perspective for the AOC WS, and include weapon system standardization activities as defined by AOC WS requirements documents. The Modernization contractor, which was awarded the Modernization contract on 25 October 2011, conducted AOC 10.2 pre-Engineering and Manufacturing Development (EMD) activities, including a Systems Requirements Review (SRR), an Interim Design Review (IDR), and a delta-Preliminary Design Review (delta-PDR). In accordance with AOC 10.2 Milestone Decision Authority (MDA) direction (23 June 2010), the AOC 10.2 Modernization program conducted prototyping and Limited Early Install (LEI) activities through an iterative build methodology prior to Milestone B (MS B) to reduce integration risk and improve user feedback in the acquisition process. AOC 10.2 EMD activities include the design (i.e., Critical Design Review), development, integration of 3rd party capabilities, testing (Contractor in-plant system testing, Developmental

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 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 Program Element (Number/Name)** PE 0604458F / *Air & Space Ops Center*

Test and Evaluation, Operational Test and Evaluation, Operational Assessment, Test Readiness Review, etc.) of the AOC 10.2 baseline, as well as build-up and fielding of the Help Desk (HD), Formal Training Unit (FTU), and Combined Air Operations Center-eXperimental (CAOC-X) suite.

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

This program is in Budget Activity 4, Advanced Component Development and Prototypes (ACD&P) for FY14 because efforts are necessary to evaluate integrated technologies, representative modes or prototype systems in a high fidelity and realistic operating environment.

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	-	58.861	58.909	-	58.909
Current President's Budget	-	58.861	-	-	-
Total Adjustments	-	-	-58.909	-	-58.909
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-	-	-58.909	-	-58.909

Change Summary Explanation

In FY15, program element PE 0604458F, Project Number 644945, AOC efforts were transferred to PE 0605458F, Project Number 654945. This is not a new start.

AOC Increment 10.2 received a Milestone B decision 11 October 2013. In FY 2015, PE 0604458F, Air & Space Ops Center, project number 644945, AOC Increment 10.2, development efforts were transferred to PE 0605458F, Air & Space Ops Center 10.2, project number 654945, AOC 10.2 Development, in order to align post Milestone B development efforts with funding in RDT&E Budget Activity 05, System Development & Demonstration (SDD).

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: AOC WS Inc 10.2	-	57.939	-
Description: AOC 10.2 infrastructure modernization and mission capability integration. Development of a robust, open, Net-Centric infrastructure with a Service Oriented Architecture (SOA).			
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 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 Program Element (Number/Name)** PE 0604458F / *Air & Space Ops Center*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
N/A ***FY 2014 Plans:*** Effort is completing prototyping and LEI activities to support risk reduction and operational feedback. Following the Milestone B decision, the program is performing development activities, including but not limited to the following: a) AOC 10.2 development, systems analysis, and corresponding documentation, but not limited to the following: a) AOC 10.2 development, systems analysis, and corresponding documentation, b) capability provider engagement and integration, c) initiate build-up and fielding of the IOT&E sites including the HD, FTU, CAOC-X and pre-planning for one Geographic site, d) Integration and Test Lab (ITL) operation and management, e) continued planning, coordination, and execution of Contractor System Testing / Developmental Test and Evaluation / Operational Test and Evaluation, f) planning, preparation, and analysis and design efforts for continued 10.2 baseline improvements, and g) other government costs to include government furnished equipment to include hardware, software, licenses, support, and costs in government integration facilities. Program continues risk mitigation and development / test execution activities to support upcoming MS C decision in FY15. Will participate in joint service investments to support overall AOC modernization design and development.			
Title: AOC WS Inc 10.2 Test and Evaluation ***Description:*** Test and Evaluation ***FY 2013 Accomplishments:*** N/A ***FY 2014 Plans:*** Plans and implements comprehensive Modernization contractor testing (in-plant integration and test, functional testing, security testing, etc.) on the AOC 10.2 baseline, to include test planning, conducting test, and documentation review.	-	0.922	-
Title: AOC WS Inc 10.2 Training ***Description:*** Training ***FY 2013 Accomplishments:*** N/A ***FY 2014 Plans:*** N/A	-	-	-
Accomplishments/Planned Programs Subtotals	-	58.861	-

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 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 Program Element (Number/Name)** PE 0604458F / *Air & Space Ops Center*

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 0207410F: *Air and Space Operations Center Weapon System (AOC WS), Project 675117*	49.329	-	-	-	-	-	-	-	-	-	181.323
• RDTE: BA05: PE 0605458F: *Air & Space Operations Center Inc 10.2, Project 654945*	-	-	85.938	-	85.938	47.946	-	-	-	-	-
• OPAF: BA03: Line Item # 834560: *Air & Space Operations Ctr - Inc 10.2*	-	-	-	-	-	24.405	51.283	43.585	32.313	286.388	437.974

Remarks

E. Acquisition Strategy

The acquisition strategy builds on existing capabilities using evolutionary acquisition to standardize, modernize and sustain the AOC. The AOC Modernization Contract was competitively awarded on 25 October 2011, but due to contract protests and associated delays, the actual start date was 20 December 2011. The Modernization contractor is using a system of systems perspective, and is following systems engineering rigor, to evolve AOC to a Net-Centric environment, compliant with DoD Service Oriented Architecture (SOA) standards.

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 / 4	R-1 Program Element (Number/Name) PE 0604458F / *Air & Space Ops Center*	Project (Number/Name) 644945 / *AOC Inc 10.2*	

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
AOC 10.2 Modernization	C/Various	Various : Various,	0.000	-		6.648	Oct 2013	-		-		-	-	6.648	TBD
AOC 10.2 Modernization Contract	C/Various	Northrop Grumman : Herndon, VA	0.000	-		41.154	Oct 2013	-		-		-	-	41.154	TBD
Training	C/Various	Various : Various,	0.000	-		-		-		-		-	-	-	TBD
		Subtotal	0.000	-		47.802		-		-		-	-	47.802	-

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	Various	Various : Various,	0.000	-		0.922	Oct 2013	-		-		-	-	0.922	TBD
		Subtotal	0.000	-		0.922		-		-		-	-	0.922	-

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	SS/ Various	MITRE : Bedford, MA	0.000	-		4.709	Oct 2013	-		-		-	-	4.709	TBD
Program Management Administration	Various	Various : Hanscom AFB, MA	0.000	-		5.428	Oct 2013	-		-		-	-	5.428	TBD
		Subtotal	0.000	-		10.137		-		-		-	-	10.137	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 4	R-1 Program Element (Number/Name) PE 0604458F / *Air & Space Ops Center*	Project (Number/Name) 644945 / *AOC Inc 10.2*	

	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	-		58.861		-		-		-	-	58.861	-

Remarks

In FY 2014, Project Number 644945, AOC Increment 10.2, efforts were transferred from PE 0207410F, AOC WS, project number 675117 in order to improve transparency of ACAT 1 Acquisition programs.

In FY 2015, PE 0604458F, Air & Space Ops Center project number 644945 AOC Increment 10.2, development efforts were transferred to PE 0605458F Air & Space Ops Center 10.2, project number 654945, AOC 10.2 Development, in order to align post Milestone B development efforts with funding in RDT&E Budget Activity 05, System Development & Demonstration (SDD).

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 4	**R-1 Program Element (Number/Name)** PE 0604458F / *Air & Space Ops Center*	**Project (Number/Name)** 644945 / *AOC Inc 10.2*

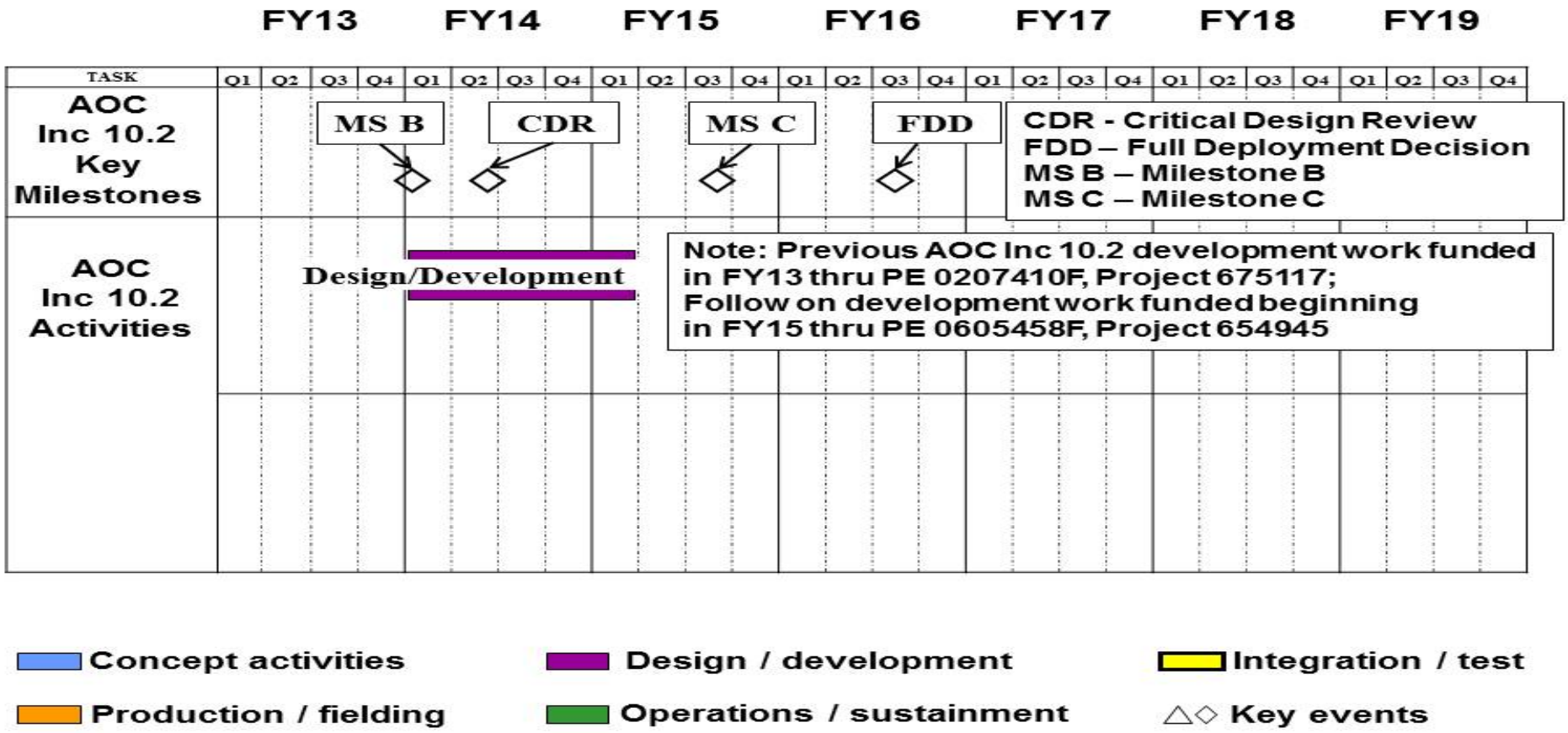

Exhibit R-4A, RDT&E Schedule Details: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 4	**R-1 Program Element (Number/Name)** PE 0604458F / *Air & Space Ops Center*	**Project (Number/Name)** 644945 / *AOC Inc 10.2*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
AOC Inc 10.2 Milestone B (MS B)	1	2014	1	2014
AOC Inc 10.2 Design/Development	1	2014	1	2015
AOC Inc 10.2 Critical Design Review (CDR)	2	2014	2	2014
AOC Inc 10.2 Milestone C (MS C)	3	2015	3	2015
AOC Inc 10.2 Full Deployment Decision (FDD)	3	2016	3	2016

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 4: *Advanced Component Development & Prototypes (ACD&P)*					R-1 Program Element (Number/Name) PE 0604618F / *Joint Direct Attack Munition*							
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	-	2.500	-	-	-	-	-	-	-	-	2.500
674138: *JDAM DEVELOPMENT*	0.000	-	2.500	-	-	-	-	-	-	-	-	2.500
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		
MDAP/MAIS Code: 503												

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

Note

A. Mission Description and Budget Item Justification

The 5000 lb demonstration is an integration of BLU-113 warhead with an existing production tail kit, scaled if necessary from smaller or larger warhead control design, to provide accurate, precision, reliable, hard target penetration capability. The required accuracy shall be "JDAM like" as defined by the operational requirements community. The greater overall system performance will tighten dispersion capability where multiple weapons are released from the same aircraft on the same pass, and hit the same impact crater. The Blu 113 is an objective requirement in the 2002 ORD JDAM Operational Requirements Document (ORD). Weapon system will have an identical Concept of Operations (CONOPS) as existing USAF inventory for Global Positioning System-aided Inertial Navigation System (GPS- aided INS) weapons, and compatibility with aircraft Operational Flight Profile (OFP).

This program is in Budget Activity 4, Advanced Componnent Development and Prototypes (ACD&P) because efforts are necessary to evaluate integrated technologies, representative modes or prototype systems in a high fidelity and realistic operating environment.

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	-	2.500	2.500	-	2.500
Current President's Budget	-	2.500	-	-	-
Total Adjustments	-	-	-2.500	-	-2.500
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-	-	-2.500	-	-2.500

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 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 Program Element (Number/Name)** PE 0604618F / *Joint Direct Attack Munition*

Change Summary Explanation

FY15 adjustment - funding transfered to proper Budget Activity 7, PE64618F

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: JDAM	-	2.500	-
Description: The 5000 lb demonstration is an integration of the BLU-113 warhead with a guidance kit that provides accurate, reliable, tight dispersion, hard target penetration capability. JDAM accuracy expands the drill down CONOPS used by the GBU-31 (2000 lb class warhead) to a 5000 lb concept, holding harder and deeper targets at risk. This is an objective requirement of the 2001 JDAM ORD. The 5000 lb weapon expands USG capability using JDAM proven performance, identical CONOPS as existing JDAM inventory, and compatibility with aircraft Operational Flight Profile (OFP). 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. ***FY 2014 Plans:*** Design a BLU-113 conversion kit including BLU-113 strake assembly, BLU-113 umbilical cover, and BLU-113 wire harness extension and develop a unique Operational Flight Profile (OFP) with modified autopilot that provides JDAM like performance.			
Accomplishments/Planned Programs Subtotals	-	2.500	-

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
• RDT&E: BA 07: PE 0604618F: *JDAM Development*	-	-	2.469	-	2.469	-	-	-	-	-	-

Remarks

E. Acquisition Strategy

Effort will be executed under a firm fixed price contract and will be a sole source activity.

F. Performance Metrics

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

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 4	R-1 Program Element (Number/Name) PE 0604618F / *Joint Direct Attack Munition*	Project (Number/Name) 674138 / *JDAM DEVELOPMENT*	

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
Software Development and Hardware Fabrication	SS/TBD	TBD : ,	0.000	-		2.337	Jan 2015	-		-		-	-	2.337	-
		Subtotal	0.000	-		2.337		-		-		-	-	2.337	-

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	Not specified. : ,	0.000	-		0.163	Apr 2014	-		-		-	-	0.163	-
		Subtotal	0.000	-		0.163		-		-		-	-	0.163	-

	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	-		2.500		-		-		-	-	2.500	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 4	**R-1 Program Element (Number/Name)** PE 0604618F / *Joint Direct Attack Munition*	**Project (Number/Name)** 674138 / *JDAM DEVELOPMENT*

5K Demo Schedule

War-Winning Capabilities…On Time, On Cost

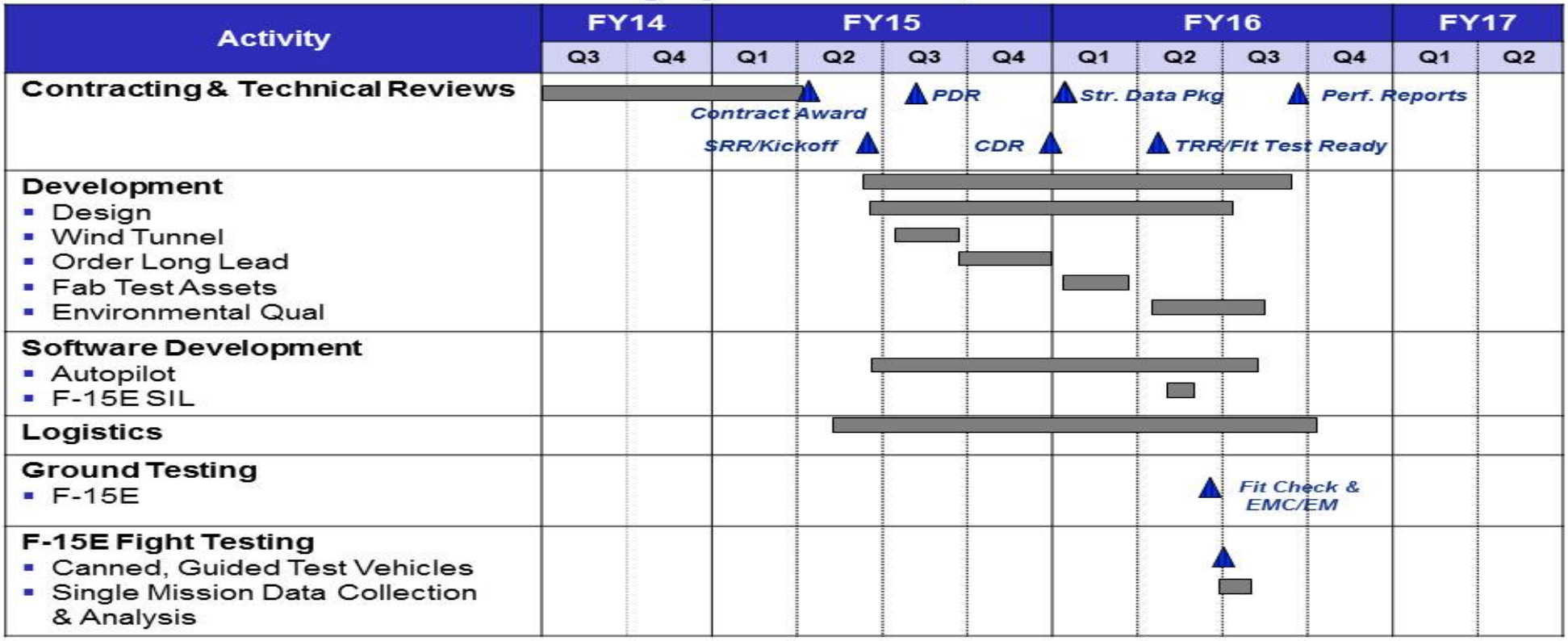

Exhibit R-4A, RDT&E Schedule Details: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 4	**R-1 Program Element (Number/Name)** PE 0604618F / *Joint Direct Attack Munition*	**Project (Number/Name)** 674138 / *JDAM DEVELOPMENT*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Requirements Development	3	2014	4	2014
Airframe Design	2	2015	3	2016
Hardware Fabrication	1	2016	1	2016
Wind Tunnel Testing	3	2015	3	2015
Aero Database Development	2	2015	3	2016
Autopilot & OFP Development	2	2015	3	2016
Weapons Build Up	1	2016	1	2016
Flight Certification	2	2016	2	2016
Flight Test	2	2016	3	2016
Quick Look Analysis Report	4	2016	4	2016

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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 4: *Advanced Component Development & Prototypes (ACD&P)*					R-1 Program Element (Number/Name) PE 0604635F / *Ground Attack Weapons Fuze 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	-	8.657	17.764	-	-	-	-	-	-	-	-	26.421
645312: *Hard Target Void Sensing Fuze*	-	8.657	17.764	-	-	-	-	-	-	-	-	26.421
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

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

Note

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 the funds in the correct Budget Activity, BA05, which supports Engineering, Manufacturing, and Development (EMD).

A. Mission Description and Budget Item Justification

The Hard Target Void Sensing Fuze (HTVSF) is an advanced system designed to provide fuzing and void sensing functions for legacy penetrator weapons to destroy hardened targets protected by multiple layers of soil and/or reinforced concrete. The HTVSF will also provide in-flight cockpit programmability, safing and arming, multi-function (time delay and void sensing) and multi-delay arming. Program Element funding currently supports the Engineering, Manufacturing, and Development (EMD) effort for HTVSF. The program was created to include the whole spectrum of fuze development.

This program is in Budget Activity 4, Advanced Component Development and Prototypes (ACD&P) because efforts are necessary to evaluate integrated technologies, representative modes or prototype systems in a high fidelity and realistic operating environment.

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	9.423	21.175	7.808	-	7.808
Current President's Budget	8.657	17.764	-	-	-
Total Adjustments	-0.766	-3.411	-7.808	-	-7.808
• Congressional General Reductions	-0.012	-			
• Congressional Directed Reductions	-	-3.411			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.234	-			
• Other Adjustments	-0.520	-	-7.808	-	-7.808

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 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 Program Element (Number/Name)** PE 0604635F / *Ground Attack Weapons Fuze Development*

Change Summary Explanation

FY 2013, Other Adjustment Row: -$ .520M, Sequestration

FY 2014, Congressional Directed Reductions Row: -$3.411M, Program reduction

FY 2015, Other Adjustment Row: -$7.808M, 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 the funds in the correct Budget Activity, BA05, which supports Engineering, Manufacturing, and Development (EMD).

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: HTVSF Development ***Description:*** Conduct HTVSF Engineering, Manufacturing, and Development (EMD) effort. ***FY 2013 Accomplishments:*** Continued EMD program effort to develop a joint use Air Force/Navy item to interface with legacy penetrator weapons to provide a capability to survive a 5K - 15K psi penetration environment and detonate in a specific void inside the target or at a specific delay time programmed into the fuze. ***FY 2014 Plans:*** Continue EMD program effort to develop a joint use Air Force/Navy item to interface with legacy penetrator weapons to provide a capability to survive a 5K - 15K psi penetration environment and detonate in a specific void inside the target or at a specific delay time programmed into the fuze. ***FY 2015 Plans:*** N/A	3.549	6.839	-
Title: Test Support ***Description:*** Build "hard" targets and execute sled/flight test range events. ***FY 2013 Accomplishments:*** Conducted Sled, Flight and Integration tests at Government facilities. These facilities included Eglin Air Force Base, Holloman Air Force Base, White Sands Missile Range, and Naval Weapons Station China Lake. ***FY 2014 Plans:*** Conduct HTVSF BLU 109/113 sled and flight developmental test program to include AFOTEC clearance, range support/ development, weapon recovery and target demolition. ***FY 2015 Plans:***	4.603	10.435	-

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 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 Program Element (Number/Name)** PE 0604635F / *Ground Attack Weapons Fuze Development*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
N/A			
Title: External Support ***Description:*** Provide specialized expertise in manufacturing, testing and safety support for the HTVSF EMD program. Contracted for munitions-specific expertise to ensure testing can be meaningfully evaluated. ***FY 2013 Accomplishments:*** Provided specialized expertise in manufacturing, testing and safety support for the HTVSF EMD program. ***FY 2014 Plans:*** Provide expertise in manufacturing, testing, management and analysis support, and safety support for BLU 109/113 flight developmental testing. ***FY 2015 Plans:*** N/A	0.505	0.490	-
Accomplishments/Planned Programs Subtotals	8.657	17.764	-

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: BA05: PE 0605214F: *Ground Attack Weapons Fuze Development*	-	-	5.332	-	5.332	3.622	0.954	-	-	-	9.908
• PAAF: BA01: Line Item # 356120: *Fuzes*	-	19.280	38.500	-	38.500	39.512	41.616	41.616	-	-	-

Remarks

- PAAF dollars in War Reserve Materiel (WRM; Fuzes) fund initial procurement of 475/475/1250/1400/1400 units. FY14 - FY18.

- Navy PE 050120 to fund 50/225/225 units FY 2014/FY 2015/FY 2016.

E. Acquisition Strategy

EMD Awarded to Alliant TechSystems Operations LLC
Estimated Contract completion date: 24 May 2014
Fixed Price Incentive Firm
Estimated Contract Length - 37 months

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 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 Program Element (Number/Name)** PE 0604635F / *Ground Attack Weapons Fuze Development*

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 / 4	**R-1 Program Element (Number/Name)** PE 0604635F / *Ground Attack Weapons Fuze Development*	**Project (Number/Name)** 645312 / *Hard Target Void Sensing Fuze*

HTVSF Schedule

War-Winning Capabilities…On Time, On Cost

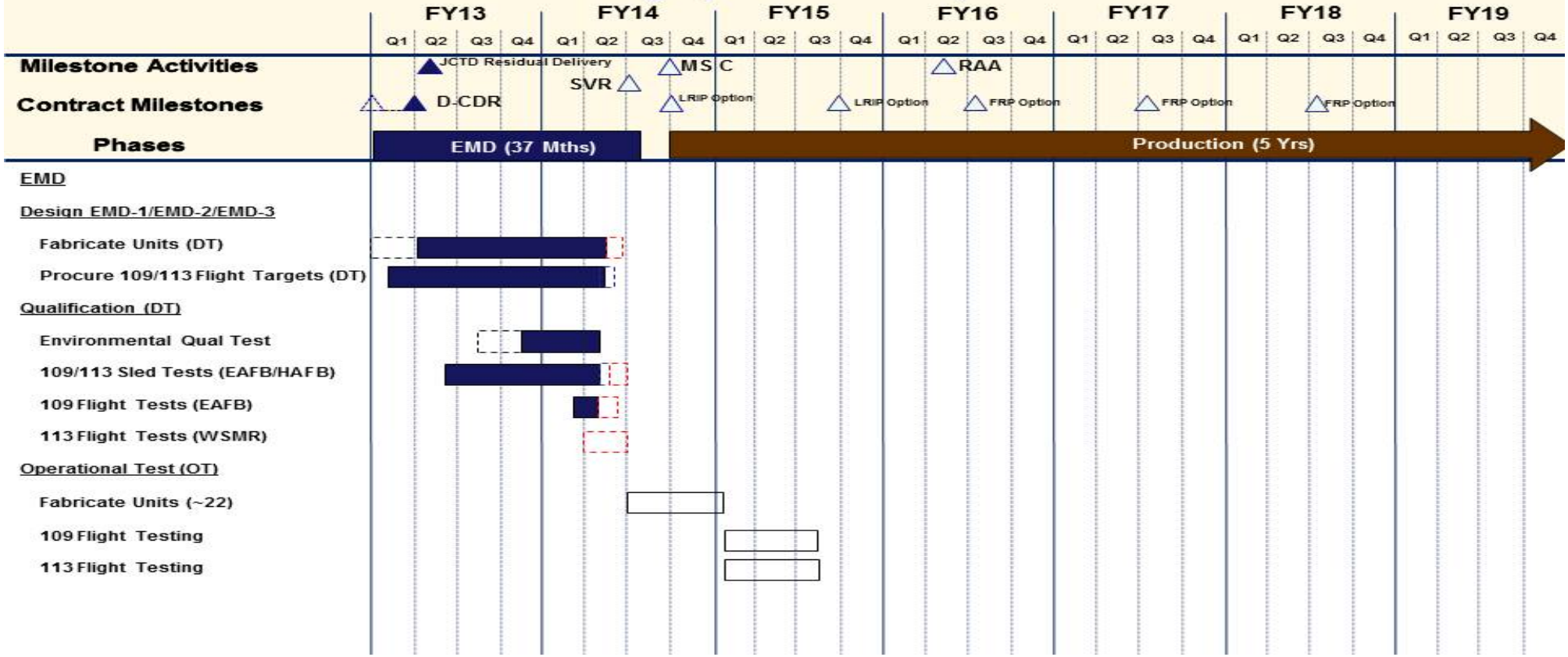

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Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force											Date: March 2014	
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 4: *Advanced Component Development & Prototypes (ACD&P)*					R-1 Program Element (Number/Name) PE 0604800F / *F-35 - EMD*							
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	-	-	4.976	-	4.976	4.979	-	-	-	Continuing	Continuing
653831: *Joint Strike Fighter*	0.000	-	-	4.976	-	4.976	4.979	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		
MDAP/MAIS Code: 198												

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

Note

A. Mission Description and Budget Item Justification

The funding in this line was inadvertently loaded into BA04. The Air Force plans to execute the funding in BA05 if appropriated. Refer to the exhibit at Line No 75, 0604800F, F-35 - EMD, for justification for this funding.

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	-	-	4.976	-	4.976
Total Adjustments	-	-	4.976	-	4.976
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-	-	4.976	-	4.976

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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 4: *Advanced Component Development & Prototypes (ACD&P)*					R-1 Program Element (Number/Name) PE 0604857F / *Operationally Responsive 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	-	96.209	10.000	-	-	-	-	-	-	-	Continuing	Continuing
64A020: *AF Funded ORSSats*	-	96.209	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

The successful integration of space-based capabilities into the core of U.S. national security operations has resulted in dramatically increased demand for and dependence upon space capabilities. As a result, U.S. Strategic Command (USSTRATCOM) identified three needs: 1) to rapidly augment existing space capabilities when needed to expand operational capability; 2) to rapidly reconstitute/replenish critical space capabilities to preserve "continuity of operations" capability; 3) to rapidly exploit and infuse space technological or operational innovations to increase U.S. advantage. Operationally Responsive Space projects were optimized for prioritized theater use and/or surge, augmentation and replenishment of traditional space capabilities. The ORS Concept of Operations (CONOPS) drives the need for satellites featuring high degrees of modularity, standard interface vehicles, and the use of plug and play payloads and buses.

The Air Force will continue to maintain ORS-1, launched 29 Jun 2011 to respond to U.S. Central Command's (USCENTCOM's) urgent need, validated by USSTRATCOM, to provide intelligence, surveillance, and reconnaissance (ISR) for theater warfighters. The additional ORS Office efforts of maturing enabling elements will be descoped and the knowledge base will be transitioned as appropriate to other space programs including Global Positioning System, Advanced EHF Milsatcom, Space Based Infrared System, Space Control Technology, and the rest of the space architecture.

ORS projects provide a broad range of capabilities directly supporting warfighter needs. Potential missions include communications, data exfiltration; blue/friendly-force situational awareness; maritime domain awareness; positioning, navigation, and timing; weather; and battlefield ISR. The highest priorities of the ORS Office are the completion of the Modular Space Vehicle (MSV) Bus development, launch of the ORS-3 Enabler and ORS-4 Super Strypi missions, development of the $60M next generation ORS mission, and the low cost manufacturing initiative. The remaining priorities for the ORS office are to satisfy the high priority needs for augmentation and reconstitution, such as Missile Warning, Wideband Protected Communication, Narrowband Communication, Space Situational Awareness, and Electro-Optical/Infrared (EO/IR) imagery.

The capabilities planned for Modular Payload mission kits were selected to systematically mature the ORS enabling elements to fully meet the USSTRATCOM specified responsiveness timelines and the 2007 NDAA cost targets. This includes the development of a modular open system architecture employing plug and play standards, such as a Rapid Response Space Works, a modular space vehicle (MSV) and integration with the Multi-Mission Satellite Operations Center (MMSOC).

ORS is working with the University of Hawaii's (U of H) Hawaii Space Flight Laboratory and Sandia National Laboratory on the Super Strypi small launch vehicle to orbit the U of H's HiakaSat environmental monitoring satellite.

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 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 Program Element (Number/Name)** PE 0604857F / *Operationally Responsive Space*

This program is in Budget Activity 04, Advanced Component Development and Prototypes, because the efforts are necessary to evaluate integrated technologies, representative modes, and prototype systems in a high fidelity and realistic environment.

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	96.209	10.000	-	-	-
Total Adjustments	96.209	10.000	-	-	-
• Congressional General Reductions	-0.139	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	105.000	10.000			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-8.652	-	-	-	-

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2013	FY 2014
Project: 64A020: *AF Funded ORSSats*		
Congressional Add: *ORS: Tier-1*	1.901	-
Congressional Add: *ORS: Tier-2*	2.200	-
Congressional Add: *ORS: Tier-3*	72.899	10.000
Congressional Add: *ORS: Cross Cutting*	19.209	-
Congressional Add Subtotals for Project: 64A020	96.209	10.000
Congressional Add Totals for all Projects	96.209	10.000

Change Summary Explanation

FY2013: +$105M Congressional add to continue ORS program; -$8.652M for sequestration; -$0.139M for CGR

FY2014: +$10M Congressional add for authorization adjustment

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014
Congressional Add: ORS: Tier-1	1.901	-

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 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 Program Element (Number/Name)** PE 0604857F / *Operationally Responsive Space*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014
FY 2013 Accomplishments: Coordinated integration of ORS Tier-1 solutions, experiments and demonstrations into COCOMs and Component exercises and operations in order to establish visibility and socialization of ORS concepts and solutions. Developed CONOPs for COCOM use of assets. Supported COCOM wargames. Transfered the automated Toolkit to the Joint Space Operations Center Mission System. Conducted Geographic Combatant Command (GCC) and space community engagements. Documented ORS Transition standards. Developed Operational Capabilities Transitions framework for ORS missions. Supported the development of the Responsive Space International Memorandum of Understanding (MOU). Completed Skybox Joint Military Utility Assessment (JMUA). Developed and executed Surveillance, Exploitation and Assessment for Maritime Interdiction of Surface Targets (SEA MIST) demonstrations.		
Congressional Add: ORS: Tier-2 ***FY 2013 Accomplishments:*** Completed successful Operational Readiness Proof Testing of the Rapid Response Space Works (RRSW) concept of rapid/efficient/adaptable response to urgent needs utilizing mass mockup bus and payload hardware with innovative technology. Initiated a fully functional High Bay clean room satellite assembly, integration and test facility at Kirtland AFB; ready for operation utilizing the efficiency concepts, tooling, and processes developed for rapid urgent response and cost effective buildup. Co-sponsored innovative space cost reduction studies in the areas of Open Manufacturing, Autonomous Flight Safety Systems, Low-Cost Communications for SmallSat networks, Common NanoSat Avionics Technologies, and COTS-based Tactical Force Tracking system for Command and Control. Created an automated conversion application that builds the command and telemetry database from component electronic data sheets for incorporation into mission unique flight software. Characterized ORS-2 Bus capability and limitations for expanded payload options.	2.200	-
Congressional Add: ORS: Tier-3 ***FY 2013 Accomplishments:*** Completed the required analysis with USSTRATCOM to identify potential future missions. Initiated the ORS-5 mission demonstrating a space situational awareness payload to meet a USSTRATCOM validated urgent need, address rapidly evolving threats, and serve as a pathfinder in this vital mission area. Completed and delivered the MSV multi-mission Bus and its associated hardware (space common data link radio) along with the Gryphon cryptology unit (software based encryption for satellite command and control) to the ORS Rapid AI&T facility. Launched the ORS-3 Enabler Mission demonstrating automated trajectory development, rapid range safety plottin, and an on-board Autonomous Flight Safety System (AFSS). ORS-3 also launched the Air Force's Space Test Program Satellite-3 and 28 cubesats, including first demonstration of Gryphon cryptology unit. Continued the ORS-4 Super Strypi launcher (also employing an AFSS) to launch a 300Kg microsatellite class space vehicle; includes the development of a new rail launcher,	72.899	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 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 Program Element (Number/Name)** PE 0604857F / *Operationally Responsive Space*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014
and installation of a new launch pad at the Pacific Missile Range Facility (PMRF), the University of Hawaii's HiakaSat primary payload and an additional 11 CubeSats flying as secondary payloads. ***FY 2014 Plans:*** Continued the ORS-5 mission to develop the USSTRATCOM validated, ORS Executive Committee approved payload for space situational awareness. Continued the ORS-4 Super Strypi launcher (employing an Autonomous Flight Safety System) to launch a 300Kg microsatellite class space vehicle; includes the development of a new rail launcher, and installation of a new launch pad at the Pacific Missile Range Facility (PMRF), the University of Hawaii's HiakaSat primary payload and an additional 11 CubeSats flying as secondary payloads.		
Congressional Add: ORS: Cross Cutting ***FY 2013 Accomplishments:*** Continued Systems Engineering/Program Management (SEPM) Independent Verification & Validation (IV&V) for ORS rapid Assembly, Integration and Test (AI&T) capability and the MSV. Continued ongoing systems engineering support of future mission development. Continued ORS-1 Mission Operations and Lessons Learned studies. Conducted Modeling and Simulations for Mission Evaluations for ORS Mission Kits. Refined ORS CONOPS, Enterprise and Architecture, and Systems Engineering Processes. Led, participated in, and supported, as appropriate, the solidification of space doctrine.	19.209	-
Congressional Adds Subtotals	96.209	10.000

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: 0603430F: *Advanced EHF MILSATCOM (SPACE)*	1.500	-	-	-	-	-	-	-	-	-	1.500
• RDTE: BA04: 0603438F: *Space Control Technology*	-	2.000	-	-	-	-	-	-	-	Continuing	Continuing
• RDTE: BA04: 0604858F: *Tech Transition Program*	-	3.000	3.000	-	3.000	3.000	3.000	3.000	3.000	Continuing	Continuing
• RDTE: BA05: 0604441F: *Space Based Infrared System (SIBRS) High EMD*	2.000	2.000	2.000	-	2.000	2.000	2.000	2.000	2.000	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 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 Program Element (Number/Name)** PE 0604857F / *Operationally Responsive 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
• RDTE: BA07: 0603423F: *Global Positioning System III - Operational Control Segment*	1.500	1.500	1.500	-	1.500	1.500	1.500	1.500	1.500	Continuing	Continuing

Remarks

E. Acquisition Strategy

Expeditiously award contracts through ORS Office or partner organizations.

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 / 4	**R-1 Program Element (Number/Name)** PE 0604857F / *Operationally Responsive Space*	**Project (Number/Name)** 64A020 / *AF Funded ORSSats*

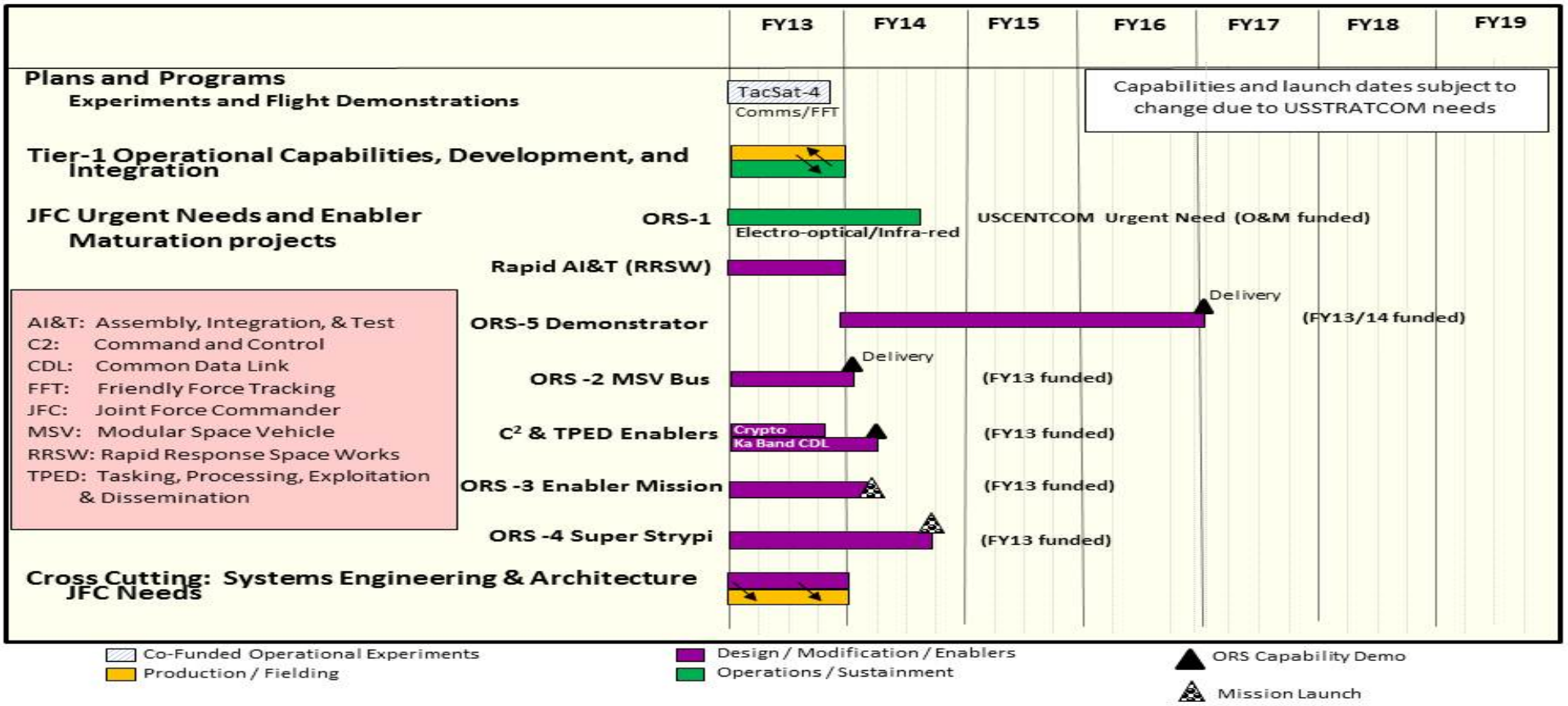

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force											Date: March 2014	
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 4: *Advanced Component Development & Prototypes (ACD&P)*					R-1 Program Element (Number/Name) PE 0604858F / *Tech Transition 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	-	82.278	48.636	59.004	-	59.004	78.153	156.434	504.780	668.134	Continuing	Continuing
645350: *Transition Prioritization*	-	82.278	48.636	59.004	-	59.004	78.153	156.434	504.780	668.134	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 Technology Transition Program (TTP) provides funding to mature and demonstrate technologies to enable or accelerate their transition to legacy or acquisition programs of record. It addresses the gap that exists between when a technology is first demonstrated and when it can be successfully acquired as an operational capability. TTP bridges that gap by funding promising system and subsystem concepts for technology integration and demonstration to continue beyond the laboratory. It allows acquisition program managers (the developers and providers) and warfighters (the end users) to integrate, prototype, and demonstrate candidate technologies and assess them in an operational environment. As a result, the warfighters can assess the capability first-hand and accurately fund the follow-on acquisition program during the next budgeting cycle. TTP includes research and development funds for the following transition activities: prototyping of promising, high-priority concepts and technologies in an operational environment to lower acquisition risk by raising the technology readiness level; performing pre-acquisition systems engineering to facilitate transition from a demonstration program into acquisition programs of record; assessing interface requirements of candidate concepts, technologies, and demonstration projects to better understand true engineering costs resulting from insertion of new technologies into the Air Force architecture; and capturing data through information technology tools and databases to help formulate strategies and gather proposals for development that have the potential to perform Department of Defense (DoD) missions. The program provides funding to mature adaptive turbine engine technologies for next generation propulsion systems. The program will leverage adaptive turbine engine science and technology demonstrations to develop a multi-platform common adaptive engine built around a commercially derived core. It will enable multiple high confidence engine acquisition programs through the common engine architecture, and accomplishment of early risk reduction and early competition prior to an acquisition program. This program is in Budget Activity 4, Advanced Component Development and Prototypes (ACD&P) because efforts are necessary to evaluate integrated technologies, representative modes or prototype systems in a high fidelity and realistic operating 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 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 Program Element (Number/Name)** PE 0604858F / *Tech Transition Program*

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	37.558	13.636	59.741	-	59.741
Current President's Budget	82.278	48.636	59.004	-	59.004
Total Adjustments	44.720	35.000	-0.737	-	-0.737
• Congressional General Reductions	-0.121	-			
• Congressional Directed Reductions	-3.000	-			
• Congressional Rescissions	-	-			
• Congressional Adds	57.000	35.000			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.982	-			
• Other Adjustments	-8.177	-	-0.737	-	-0.737

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2013	FY 2014
Project: 645350: *Transition Prioritization*		
Congressional Add: *Alternative Energy Research*	33.501	35.000
Congressional Add: *Coal to Liquid Fuel*	18.109	-
Congressional Add Subtotals for Project: 645350	51.610	35.000
Congressional Add Totals for all Projects	51.610	35.000

Change Summary Explanation

FY13 reductions in Other Adjustments was due to Sequestration.

FY13 Congressional Directed Reduction was a transfer to Operationally Responsive Space.

In FY13, Congressional Adds ($37M for Alternative Energy Research and $20M for Coal-to-Liquid fuel only for lower emission research) were tech adjusted from the Support Systems Development Program, 0708012F, to TTP to better align research efforts.

In FY14, Congressional Add of $25M was appropriated to Tech Transition PE for Alternate Energy Research. Congressional Add of $10M for Alternate Energy Research was tech adjusted from the Support Systems Development Program, 0708012F, to TTP to better align research efforts.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Propulsion Technology Transition	30.668	13.636	59.004

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 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 Program Element (Number/Name)** PE 0604858F / *Tech Transition Program*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Description: Next generation fuel efficient military propulsion system. ***FY 2013 Accomplishments:*** Accomplished an adaptive turbine engine prototype conceptual design. Performed engine configuration definition and component conceptual design. Completed early performance, durability, and operability assessments. ***FY 2014 Plans:*** Complete component risk reduction and core engine prelimenary design. Continue preliminary engine design activities, as well as weapons systems integration, common core studies, and material manufacturing readiness activities. ***FY 2015 Plans:*** Complete preliminary design reviews of engine concepts to mature adaptive engine technologies and manufacturing readiness. Purchase materials and hardware to support adaptive engine component rig tests and future adaptive engine core tests.			
Accomplishments/Planned Programs Subtotals	30.668	13.636	59.004

	FY 2013	FY 2014
Congressional Add: Alternative Energy Research ***FY 2013 Accomplishments:*** Conducted congressionally directed effort. ***FY 2014 Plans:*** Conduct congressionally directed effort.	33.501	35.000
Congressional Add: Coal to Liquid Fuel ***FY 2013 Accomplishments:*** Conducted congressionally directed effort.	18.109	-
Congressional Adds Subtotals	51.610	35.000

D. Other Program Funding Summary ($ in Millions)

N/A

Remarks

E. Acquisition Strategy

Technology Transition Program (TTP) enables a more effective and prioritized transition of technologies to the warfighter. It allows more accurate cost estimating and more comprehensive systems integration to occur through the use of prototypes and user assessments until the sponsoring major command can incorporate the technology into their subsequent budget submission. The Air Force, through appropriate program offices, will manage the acquisition and development process for the integration and fielding of Service Acquisition Executive approved TTP projects.

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 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 Program Element (Number/Name)** PE 0604858F / *Tech Transition Program*

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 / 4	**R-1 Program Element (Number/Name)** PE 0604858F / *Tech Transition Program*	**Project (Number/Name)** 645350 / *Transition Prioritization*

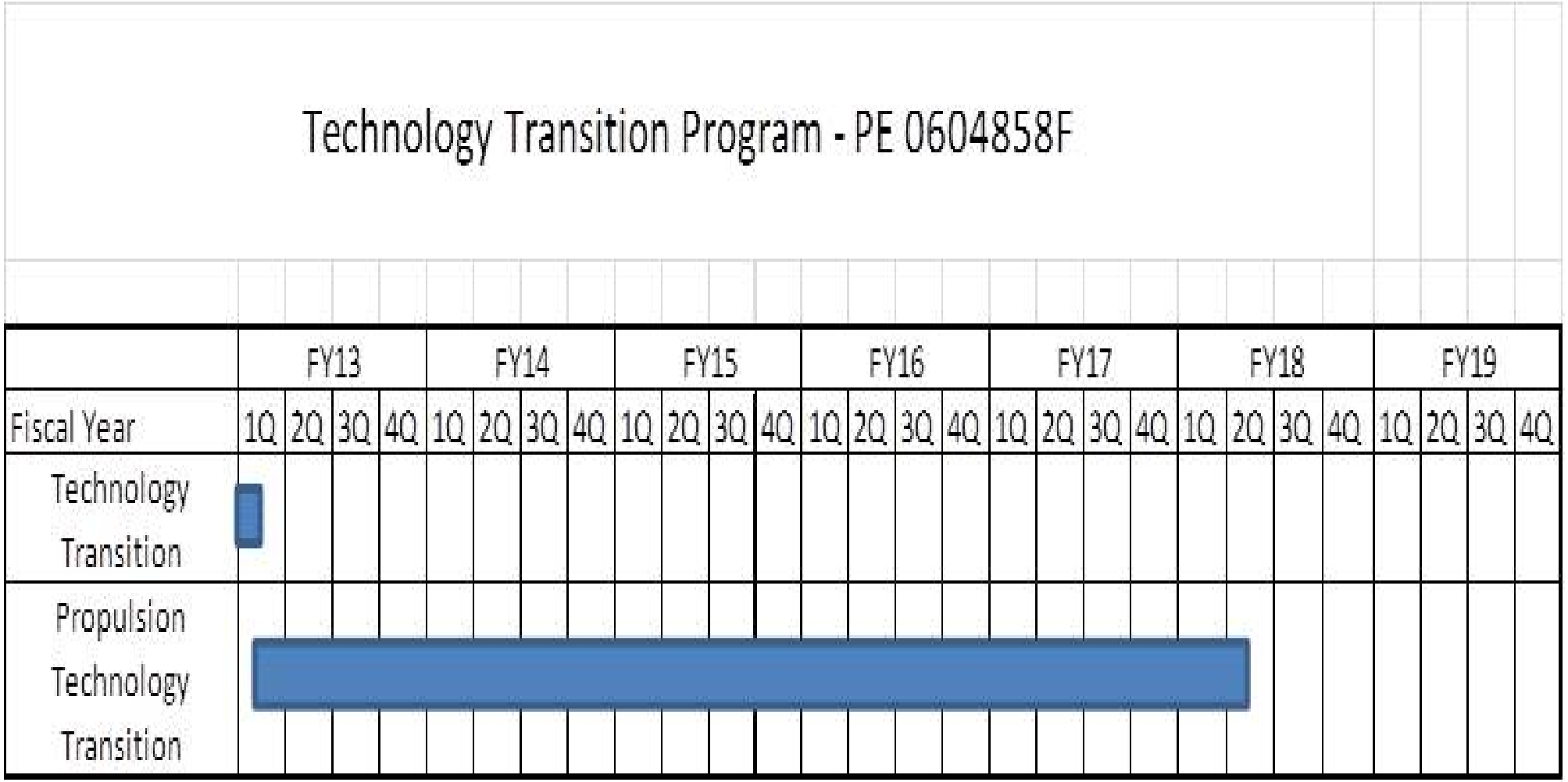

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Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force											Date: March 2014	
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 4: *Advanced Component Development & Prototypes (ACD&P)*					R-1 Program Element (Number/Name) PE 0105921F / *Service Support to STRATCOM - Space 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	-	-	2.779	-	-	-	-	-	-	-	Continuing	Continuing
643833: *Joint NavWar Center*	-	-	2.779	-	-	-	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		
MDAP/MAIS Code: 447												

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

Note

In 2015, Projet 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.

A. Mission Description and Budget Item Justification

Navigation Warfare (NAVWAR) is deliberate defensive and offensive action to assure and prevent positioning, navigation, and timing (PNT) information through coordinated employment of space, cyberspace, and electronic warfare (EW) operations. The term NAVWAR is sometimes equated with "PNT Superiority". The Joint Navigation Warfare Center (JNWC) was established by DEPSECDEF Memo, 17 November 2004, as the DoD Center of Excellence, tasked to integrate and coordinate NAVWAR PNT capabilities across electronic spectrum, cyberspace, and space operations. NAVWAR leverages various techniques and technologies from these mission areas to negate or prevent hostile use of PNT information and protect unimpeded use of PNT information by U.S., Allied, and Coalition Forces while not unduly disrupting peaceful use outside an area of operation. The JNWC develops and maintains the Department's premier collection of NAVWAR knowledge, and provides subject matter expertise support to warfighters, Department decision makers, the Federal Interagency (the Department of Homeland Security and other civil agencies concerned with the Critical National Infrastructure), and the Coalition. NAVWAR expertise is developed in part by execution of PNT Operational Field Assessments (POFAs), modeling and simulation, analysis, and exercise and training support. In recent years, the Global Positioning System (GPS) has become one of the most critical enablers of modern advanced technology warfare. In an era where everything from advanced weapons systems and networks to basic goods and services are tracked, guided or disciplined by PNT systems such as GPS, NAVWAR is an ever increasing capability of interest and concern, especially if PNT systems are interrupted or lost. Likewise, as Global Navigation Satellite Systems (GNSS) proliferate, it becomes necessary to consider not only denying adversary use of GPS but also negating adversary use of alternate GNSS systems for PNT. Recent revisions to National Defense Strategy and Defense Planning Guidance require Combatant Commands to account for denied / degraded PNT environments in deliberate planning. Projecting force in the Asia-Pacific Region and other theaters of operation requires an understanding of how evolving global asymmetric anti-access / area denial (A2/AD) threats may affect joint warfighting functions. JNWC-conducted POFAs are a key element in evaluating Coalition NAVWAR capabilities and vulnerabilities and adversary capabilities and vulnerabilities, both crucial to executing PNT superiority mission sets in potentially denied / degraded PNT environments. JNWC helps develop defensive and offensive PNT capabilities by focusing on four Joint Mission Essential Tasks (JMETS):

1. Enable Defensive PNT Operations: enable operations that will protect blue force PNT capabilities.
2. Enable Offensive PNT Operations: enable PNT superiority capabilities that can take advantage of GNSS vulnerabilities.

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 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 Program Element (Number/Name)** PE 0105921F / *Service Support to STRATCOM - Space Activities*

3. Establish and Maintain PNT Situational Awareness (SA): assess current and projected blue force and red force PNT related capabilities.
4. Develop and Execute NAVWAR Operational Assessments and Analysis for Future NAVWAR Operations and conduct field assessments to evaluate blue force and red force capabilities and vulnerabilities.

The JNWC executes its assigned mission responsibilities through three lines of operation (LOO):

1. Create Knowledge for PNT Superiority: PNT operational field assessments, studies and analysis, assessment and dissemination of PNT related intelligence, and managing the PNT Superiority data repository
2. Operationalize PNT Superiority: Joint Force and Contingency Operations support to Combatant Commands, Services, and other customers through outreach; creating and demonstrating operational capability for PNT Superiority in the near term
3. Institutionalize PNT Superiority: Acquisition, policy, doctrine, and coalition support; creating the environment for robust PNT Superiority capability in the future

RDT&E funds, reinstated beginning in FY14, will be used primarily to support JMET #4, Develop and Execute NAVWAR Operational Assessments and Analysis for Future NAVWAR Operations and LOO #1, Create NAVWAR Knowledge. GYPSY POFAs are large, often integrated Coalition, assessments conducted to address Combatant Command OPLAN and CONPLAN related PNT capabilities and vulnerabilities in their anticipated theater threat environment. FORTUNE POFAs are smaller PNT capability and vulnerability assessments used as future GYPSY risk reduction events or as stand-alone PNT capability assessments.

This program is in Budget Activity 4, Advanced Component Development and Prototypes (ACD&P) because efforts are necessary to evaluate integrated technologies, representative modes or prototype systems in a high fidelity and realistic operating environment.

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	-	2.799	3.173	-	3.173
Current President's Budget	-	2.779	-	-	-
Total Adjustments	-	-0.020	-3.173	-	-3.173
• Congressional General Reductions	-	-0.020			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-	-	-3.173	-	-3.173

Change Summary Explanation

In 2015, Projet 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.

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 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 Program Element (Number/Name)** PE 0105921F / *Service Support to STRATCOM - Space Activities*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: PNT Operational Field Assessments (GYPSY) ***Description:*** The JNWC will investigate, operationally assess, and simulate potential threats and mitigation strategies for potential denial of blue force PNT capabilities as well as preventing the hostile use of Positioning, Navigation and Timing (PNT) information. This will be accomplished primarily through the use of operational field assessments, laboratories, employment of competitively selected contractors, universities, other government agencies, and Federally Funded Research and Development Centers (FFRDCs). ***FY 2013 Accomplishments:*** N/A ***FY 2014 Plans:*** GYPSY Juliet POFA will assess operational effects and effectiveness of red and blue force NAVWAR equipment in a live, joint environment; develop, assess and revise Joint NAVWAR Techniques, Tactics, and Procedures; upgrade NAVWAR Modeling and Simulation tools; provide Combatant Command staffs the expertise to inform planning and operations in a PNT denied area. ***FY 2015 Plans:*** No FY15 funding requested.	-	2.480	-
Title: PNT Operational Field Assessments (FORTUNE) ***Description:*** The JNWC will investigate, operationally assess, and simulate potential threats and mitigation strategies for potential denial of blue force PNT capabilities as well as preventing the hostile use of Positioning, Navigation and Timing (PNT) information. This will be accomplished primarily through the use of operational field assessments, laboratories, employment of competitively selected contractors, universities, other government agencies, and Federally Funded Research and Development Centers (FFRDCs). ***FY 2013 Accomplishments:*** N/A ***FY 2014 Plans:*** The FORTUNE Operational Field Assessments serve as a series of risk mitigation events as a lead up to the FY14 GYPSY Juliet POFA. FORTUNE POFAs are planned and executed to demonstrate various PNT system capabilities and platform vulnerabilities to increase the Joint Navigation Center's understanding of test objectives to be undertaken during a GYPSY event. ***FY 2015 Plans:***	-	0.299	-

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 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 Program Element (Number/Name)** PE 0105921F / *Service Support to STRATCOM - Space Activities*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
No FY15 funding requested.			
Accomplishments/Planned Programs Subtotals	-	2.779	-

D. Other Program Funding Summary ($ in Millions)

N/A

Remarks

E. Acquisition Strategy

No FY15 funding requested.

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 4: *Advanced Component Development & Prototypes (ACD&P)*					R-1 Program Element (Number/Name) PE 0201184F / *Counter Narcotics Technology Program Office*							
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	-	1.540	-	-	-	-	-	-	-	-	Continuing	Continuing
641403: *Counter Narcotics Technology Program Office*	-	1.540	-	-	-	-	-	-	-	-	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

Mission Description not provided.

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	1.540	-	-	-	-
Total Adjustments	1.540	-	-	-	-
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	1.540	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-	-	-	-	-

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Counter Narcotics Technology Program Office (CNTPO)	1.540	-	-
Description: Funding to support efforts of the CNTPO program office. ***FY 2013 Accomplishments:*** Funding to support efforts of the CNTPO program office.			
Accomplishments/Planned Programs Subtotals	1.540	-	-

D. Other Program Funding Summary ($ in Millions)

N/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 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 Program Element (Number/Name)** PE 0201184F / *Counter Narcotics Technology Program Office*

D. Other Program Funding Summary ($ in Millions)

Remarks

E. Acquisition Strategy

N/A

F. Performance Metrics

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

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force											Date: March 2014	
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 4: *Advanced Component Development & Prototypes (ACD&P)*					R-1 Program Element (Number/Name) PE 0207110F / *Next Generation Air Dominance*							
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	-	-	-	15.722	-	15.722	3.889	-	-	-	Continuing	Continuing
646007: *2030+ AIR DOMINANCE AOS*	-	-	-	15.722	-	15.722	3.889	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

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

Note

In FY15, a new BPAC 646007, 2030+ Air Dominance AOS was created. 2030+ Air Dominance AOS is an FY15 New Start.

A. Mission Description and Budget Item Justification

This program develops a next generation Air Dominance capability in support of the Air Force Air Dominance Concept of Operations, as directed in Joint Requirements Oversight Council Memorandum (JROCM) 043-13. Program efforts mitigate critical capability gaps identified in the March 2011 Air Force Next Generation Tactical AIR (TACAIR) Capabilities Based Assessment. This program will provide capability improvements in the areas of persistence, survivability, lethality, connectivity, interoperability, and affordability. A wide variety of concept options are being considered for an Air Dominance platform. Funding supports operational and system architecture development, maturation and risk reduction of advanced Air Dominance related technologies, and integrated system concept development and demonstration.

BA-04 - This program is in Budget Activity 4, Advanced Component Development and Prototypes (ACD&P) because efforts are necessary to evaluate integrated technologies, representative modes or prototype systems in a high fidelity and realistic operating environment.

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	-	-	15.722	-	15.722
Total Adjustments	-	-	15.722	-	15.722
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-	-	15.722	-	15.722

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 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 Program Element (Number/Name)** PE 0207110F / *Next Generation Air Dominance*

Change Summary Explanation

FY15 increase of $15.722 for the newly implemented 2030+ Air Dominance Concept Development effort.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: 2030+ Air Dominance Concept Development ***Description:*** 2030+ Air Dominance Concept Development consists of operational analyses, threat studies and technology candidate assessments to identify operational concepts and technologies that improve persistence, survivability, lethality, connectivity, interoperability and affordability in 2030 and beyond. This effort will provide for prime contractor support manpower to conduct analyses, identify technology candidates and complete concept studies. ***FY 2013 Accomplishments:*** N/A ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** The 2030+ Air Dominance Concept Development working groups will be methodically assessing the candidate concepts utilizing USAF directives and guidance	-	-	9.722
Title: Air Dominance Studies ***Description:*** Studies that support the 2030+AD program in refining system concepts and operational/system architectures to include family of systems and system of systems. ***FY 2013 Accomplishments:*** N/A ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** The 2030+AD candidate concepts are integrating leading edge technologies into yet to be finalized threat environments and scenarios. Studies that refine system concepts and operational/system architectures to include family of systems and system of systems are required in support of the Analysis of Alternatives.	-	-	1.000
Title: Air Dominance Technical Risk Reduction ***Description:*** Industry informed government concepts are accomplished through technical risk reduction work with prime contractors to refine integration and trade space as well as operational analysis to inform system performance trades.	-	-	5.000

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 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 Program Element (Number/Name)** PE 0207110F / *Next Generation Air Dominance*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
FY 2013 Accomplishments: N/A ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** 2030+ Air Dominance technology integration, operational and system trade space analysis required to support Concept Development.			
Accomplishments/Planned Programs Subtotals	-	-	15.722

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
• N/A: *None*	-	-	-	-	-	-	-	-	-	-	-

Remarks

E. Acquisition Strategy

The acquisition strategy is to develop next generation Air Dominance capabilities.

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 / 4	**R-1 Program Element (Number/Name)** PE 0207110F / *Next Generation Air Dominance*	**Project (Number/Name)** 646007 / *2030+ AIR DOMINANCE AOS*

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Air Dominance 2030+ Schedule

Phases	FY14	FY15	FY16	FY17	FY18	FY19
Pre-MDD		Program Staffing Security Org MDD Documentation				
Pre-AoA		Joint AoA Study Plan AF-specific study plans S&T gap / needs analysis				
AoA			AoA Start ▲ Effectiveness Analysis Risk Analysis Cost Analysis			
Milestone		▲ MDD			M/S A ▲ Technology Development	

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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 4: *Advanced Component Development & Prototypes (ACD&P)*					R-1 Program Element (Number/Name) PE 0207455F / *Three Dimensional Long-Range Radar (3DELRR)*							
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	-	54.191	88.825	-	88.825	98.250	68.613	24.790	35.734	-	370.403
646002: *Three Dimensional Expeditionary Long Range Radar*	0.000	-	54.191	88.825	-	88.825	98.250	68.613	24.790	35.734	-	370.403
Quantity of RDT&E Articles	0.000	-	3.000	-	-	-	-	-	-	-		
MDAP/MAIS Code: 393												

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

Note

In FY 2014, Project 646002, Three-Dimensional Expeditionary Long-Range Radar (3DELRR), efforts were transferred from PE 0604283F, Battle Management Command and Control (BMC2) Sensor Development, Project 646002, in order to provide this program its own Program Element.

A. Mission Description and Budget Item Justification

Beginning in FY 2014, PE 0207455F funds the development of the Three-Dimensional Expeditionary Long-Range Radar (3DELRR) which will replace the current legacy AN/TPS-75 radar. 3DELRR will be the principal United States Air Force (USAF) long-range, ground-based sensor for detecting, identifying, tracking, and reporting aerial targets for the Joint Force Air Component Commander (JFACC) through the Theater Air Control System (TACS). 3DELRR will respond to the operational need to detect and report highly maneuverable, small radar cross section targets to enable battlefield awareness while at the same time mitigating the reliability, maintainability, and sustainability issues plaguing the AN/TPS-75 radar system. 3DELRR will provide air controllers with a precise, real-time air picture of sufficient quality to conduct control of individual aircraft under a wide range of environmental and operational conditions. It will replace the aging USAF AN/TPS-75 radar system as the AN/TPS-75 is incapable of detecting some current and emerging threats. In addition, as the AN/TPS-75 is reaching the end of its service life, it is more difficult and costly to maintain. The United States Marine Corps (USMC) is considering 3DELRR as a potential replacement for the AN/TPS-59, at the end of its service life, to support the Marine Air-Ground Task Force (MAGTF) Commander through the Marine Air Command and Control System (MACCS).

3DELRR will address system sustainability, transportability and operational availability shortfalls while providing long-range surveillance, detection, and tracking of Air Breathing Targets (ABTs) and, potentially, Theater Ballistic Missiles (TBMs). This capability will support the USAF contribution to the primary roles of the Airspace Control Authority (ACA) and the Area Air Defense Commander (AADC) and enhance the USAF contributions to the Integrated Air and Missile Defense (IAMD) mission area. 3DELRR will contribute to the USAF critical role in the United States Government/DoD efforts to build partnership capacity via the Defense Exportability Features (DEF) pilot program. 3DELRR will provide the USAF Control and Reporting Center (CRC) and, if purchased by the USMC, the Composite Tracking Network (CTN), with real-time data to display air activity.

FY 2014 completes the Pre-EMD period of the TD phase. The EMD phase of the 3DELRR program begins after a MS-B decision in FY 2014. Acquisition activities for the EMD phase within the FY 2014 timeframe include, but are not limited to; MS-B preparation, MS-B decision, EMD contract award, Integrated Baseline Review (IBR),

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 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 Program Element (Number/Name)** PE 0207455F / *Three Dimensional Long-Range Radar (3DELRR)*

Critical Design Review (CDR), test planning/preparation and fabrication/test of system components. A CDR is conducted during this timeframe to ensure the program has properly matured the system design and is postured for successful development of three Production Representative Units (PRUs). Activities also include studies and analyses to support both current program planning and execution and future program planning.

This program is in Budget Activity 04, Advanced Component Development and Prototypes (ACD&P) because efforts are necessary to evaluate integrated technologies, representative modes or prototype systems in a high fidelity and realistic operating environment. Transition to Budget Activity 05 occurs after MS-B decision approval to enter the EMD Phase.

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	-	70.160	69.533	-	69.533
Current President's Budget	-	54.191	88.825	-	88.825
Total Adjustments	-	-15.969	19.292	-	19.292
• Congressional General Reductions	-	-0.236			
• Congressional Directed Reductions	-	-15.733			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-	-	19.292	-	19.292

Change Summary Explanation

In FY14 the Congression Directed Reduction was due to program delays
In FY14 the BY1 Other Adjustment was for program decrease (Sequestration)

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Technology Development (TD)/EMD Phases	-	41.970	80.722
Description: Technology Development (TD)/EMD efforts associated with delivering a new long-range ground-based sensor.			
FY 2013 Accomplishments: N/A			
FY 2014 Plans: Complete a limited competition source selection to award a single contract for the EMD Phase, MS-B preparation, and MS-B decision. Begin EMD Phase after MS-B decision. Acquisition activities for the EMD phase include, but are not limited to, Integrated Baseline Review (IBR), Delta Preliminary Design Review (PDR), Critical Design Review (CDR), test planning /preparation and			

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 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 Program Element (Number/Name)** PE 0207455F / *Three Dimensional Long-Range Radar (3DELRR)*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
fabrication/test of system components /subsystems. A CDR is conducted during this timeframe to ensure the program has properly matured the system design and is postured for successful development of 3 Production Representative Units (PRUs). Activities also include studies and analyses to support both current program planning and execution and future program planning. ***FY 2015 Plans:*** Acquisition activities for the EMD phase will include, but are not limited to, test planning /preparation, fabrication/test of system components /subsystems, continued efforts to insure the program has properly matured the system design and is postured for successful completion of 3 Production Representative Units (PRUs) to be delivered in FY16. Activities will also include studies and analyses to support both current program planning and execution and future program planning.			
Title: Test and Evaluation Support ***Description:*** Test and Evaluation Support ***FY 2013 Accomplishments:*** N/A ***FY 2014 Plans:*** Continue test and evaluation support activities for development of the test strategy and test related documentation, planning of future developmental test and evaluation events, information assurance planning, supporting contractor testing, and participation in technical and test-related working groups. ***FY 2015 Plans:*** Will Continue test and evaluation support activities for development of the test strategy and test related documentation, planning of future developmental test and evaluation events, information assurance planning, supporting contractor testing, and participation in technical and test-related working groups.	-	2.229	1.507
Title: Systems Engineering/Technical Support ***Description:*** Systems Engineering/Technical Support ***FY 2013 Accomplishments:*** N/A ***FY 2014 Plans:***	-	9.992	6.596

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 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 Program Element (Number/Name)** PE 0207455F / *Three Dimensional Long-Range Radar (3DELRR)*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Continue Engineering and Manufacturing efforts to further mature program technologies and manufacturing capabilities. Document and monitor changes to the program that could affect the system baseline. Support reliability growth efforts during contractor test and continue to identify, monitor, and mitigate technical program risks. ***FY 2015 Plans:*** Will continue Engineering and Manufacturing efforts to further mature program technologies and manufacturing capabilities. Document and monitor changes to the program that could affect the system baseline. Support reliability growth efforts during contractor test and continue to identify, monitor, and mitigate technical program risks.			
Accomplishments/Planned Programs Subtotals	-	54.191	88.825

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
• 1 - RDTE: BA04: PE 0604283F: *Three Dimensional Long Range Radar*	91.702	-	-	-	-	-	-	-	-	-	120.442
• 2 - OPAF: BA04: Line Item # 646002: *Three Dimensional Long Range Radar*	-	-	-	-	-	-	-	73.393	162.656	Continuing	Continuing

Remarks

E. Acquisition Strategy

Three Dimensional Expeditionary Long-Range Radar (3DELRR) will provide full capability via limited competition to further advance Command and Control capabilities supporting Theater Battle Management.

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 / 4	**R-1 Program Element (Number/Name)** PE 0207455F / *Three Dimensional Long-Range Radar (3DELRR)*	**Project (Number/Name)** 646002 / *Three Dimensional Expeditionary Long Range Radar*	

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
EMD Phase	C/FPIF	TBD : TBD,	0.000	-		41.970	Jun 2014	79.691	Oct 2014	-		79.691	125.265	246.926	265.000
		Subtotal	0.000	-		41.970		79.691		-		79.691	125.265	246.926	265.000

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
System Engineering - A	SS/CPFF	MIT/Lincoln Laboratory : Lexington, MA	0.000	-		1.266	Jan 2014	0.997	Oct 2014	-		0.997	Continuing	Continuing	TBD
System Engineering - C	SS/CPFF	Carnegie Mellon University : Pittsburgh, PA	0.000	-		0.575	Dec 2013	-		-		-	Continuing	Continuing	TBD
Government Furnished Equipment (GFE)	TBD	Various : TBD,	0.000	-		1.587	Sep 2014	0.034	Oct 2014	-		0.034	-	1.621	TBD
		Subtotal	0.000	-		3.428		1.031		-		1.031	-	-	-

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
46th Test Wing/Other Test Agencies	Various	Various : Various,	0.000	-		2.229	Oct 2013	1.507	Oct 2014	-		1.507	1.028	4.764	TBD
		Subtotal	0.000	-		2.229		1.507		-		1.507	1.028	4.764	-

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	Various	Various : Various,	0.000	-		6.564	Oct 2013	6.596	Oct 2014	-		6.596	87.865	101.025	TBD

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 4	**R-1 Program Element (Number/Name)** PE 0207455F / *Three Dimensional Long-Range Radar (3DELRR)*	**Project (Number/Name)** 646002 / *Three Dimensional Expeditionary Long Range Radar*

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	-		6.564		6.596		-		6.596	87.865	101.025	-

	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	-		54.191		88.825		-		88.825	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 4	**R-1 Program Element (Number/Name)** PE 0207455F / *Three Dimensional Long-Range Radar (3DELRR)*	**Project (Number/Name)** 646002 / *Three Dimensional Expeditionary Long Range Radar*

3DELRR Program Schedule

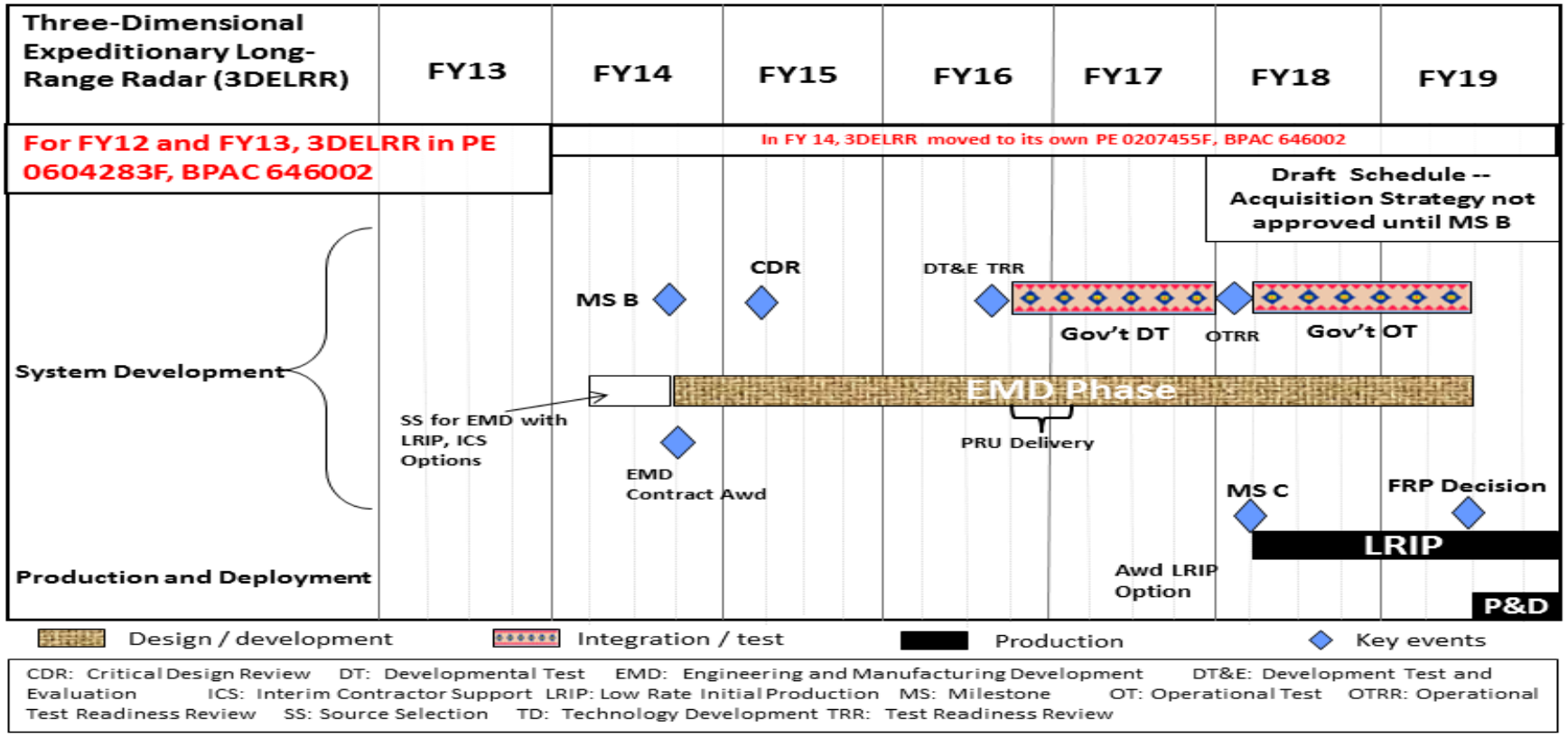


Exhibit R-4A, RDT&E Schedule Details: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 4	**R-1 Program Element (Number/Name)** PE 0207455F / *Three Dimensional Long-Range Radar (3DELRR)*	**Project (Number/Name)** 646002 / *Three Dimensional Expeditionary Long Range Radar*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Source Selection for EMD and LRIP Contract	1	2014	3	2014
Milestone B	3	2014	3	2014
EMD Contract Award	3	2014	3	2014
EMD Phase	3	2014	2	2019
Critical Design Review (CDR)	1	2015	1	2015
Developmental Test & Evaluation Test Readiness Review	3	2016	3	2016
Production Representative Units Delivery	3	2016	1	2017
Government Developmental Test	3	2016	4	2017
Operational Test Readiness Review (OTRR)	1	2018	1	2018
Government Operational Test	2	2018	2	2019
Milestone C	2	2018	2	2018
Low Rate Initial Production (LRIP)	2	2018	4	2019
Full Rate Production Decision	2	2019	2	2019
Production and Deployment Phase	3	2019	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 4: *Advanced Component Development & Prototypes (ACD&P)*					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	0.000	63.687	127.172	156.659	-	156.659	152.011	155.335	97.590	99.506	55.700	907.660
643833: *MILITARY GLOBAL POSITIONING SYSTEM USER EQUIP*	0.000	63.687	127.172	156.659	-	156.659	152.011	155.335	97.590	99.506	55.700	907.660
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		
MDAP/MAIS Code: 447												

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 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, integration, test, and analysis for new PNT receiver capabilities in Navigation Warfare (Navwar) across all military platforms using GPS services.

The MGUE Increment 1 program is responsible for the development of standard modernized receiver form factors for the service-nominated lead platforms identified in the draft MGUE Capability Development Document (CDD). This new family of modernized GPS receivers will deliver significantly improved capability to counter current and emerging PNT threats and enable military operations in a Navwar environment where current legacy receiver performance would be compromised. MGUE Increment 1 received a Milestone A decision in April 2012 and is in the Technology Development acquisition phase. The program received approval in Dec 2013 from the Under Secretary of Defense for Acquisition, Technology, and Logistics to begin planning towards an alternate acquisition strategy to accelerate the program and provide units faster to military end users.

This program is in Budget Activity 4, Advanced Component Development and Prototypes (ACD&P), because efforts are necessary to evaluate integrated technologies, representative modes or prototype systems in a high fidelity and realistic operating 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 4: *Advanced Component Development & Prototypes (ACD&P)*	**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	96.840	137.233	158.614	-	158.614
Current President's Budget	63.687	127.172	156.659	-	156.659
Total Adjustments	-33.153	-10.061	-1.955	-	-1.955
• Congressional General Reductions	-0.095	-0.061			
• Congressional Directed Reductions	-25.000	-10.000			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-2.156	-			
• Other Adjustments	-5.902	-	-1.955	-	-1.955

Change Summary Explanation

FY13: -$25.000M congressional directed reduction (-2.500M for directorate-unjustified growth, -$2.500M for FFRDC unjustified growth, -$20.000 for Reduction in growth); -$5.902M in other adjustments for sequestration FY14: -$10.000M congressional directed reduction for management services excess growth
FY15: -$1.955M inflation adjustment

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: MGUE Increment 1 Technology Development	53.090	83.898	132.944
Description: The MGUE Increment 1 program will develop standard modernized receiver form factors for the service-nominated lead platforms identified in the draft MGUE CDD.			
FY 2013 Accomplishments: Executed MGUE Increment 1 Technology Development phase. Completed 3 System Requirements Reviews (SRR).			
FY 2014 Plans: Execute MGUE Increment 1 Technology Development phase. Review contractor submitted documents with Systems Engineering and Integration (SE&I) team for technical accuracy, completeness and compliance with contractual agreements. Complete 3 System Design Reviews (SDR) and 3 Preliminary Design Reviews. Develop Request for Proposal (RFP). Draft Acquisition Strategy. Commence source selection with tech sample evaluation.			
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 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 Program Element (Number/Name)** PE 0305164F / *NAVSTAR Global Positioning System (User Equipment) (SPACE)*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Complete MGUE Increment 1 Technology Development phase. Complete development of software to implement advanced cryptography and electronic warfare defense for three form factors (aviation, ground and common GPS module). Complete source selection, award, and execute GB-GRAM and GRAM S/M contracts.			
Title: Capability Demonstration ***Description:*** The MGUE program will demonstrate the ability to insert M-Code capability into various platforms. These platforms are in addition to the service lead platforms. ***FY 2013 Accomplishments:*** N/A ***FY 2014 Plans:*** One time effort to demonstrate M-Code capability in Increment 1 receivers on platforms. These platforms are in addition to the service lead platforms. ***FY 2015 Plans:*** N/A	-	15.000	-
Title: Advanced Technology ***Description:*** Advanced Technology efforts include studies to mature technology for future GPS receivers called out in the draft MGUE CDD. ***FY 2013 Accomplishments:*** Developed MGUE technology maturation utilizing Navwar concepts, Chip Scale Atomic Clock (CSAC), Software Define radio, and alternate security implementation. Executed trade studies to support development of a materiel concept. Researched interoperability of Electronic Attack (EA) capabilities through joint service projects. ***FY 2014 Plans:*** Develop critical applications to boost current fielded capabilities such as the Small Antenna System (SAS) that enables close air support of helicopters with greater protection against enemy jamming threats. Continue technology maturation to support development of a materiel concept for MGUE Increment 2. Coordinate interoperability of Electronic Attack (EA) capabilities with other Navwar disciplines. Continue MGUE Increment 2 Technology Maturation thru Navwar Trinity, CSAC, Software Defined Radio (SDR), and alternate security implementation. ***FY 2015 Plans:*** Execute trade studies to support materiel concept development for MGUE Increment 2. Implement targeted risk reductions by investing in key technologies for advanced receivers to include, but not limited to, Application Specific Integrated Circuit (ASIC)	1.588	13.113	8.000

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 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 Program Element (Number/Name)** PE 0305164F / *NAVSTAR Global Positioning System (User Equipment) (SPACE)*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
and Field Programmable Gate Arrays (FPGA). Continue MGUE Increment 2 Technology Maturation thru Navwar Trinity, Chip Scale Atomic Clock (CSAC), Software Defined Radio (SDR), and alternate security implementation.			
Title: System/Platform Integration and Performance Certification ***Description:*** Technical and operational modernization impact analysis for MGUE Service lead platform integration. Development of DoD Policy, Strategy & Resource Requirements for MGUE Performance Certification. ***FY 2013 Accomplishments:*** Conducted external Navwar testing in support of Service lead platform integration. Updated Legacy and Modernized GPS interface control documents that affect GPS users worldwide. Support Army migration from handheld to embedded GPS. Develop policy and requirements related to performance certification. ***FY 2014 Plans:*** Establish interchange agreements with lead program offices for execution of new MGUE receivers and coordinate cost, schedule, and performance issues relevant to the integration process. Conduct external Navwar testing in support of Service lead platform integration. Support Army migration from handheld to embedded GPS in a variety of platforms. Continue to assist in current integration of GPS receivers for joint service platforms. ***FY 2015 Plans:*** Plan integration of airborne receiver card into embedded GPS Inertial Navigation System (INS) for the Service Lead Platforms. Prepare to integrate M-Code ground receiver card into Service Lead Platforms. Continue to assist in integration of current GPS receivers for joint service platforms.	6.400	10.008	9.389
Title: Information Assurance and Test/Evaluation ***Description:*** Develop, implement and maintain GPS Security Certification programs. ***FY 2013 Accomplishments:*** Conducted Modernized Security Evaluations/Tests for Selective Availability Anti-Spoofing Module (SAASM) receivers. Review, approve, and track integrated platforms using the military GPS signal for all military users. Continued pilot program with Modernized User Equipment (MUE) and developed requirements to security certify MUE and MGUE receivers. Continued to develop process to security certify MGUE receivers. ***FY 2014 Plans:*** Continue Modernized Security Evaluations/Tests for Selective Availability Anti-Spoofing Module (SAASM) receivers and other legacy GPS receiver equipment. Review, approve, and track integrated platforms using the military GPS signal for every military user. Continue pilot program with Modernized User Equipment (MUE) and develop requirements to security approve MUE and	2.609	5.153	6.326

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 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 Program Element (Number/Name)** PE 0305164F / *NAVSTAR Global Positioning System (User Equipment) (SPACE)*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
MGUE receivers. Develop process to security approve MGUE receivers. Achieve security handling for MUE delivered cards at a reduced classification level. ***FY 2015 Plans:*** Continue Modernized Security Evaluations/Tests for SAASM and other legacy GPS receiver equipment. Review, approve, and track SAASM/legacy receiver certified platforms and integrated applications for all of OSD. Continue MGUE security planning activities to include security approval for other than lead platforms, such as munitions and handhelds. Develop policy and requirements related to receiver compatibility accreditation with the GPS signal in space.			
Accomplishments/Planned Programs Subtotals	63.687	127.172	156.659

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 0305164F: *NAVSTAR Global Positioning System (User Equipment) (SPACE)*	26.011	-	-	-	-	-	-	-	-	-	26.011
• OPAF: BA03: PE 0305164F: *836730/ NAVSTAR GPS (SPACE)*	2.028	2.053	2.075	-	2.075	2.119	2.158	2.196	2.235	-	14.864

Remarks

E. Acquisition Strategy

The MGUE program has developed a comprehensive acquisition strategy to provide modernized GPS capabilities to US and Allied forces by: (a) establishing time certain and low risk development; (b) bounding requirements to leverage mature technology to the maximum extent possible; (c) focusing on the development of form factors based on well-defined standards to support lead platform integration; (d) introducing the CGM to support long-term vision and modernized capabilities for non-lead platform and unique applications providing a secure, common-core GPS capability to a broader range of military applications; and (e) implementing a proactive, collaborative MGUE platform integration activity to mitigate risk and reduce cost for Enterprise modernization.

The MGUE program awarded three sole source contracts for the Increment 1 Technology Development Phase effort in September 2012. This effort will span contract award to PDR, including MGUE Increment 1 requirements and preliminary design development. There will be a down-select of up to two contractors for the next phase of the program providing aviation, ground, and CGM form factors for integration into Service Lead Platforms. MGUE Increment 2 is in the Materiel Solutions Analysis phase.

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 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 Program Element (Number/Name)** PE 0305164F / *NAVSTAR Global Positioning System (User Equipment) (SPACE)*

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 / 4	**R-1 Program Element (Number/Name)** PE 0305164F / *NAVSTAR Global Positioning System (User Equipment) (SPACE)*	**Project (Number/Name)** 643833 / *MILITARY GLOBAL POSITIONING SYSTEM USER EQUIP*	

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
MGUE Increment 1 Technology Development (Rockwell)	C/CPIF	Rockwell Collins : Cedar Rapids, IA	0.000	12.555	Jan 2013	18.660	Nov 2013	3.267	Nov 2014	-		3.267	9.900	44.382	-
MGUE Increment 1 Technology Development (Raytheon)	C/CPIF	Raytheon : El Segundo, CA	0.000	11.530	Jan 2013	22.074	Dec 2013	3.267	Nov 2014	-		3.267	9.900	46.771	-
MGUE Increment 1 Technology Development (L3)	C/CPIF	L3 : Anaheim, CA	0.000	15.545	Jan 2013	18.462	Dec 2013	3.267	Nov 2014	-		3.267	9.900	47.174	-
MGUE Increment 1 TD Downselect (TBD)	TBD	TBD : TBD,	0.000	-		-		98.058	Nov 2014	-		98.058	103.803	201.861	-
MGUE Increment 1 Advanced Antenna Technology	C/CPAF	Various : Various,	0.000	1.588	Apr 2013	13.113	Feb 2014	8.000	Jan 2015	-		8.000	6.278	28.979	-
MGUE Increment 1 Capability Demonstration	TBD	TBD : TBD,	0.000	-		15.000	Jun 2014	-		-		-	56.449	71.449	-
MGUE Increment 1 Integration	C/CPAF	Various : Various,	0.000	6.224	Mar 2013	8.123	Jan 2014	8.300	Jan 2015	-		8.300	220.699	243.346	-
MGUE Increment 1 Performance Certification	C/CPAF	Various : Various,	0.000	0.176	Feb 2013	1.885	Jan 2014	1.089	Jan 2015	-		1.089	-	3.150	-
MGUE Increment 1 Information Assurance	C/CPAF	Various : Various,	0.000	2.139	Feb 2013	3.181	Jan 2014	3.200	Jan 2015	-		3.200	46.582	55.102	-
MGUE Increment 1 Enterprise Studies	C/CPAF	Various : El Segundo, CA	0.000	4.036	Feb 2013	4.867	Nov 2013	5.479	Nov 2014	-		5.479	21.021	35.403	-
		Subtotal	0.000	53.793		105.365		133.927		-		133.927	484.532	777.617	-

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 / 4	**R-1 Program Element (Number/Name)** PE 0305164F / *NAVSTAR Global Positioning System (User Equipment) (SPACE)*	**Project (Number/Name)** 643833 / *MILITARY GLOBAL POSITIONING SYSTEM USER EQUIP*	

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
MGUE Increment 1 Test and Evaluation (1)	C/CPAF	SPAWAR : San Diego, CA	0.000	0.350	Mar 2013	1.150	Jan 2014	1.526	Jan 2015	-		1.526	4.874	7.900	-
MGUE Increment 1 Test and Evaluation (2)	Various	Various : Various,	0.000	0.120	Jan 2013	0.822	Jan 2014	1.600	Jan 2015	-		1.600	5.300	7.842	-
		Subtotal	0.000	0.470		1.972		3.126		-		3.126	10.174	15.742	-

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
MGUE Increment 1 FFRDC 1	Various	Aerospace : El Segundo, CA	0.000	3.600	Jan 2013	10.839	Dec 2013	11.272	Dec 2014	-		11.272	39.976	65.687	-
MGUE Increment 1 FFRDC 2	Various	MITRE : El Segundo, CA	0.000	3.828	Feb 2013	1.622	Dec 2013	1.687	Dec 2014	-		1.687	5.894	13.031	-
MGUE Increment 1 Program Management Administration (PMA)	Various	Various : Various,	0.000	1.996	Jan 2013	7.374	Dec 2013	6.647	Dec 2014	-		6.647	19.566	35.583	-
		Subtotal	0.000	9.424		19.835		19.606		-		19.606	65.436	114.301	-

	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	63.687		127.172		156.659		-		156.659	560.142	907.660	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 4	**R-1 Program Element (Number/Name)** PE 0305164F / *NAVSTAR Global Positioning System (User Equipment) (SPACE)*	**Project (Number/Name)** 643833 / *MILITARY GLOBAL POSITIONING SYSTEM USER EQUIP*

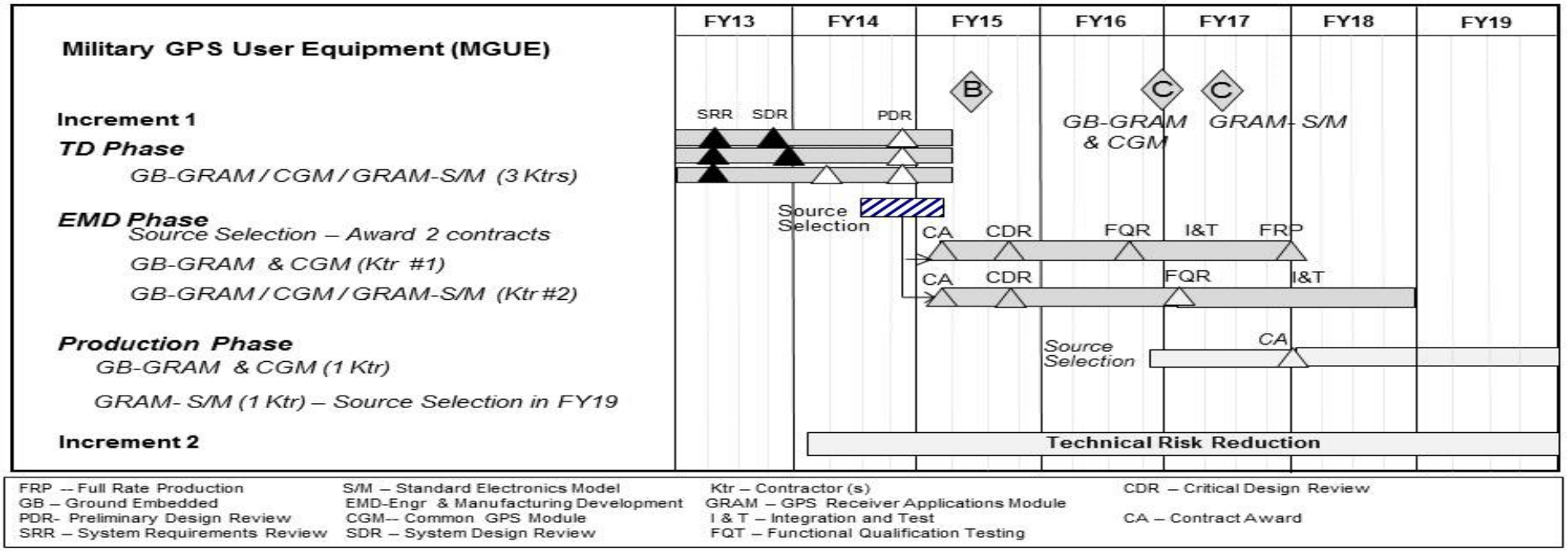


Exhibit R-4A, RDT&E Schedule Details: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 4	**R-1 Program Element (Number/Name)** PE 0305164F / *NAVSTAR Global Positioning System (User Equipment) (SPACE)*	**Project (Number/Name)** 643833 / *MILITARY GLOBAL POSITIONING SYSTEM USER EQUIP*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
System Requirements Review (SRR)	3	2013	3	2013
System Design Review (SDR)	1	2014	1	2014
Preliminary Design Review (PDR)	3	2014	3	2014
Award Engineering and Manufacturing Development (EMD) contract(s)	1	2015	3	2015
EMD CDR	3	2015	3	2015

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 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0603260F / *Intelligence Advanced 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	-	-	0.977	-	-	-	-	-	-	-	Continuing	Continuing
652053: *National Air Intel Center*	-	-	0.977	-	-	-	-	-	-	-	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 652053, National Air Intelligence Center, efforts transfer to PE 0603260F (BA4), Intelligence Advanced Development (IAD), Project Number 64537A, Intelligence Analysis Capabilities (IAC), in order to properly align efforts, increase management efficiency, and reduce administrative actions.

A. Mission Description and Budget Item Justification

Intelligence Advanced Development (IAD) develops and demonstrates technology required to support warfighter needs for timely all source intelligence information. IAD supports global awareness, consistent battlespace knowledge, precision information, and the execution of time critical missions. IAD projects provide better on-time information to the warfighter using new and existing data sources, streamlining data analysis, reducing footprint required, and extending life of sensors in place and enhancing performance. The Air Force Research Lab, Rome Research Site, Information and Intelligence Exploitation Division (AFRL/RIE), works directly with users, employing evolutionary approaches and integrating finished modules directly in the field. The programs are oriented toward specific shortfalls and deficiencies as documented by the Major Commands (MAJCOMS), unified commands, and intelligence organizations in their mission and functional area plans. This PE expedites technology transition from the laboratory to operational users via rapid prototyping, focusing on technology insertion correcting AF intelligence deficiencies at the tactical and operational levels. This PE bridges the technology transition from Advanced Technology Demonstrations (ATDs) and Integrated Technology Thrust Programs (ITTPs) to current/new systems, and also supports the associated Defense Technology Objectives (DTOs). IAD may also reallocate existing resources to support out-of-cycle new/updated warfighter requirements.

Requirements for this PE are gathered and prioritized by the Air Force Intelligence, Surveillance, and Reconnaissance Agency (AFISRA). Development of new/improved capabilities to meet the requirements is managed by AFRL/RIE. Prototype products, usually in the form of software, once evaluated by the users, are transferred to the operational environment.

This Program is in Budget Activity 5, System Development and Demonstration (SDD) because the program develops and inserts new technologies into existing systems and models in order to keep existing systems current and affordable while ensuring system integration, interoperability, and utility.

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 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0603260F / *Intelligence Advanced Development*

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	-	0.977	1.123	-	1.123
Current President's Budget	-	0.977	-	-	-
Total Adjustments	-	-	-1.123	-	-1.123
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-	-	-1.123	-	-1.123

Change Summary Explanation

In FY 2015, Project Number 652053, National Air Intelligence Center, efforts transferred to PE 0603260F, Intelligence Advanced Development (IAD), Project Number 64537A, Intelligence Analysis Capabilities (IAC), in order to increase management efficiency, reduce administrative actions, and minimize activity duplication.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: EW Flagging ***Description:*** Continues enhancement of capability to automatically assess and "flag" threat systems that fall outside the detection capability of US DoD airborne self-protection systems (Radar Warning Receivers and Electronic Surveillance Measures). ***FY 2014 Plans:*** Continuing development of final spiral release of EW Flagging capability.	-	0.140	-
Title: Project Theo ***Description:*** Continues development of prototype to query and retrieve information across all available National Air & Space Intelligence Center (NASIC) Corporate Object Repositories (COR), metadata and their supported features; thereby assisting the Intel Analyst in identifying intelligence gaps and allowing the analyst to nominate intel collection in those areas. ***FY 2014 Plans:*** Releasing prototype 1.3 to operational community for evaluation and initiating final combination of Project Theo's components. Releasing Final prototype.	-	0.350	-
Title: High Performance Aero Vehicle Modeler (HP-AVM)	-	0.150	-

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 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0603260F / *Intelligence Advanced Development*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Description: Continues development of the HP-AVM tool, with the focus on modeling previously unknown airframes, that provides detailed engineering assessments of threat aircraft performance and characteristics. ***FY 2014 Plans:*** Releasing prototype 1.2 and initiating and releasing final prototype of HP-AVM.			
Title: Space, Air, and Terrestrial Modeling & Simulation Initiative ***Description:*** Initiates SATM&S to add a space communications modeling capability to the previously fielded terrestrial communications focused TEL-SCOPE tool. This effort will complete modeling of an adversary's total C4ISR system and assist nomination of terrestrial and space targets. ***FY 2014 Plans:*** Initiating development of prototype.	-	0.337	-
Accomplishments/Planned Programs Subtotals	-	0.977	-

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: BA05: 0604750F: *Intelligence Equipment*	0.736	-	-	-	-	-	-	-	-	-	-
• RDTE: BA04: 0603260F: *Intelligence Advanced Development*	-	-	5.475	-	5.475	5.464	5.552	5.652	5.754	Continuing	Continuing

Remarks

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 properly align efforts, increase management efficiency, and reduce administrative actions.

E. Acquisition Strategy

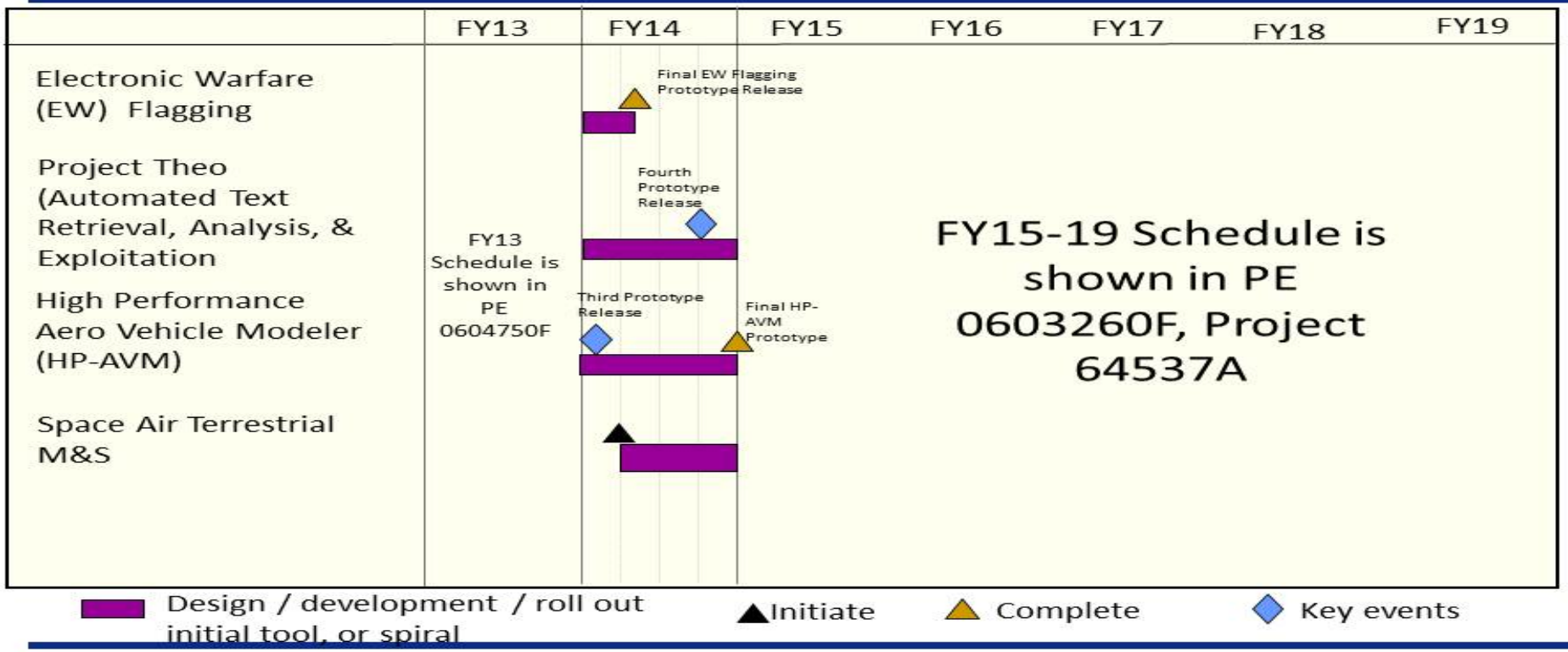
Requirements of new/upgraded intelligence analysis tools are identified and prioritized by the Air Force Intelligence, Surveillance and Reconnaissance Agency (AFISRA). Development of capabilities to meet these requirements is managed by the AF Research Laboratory (Rome Research Site). Prototype products (usually software), once evaluated by the users, are fielded in incremental capability spirals. All major contracts within this project are awarded after 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 / 5	**R-1 Program Element (Number/Name)** PE 0603260F / *Intelligence Advanced Development*	**Project (Number/Name)** 652053 / *National Air Intel Center*

Intelligence Advanced Development (IAD), PE 0603260F Project Number 652053



FY15 PB

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 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0603840F / *Global Broadcast Service (GBS)*							
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	-	14.632	-	-	-	-	-	-	-	-	Continuing	Continuing
65A023: *Satellite Broadcast Management Transition*	-	14.632	-	-	-	-	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		
MDAP/MAIS Code: 326												

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

Note

A. Mission Description and Budget Item Justification

Global Broadcast Service provides the DoD with an efficient, high data rate broadcast capability from distributed information sources to dispersed warfighters who receive the broadcast directly on small, inexpensive user terminals. This Program Element funds the broadcast transmit activities associated with the GBS architecture. The GBS broadcast receive segment in PE 33601F consists of Service-funded terminals, known as Receive Suites, which receive the broadcast and then disseminate information to local users. Service Receive Suites and the integration into service networks are funded in other Program Elements. GBS broadcast data includes video (especially from Unmanned Aerial Vehicles), imagery, logistics, weather data, maps and operational orders. The GBS space segment includes transponders on operational Navy satellites, currently Ultra High Frequency Follow-On (UFO) 8 and UFO 10, augmentation by commercial leased Ku-band transponders, and now the Wideband Global SATCOM (WGS) System.

The GBS broadcast segment consists of Satellite Broadcast Managers (SBMs) for the broadcast build and Primary Injection Points (PIPs) for the broadcast uplink, and the Transportable Satellite Broadcast Managers (TSBMs) for the broadcast build-in theatre. The SBMs and PIPs, together known as Transmit Suites, are located at Navy facilities. The Theatre Injection Point (TIP) is a ground mobile satellite terminal suite transportable via two heavy High Mobility Multi-purpose Wheeled Vehicles (HMMWV) consisting of the TSBM and the Army Phoenix terminal.

The broadcast creation transitioned to existing Defense Information Systems Agency (DISA) Defense Enterprise Computing Centers (DECCs). The DECC will utilize a new hardware and software architecture to resolve impending Commercial Off the Shelf (COTS) obsolescence, Information Assurance compliance and sustainment issues. The DECC transition contract was awarded on 15 May 09. This effort was designated as an ACAT III program and funding was realigned (i.e., a separate project was created) to delineate between the current ACAT I GBS program and the ACAT III SBM Transition program.

This effort continues SBM transition/upgrade to the DISA DECCs, as well as systems transmission security, test, information assurance, program office support and Operational Requirements Document (ORD) III studies. RDT&E Funding for this effort ended in FY13. No funding in FY15 is requested.

Funding is in Budget Activity 5, System Development and Demonstration, since program is fielding pre-production 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 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0603840F / *Global Broadcast Service (GBS)*

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	14.652	-	-	-	-
Current President's Budget	14.632	-	-	-	-
Total Adjustments	-0.020	-	-	-	-
• Congressional General Reductions	-1.255	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	1.235	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-	-	-	-	-

Change Summary Explanation

FY13: Decrease in Other Adjustments due to sequestration.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Satellite Broadcast Management Transition	14.632	-	-
Description: Develop a robust satellite broadcast management architecture and implement systems transmission security (TRANSEC). ***FY 2013 Accomplishments:*** Completed development and test of the satellite broadcast management architecture, and continue to perform final transition to DISA DECC. ***FY 2014 Plans:*** No plans in 2104; GBS broadcast transmissiom transitioned to the DISA DECC January 2014. ***FY 2015 Plans:*** N/A			
Accomplishments/Planned Programs Subtotals	14.632	-	-

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 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0603840F / *Global Broadcast Service (GBS)*

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 # 836780: *MILSATCOM Space*	-	-	3.314	-	3.314	3.329	3.311	3.057	2.783	-	129.979

Remarks

E. Acquisition Strategy

Awarded a new contract in FY09 based on full and open competition to transfer Satellite Broadcast Management functionality to two Defense Enterprise Computing Center (DECC) facilities.

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 / 5	**R-1 Program Element (Number/Name)** PE 0603840F / *Global Broadcast Service (GBS)*	**Project (Number/Name)** 65A023 / *Satellite Broadcast Management Transition*

GBS DECC Schedule

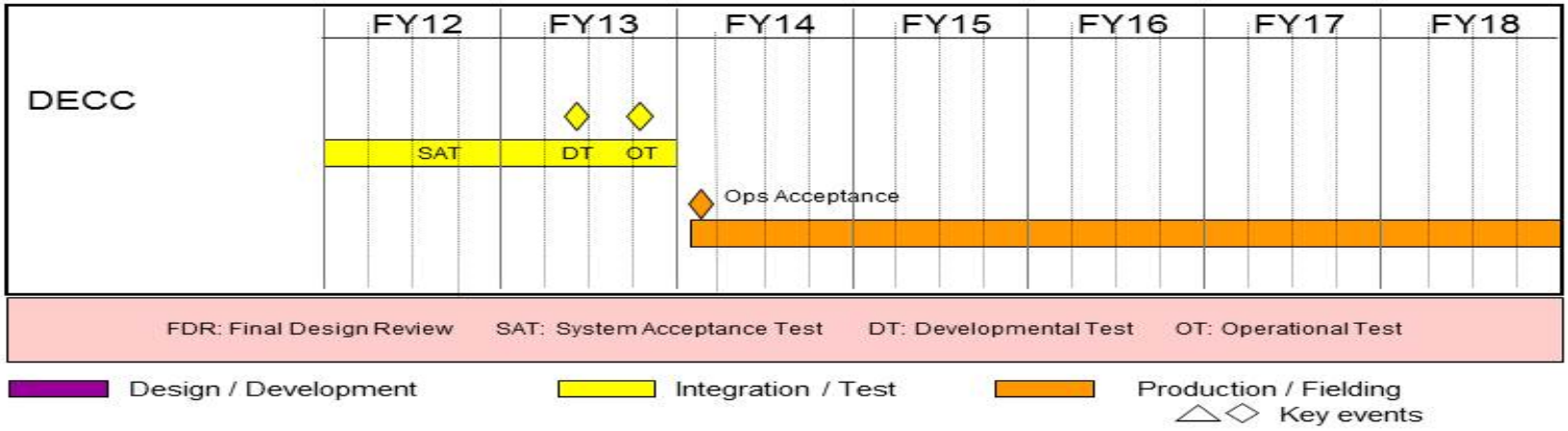


Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force											Date: March 2014	
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0604233F / *Specialized Undergraduate 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	291.751	5.151	3.601	13.324	-	13.324	9.810	4.265	3.607	3.676	Continuing	Continuing
654102: *Joint Primary Aircraft Training System (JPATS)*	288.900	3.828	2.327	6.212	-	6.212	7.537	3.132	2.453	2.500	-	316.889
654376: *T-38 Avionics Upgrade Program (AUP)*	0.000	0.675	0.225	7.112	-	7.112	2.273	1.133	1.154	1.176	Continuing	Continuing
655340: *Advanced Trainer Replacement T-X*	2.851	0.648	1.049	-	-	-	-	-	-	-	-	4.548
MDAP/MAIS Code: 560												

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

Note

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.

A. Mission Description and Budget Item Justification

Supports Air Education and Training Command's (AETC) implementation of Specialized Undergraduate Pilot Training (SUPT) and the Department of Defense initiative for joint pilot training. The Joint Primary Aircraft Training System (JPATS) is a joint USAF/USN venture to replace the Services' fleets of primary trainer aircraft (T-37 and T-34 respectively) and their associated Ground Based Training Systems (GBTS) with the T-6 and its GBTS. The Air Force is the Executive Service. The T-38 Avionics Upgrade Program (AUP) is an integrated modernization of the T-38A and AT-38B cockpits to support mission ready fighter and bomber training. The Advanced Trainer Replacement, T-X, will replace AETC's T-38C aircraft and associated GBTS currently used in the fighter/bomber advanced SUPT track as well as in the Introduction to Fighter Fundamentals (IFF) program. The T-38 was first introduced in 1961.

BA5 - This program is in Budget Activity 5, System Development and Demonstration (SDD) because it has passed Milestone B approval and is conducting engineering and manufacturing development tasks aimed at meeting validated requirements prior to full-rate production.

The Air Force recognizes that these funds should be in BA 7 and is working to transfer these funds in the next President's Budget submission.

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 5: *System Development & Demonstration (SDD)*			**R-1 Program Element (Number/Name)** PE 0604233F / *Specialized Undergraduate 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	6.583	3.601	10.957	-	10.957
Current President's Budget	5.151	3.601	13.324	-	13.324
Total Adjustments	-1.432	-	2.367	-	2.367
• Congressional General Reductions	-0.008	-			
• Congressional Directed Reductions	-0.953	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-0.471	-	2.367	-	2.367

Change Summary Explanation

- Increase of $2.367 million in FY2015 due to the addition of JPATS and T-38 Avionics Upgrade Program avionics obsolescence remediation efforts in this program and the transfer of Advanced Trainer Replacement, T-X, to Program Element 0605223F.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 5	R-1 Program Element (Number/Name) PE 0604233F / *Specialized Undergraduate Flight Training*	Project (Number/Name) 654102 / *Joint Primary Aircraft Training System (JPATS)*	

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
654102: *Joint Primary Aircraft Training System (JPATS)*	288.900	3.828	2.327	6.212	-	6.212	7.537	3.132	2.453	2.500	-	316.889
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 Primary Aircraft Training System (JPATS) is a joint USAF/USN venture to replace the Services' fleets of primary trainer aircraft (T-37 and T-34, respectively) and associated Ground Based Training Systems (GBTS). Additionally the US Army will be purchasing four T-6 Army Variant aircraft to replace the T-34 aircraft for the Army Test and Evaluation Command. The T-6 aircraft and GBTS are used to train entry-level student aviators in the fundamentals of flying so they can transition into advanced training tracks leading to qualification as military pilots, combat systems officers, and naval flight officers. The program includes the purchase of aircraft, simulators, and other associated ground-based training devices, Training Integration Management System (TIMS), instructional courseware, and logistics support to include Diminishing Manufacturing Sources and Material Shortages (DMSMS) and development activities related to DMSMS.

FY2013, FY2015 and FY2016 include funding to upgrade software and threat libraries for the T25 Simulator for Electronic Combat Technology (SECT). The T25 SECT primary training mission is to train undergraduate Combat Systems Officers (CSO) in all fundamental aspects of Electronic Combat (EC), including the operation and application of a wide variety of representative EC equipment in Threat Penetration, Electronic Counter Measures (ECM), Electronic Surveillance Measurement (ESM), and Suppression of Enemy Air Defenses (SEAD) or electronic attack (EA) type operations. Although in the same project, SECT is unrelated to the JPATS program.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Joint Primary Aircraft Training System (JPATS) Studies	1.433	2.327	1.168
Description: JPATS studies & development efforts.			
FY 2013 Accomplishments: Conducted JPATS studies and development activities to include development of the T-6 Power Management Unit (PMU) software upgrade, parachute surveillance study, safe/arm handle development, Engine High Cycle Fatigue Research, and Engine Component Improvement Program (CIP) study.			
FY 2014 Plans: Continued JPATS studies and development activities include development of the T-6 Power Management Unit (PMU) software upgrade, parachute surveillance study, safe/arm handle development, Engine High Cycle Fatigue Research, and Engine Component Improvement Program (CIP) study.			
FY 2015 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0604233F / *Specialized Undergraduate Flight Training*	**Project (Number/Name)** 654102 / *Joint Primary Aircraft Training System (JPATS)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Continue JPATS studies and development activities include development of the T-6 Power Management Unit (PMU) software upgrade, parachute surveillance study, safe/arm handle development, Engine High Cycle Fatigue Research and Engine Component Improvement Program (CIP) study.			
Title: T25 SECT ***Description:*** Funding upgrades to the Simulator for Electronic Combat Technology (SECT) ***FY 2013 Accomplishments:*** Updated threat database definitions and threat library. ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** Update threat database definitions and threat library.	2.395	-	1.118
Title: Avionics Upgrades for FAA (Federal Aviation Administration) Compliance ***Description:*** Funding supports component selection, integration, test and certification of Automated Dependent Surveillance Broadcast (ADS-B Out)capability for use in T-6A aircraft and Ground Based Training System (GBTS). ***FY 2013 Accomplishments:*** N/A ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** Funding will be used to develop and test upgrades and enhancements to hardware and software components to include Avionics Upgrades for Federal Aviation Administration (FAA) Compliance. Funding supports development, integration, test and certification of the Automated Dependent Surveillance Broadcast (ADS-B Out) capability in the T-6 Training System to comply with the January 1, 2020 Federal Aviation Administration (FAA)ADS-B Out mandate.	-	-	3.926
Accomplishments/Planned Programs Subtotals	3.828	2.327	6.212

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0604233F / *Specialized Undergraduate Flight Training*	**Project (Number/Name)** 654102 / *Joint Primary Aircraft Training System (JPATS)*	

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: BA06: Line Item # 000999: *Initial Spares/Repair Parts*	0.020	0.626	0.948	-	0.948	0.918	2.571	2.619	2.668	Continuing	Continuing
• APAF: BA05: Line Item # JPAT00: *T-6*	13.633	5.392	14.486	-	14.486	18.208	26.530	26.063	26.515	Continuing	Continuing
• APN: BA03: Line Item # 033900: *JPATS*	230.403	249.080	-	-	-	9.013	6.009	-	-	-	2,036.997
• APN: BA05: Line Item # 057100: *JPATS Series*	1.550	1.576	1.085	-	1.085	7.567	11.205	18.356	26.487	Continuing	Continuing
• APN: BA06: Line Item # 060500: *Spares and Repair Parts*	2.566	3.171	0.094	-	0.094	0.071	0.099	0.093	-	Continuing	Continuing
• APA: BA01: Line Item # A11300: *Utility F/W Aircraft*	16.874	12.617	-	-	-	-	-	-	-	-	29.919

Remarks

D. Acquisition Strategy

Avionics Upgrades for FAA Compliance are outside of the JPATS Major Defense Acquisition Program and will be established as a new Joint Acqusition Program with the Navy. For the JPATS Avionics Upgrades for FAA Compliance effort, an competitive award is anticipated to be the stategy for the T-6A air vehicles due to their federated design.

The SECT upgrade effort is an Engineering Change Proposal (ECP) to the competitively awarded Firm Fixed Price Contractor Logistics Support (CLS) 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-3, RDT&E Project Cost Analysis: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 5	R-1 Program Element (Number/Name) PE 0604233F / *Specialized Undergraduate Flight Training*	Project (Number/Name) 654102 / *Joint Primary Aircraft Training System (JPATS)*	

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
JPATS Engine CIP	PO	Arnold Engineering Development Center : Arnold AFB, TN	0.000	1.157	May 2013	0.717	Jan 2014	-		-		-	-	1.874	5.676
JPATS Engine High Cycle Fatigue	C/CPFF	Universal Technology Corp : Dayton, OH	0.000	0.194	Apr 2013	0.149	Apr 2014	0.231	Apr 2015	-		0.231	Continuing	Continuing	TBD
JPATS Parachute Surveillance	C/FFP	Martin Baker Aircraft Co LTD : , UK	0.000	0.019	Jun 2013	0.452	Apr 2014	0.603	Apr 2015	-		0.603	-	1.074	2.589
JPATS PMU	Various	Various : Various,	0.000	0.063		1.009	Dec 2013	0.334		-		0.334	Continuing	Continuing	TBD
SECT Upgrade	C/FFP	BowHead Systems Management, Inc. : King George, VA	0.000	2.395	Dec 2012	-		1.118		-		1.118	Continuing	Continuing	-
Avionics Upgrades for FAA Compliance	C/FFP	TBD : TBD,	0.000	-		-		3.926	Aug 2015	-		3.926	3.926	7.852	TBD
JPATS Completed Contracts	C/Various	Various : Various,	288.900	-		-		-		-		-	-	288.900	288.900
		Subtotal	288.900	3.828		2.327		6.212		-		6.212	-	-	-

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	-	-		-		-		-		-	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0604233F / *Specialized Undergraduate Flight Training*	**Project (Number/Name)** 654102 / *Joint Primary Aircraft Training System (JPATS)*

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	288.900	3.828		2.327		6.212		-		6.212	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0604233F / *Specialized Undergraduate Flight Training*	**Project (Number/Name)** 654102 / *Joint Primary Aircraft Training System (JPATS)*

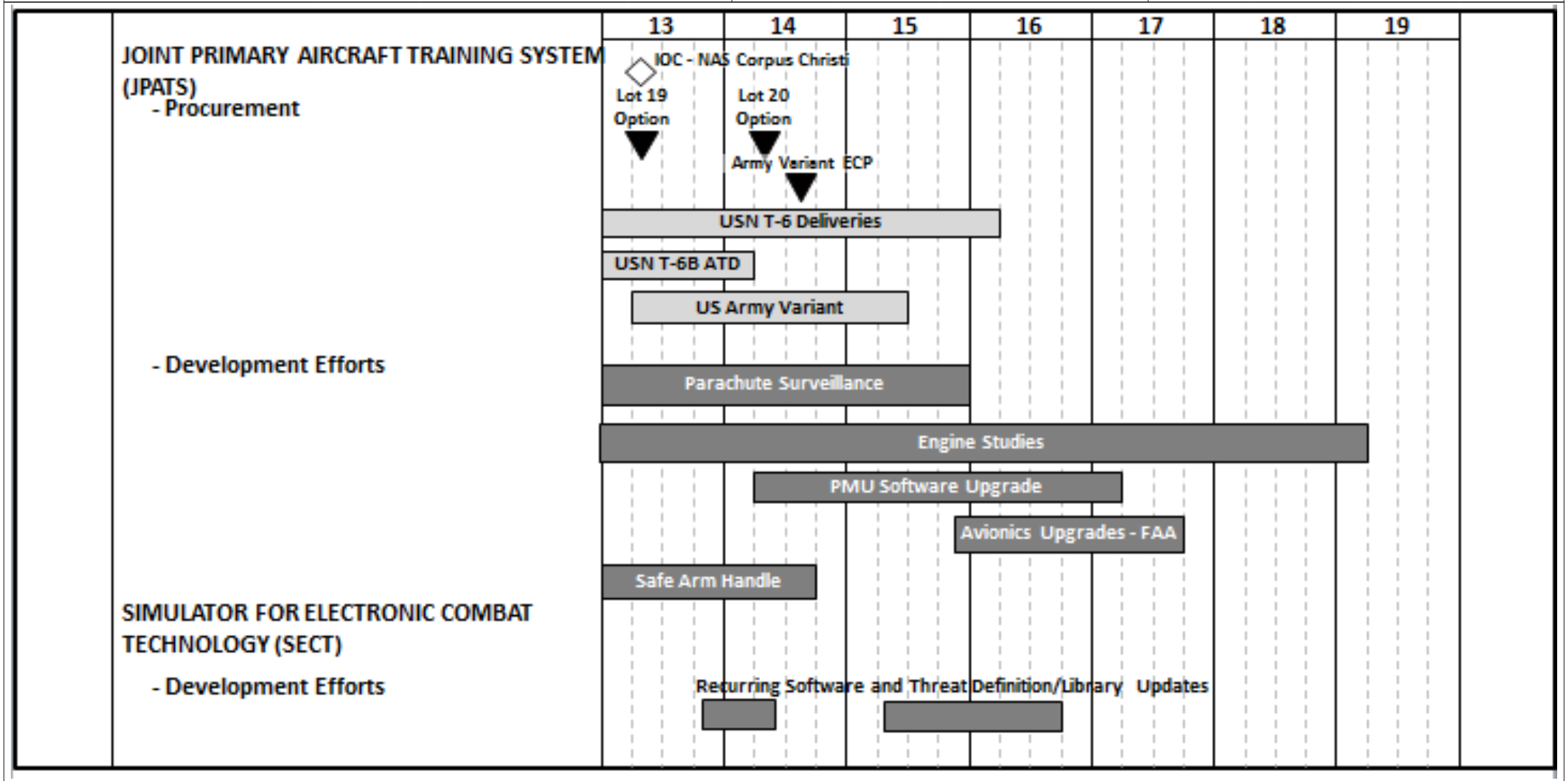


Exhibit R-4A, RDT&E Schedule Details: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0604233F / *Specialized Undergraduate Flight Training*	**Project (Number/Name)** 654102 / *Joint Primary Aircraft Training System (JPATS)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
JPATS Parachute Surveillance System Development	1	2013	4	2015
JPATS Engine Studies	1	2013	1	2019
JPATS Avionics Upgrades for FAA Compliance	4	2015	4	2017
JPATS PMU Software Upgrade	2	2014	2	2017
JPATS Lot 19 Contract Award	2	2013	2	2013
JPATS Lot 20 Contract Award	2	2014	2	2014
JPATS IOC NAS Corpus Christi	2	2013	2	2013
JPATS Award Army Variant Engineering Change Proposal (ECP)	3	2014	3	2014
JPATS Continuing USN / USA T-6 Deliveries	1	2013	1	2016
JPATS Continuing USN T-6B Aircrew Training Device (ATD) Deliveries	1	2013	1	2014
JPATS US Army Variant	2	2013	2	2015
SECT Update Software and Threat Library (FY2013)	4	2013	2	2014
SECT Update Software and Threat Library (FY2015/FY2016)	2	2015	3	2016

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 5	R-1 Program Element (Number/Name) PE 0604233F / *Specialized Undergraduate Flight Training*	Project (Number/Name) 654376 / *T-38 Avionics Upgrade Program (AUP)*	

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
654376: *T-38 Avionics Upgrade Program (AUP)*	-	0.675	0.225	7.112	-	7.112	2.273	1.133	1.154	1.176	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 T-38C Avionics Upgrade Program (AUP) installed a "Glass Cockpit" into the T-38 jet trainer and re-designated the upgraded aircraft from the T-38A/B to the T-38C model. The AUP modification, which utilized a Commercial Off-The-Shelf (COTS)/Non-Developmental Item (NDI) approach to acquire kits, is currently in sustainment phase under the T-38C Avionics Post Production Support acquisition program. The avionics system requires regular block upgrades to keep the system current and airworthy. Block upgrades incorporate software and/or hardware improvements to comply with new requirements mandated by Department of Defense, Federal Aviation Administration or National Airspace System (DoD/FAA/NAS) and to address flight safety issues. The block upgrades support the T-38C aircraft and Aircrew Training Devices (ATD). This effort also includes development of the aircraft Mission Planning System (MPS) support to obtain Joint Mission Planning System (JMPS) currency and certification for T-38C flight operations. The JMPS requirements are levied from outside the T-38 program office and may or may not correlate with block upgrade requirements. Additionally, engineering services, studies, analysis and support are required to determine the feasibility of integrating changes into the system and making informed business decisions related to Diminishing Manufacturing Sources and Material Shortages (DMSMS) and other lifecycle related concerns. FY2015 also includes an avionics obsolesence remediation effort to qualify updated instruments in the T-38C.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: T-38C Avionics Post Production Support (APPS)	0.675	0.225	7.112
Description: T-38C APPS hardware and software block upgrades, Communication, Navigation, Surveillance/Air Traffic Management (CNS/ATM) compliance and Joint Mission Planning System (JMPS) support. ***FY 2013 Accomplishments:*** Completed requirements analysis of Block 10 aircraft and Aircrew Training Device (ATD) hardware/software upgrade and determined JMPS planning software upgrade requirements. Accomplished government testing of ATD software being developed to replace contractor proprietary software. Took delivery of ATD software that provides unlimited government rights to ensure future viability of the aircraft and ATD systems. Integrated the T-38C program into the Air Force Communications, Navigation, Surveillance/Air Traffic Management (CNS/ATM) program to ensure the T-38C aircraft is compliant with all Air Force standards and directives. ***FY 2014 Plans:*** Finalized requirement analysis for Block 10 and begin software development for required aircraft and Aircrew Training Device (ATD) hardware/software upgrades. Finalized JMPS mission planning software upgrade requirements and begin development			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0604233F / *Specialized Undergraduate Flight Training*	**Project (Number/Name)** 654376 / *T-38 Avionics Upgrade Program (AUP)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
and testing. Coordinate surveillance and testing requirements with the Communications, Navigation, Surveillance/Air Traffic Management (CNS/ATM) Center of Excellence program to ensure the T-38C aircraft is compliant with Air Force navigation data chain management standards and directives. Designed and developed hardware and software solutions for requirements driven by DoD and Federal Aviation Administration/National Airspace System (FAA/NAS) mandates, and deficiencies identified during test and evaluation and AETC operations. ***FY 2015 Plans:*** Complete software development for required aircraft Operational Flight Profile (OFP) and Aircrew Training Device (ATD) hardware/software upgrades. Finalize JMPS upgrade development and begin JMPS Unique Planning Component (UPC) IV&V and developmental testing. Coordinate surveillance and testing requirements with the Communications, Navigation, Surveillance/ Air Traffic Management (CNS/ATM) Center of Excellence to ensure the T-38C aircraft is compliant with Air Force navigation data chain management standards and directives. Complete design and development of hardware and software solutions for requirements driven by DoD and FAA/NAS mandates, and deficiencies identified during test and evaluation and AETC operations. Commence Block 10 OFP DT. Begin development solutions for T-38C avionics component obsolescence. Develop a replacement Active Matrix Liquid Crystal Display (AMLCD) for the Electronic Engine Display. The AMLCD is out of production and there are no spares available. Begin research and development for a replacement Heads-Up Display and Up-Front Control panel. Current components are non-supportable beyond FY2017. Begin research and development for a replacement Mission Display Processor.			
Accomplishments/Planned Programs Subtotals	0.675	0.225	7.112

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 # T03800: *T-38*	19.428	19.334	34.845	-	34.845	38.974	37.562	25.409	25.824	Continuing	Continuing

Remarks

D. Acquisition Strategy

The Avionics Post Production Support (APPS) acquisition program awarded a contract in FY2012 through a competitive bid, C type, Firm Fixed Price contract with a period of performance from April 2012 through March 2017. The block 10 software update will be a Firm Fixed Price effort based on AETC operational requirements. Unknown/unforeseen requirements will be negotiated and separately priced by the government as an out-of-cycle update/modification as provisioned within the contract.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0604233F / *Specialized Undergraduate Flight Training*	**Project (Number/Name)** 654376 / *T-38 Avionics Upgrade Program (AUP)*

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 / 5	R-1 Program Element (Number/Name) PE 0604233F / *Specialized Undergraduate Flight Training*	Project (Number/Name) 654376 / *T-38 Avionics Upgrade Program (AUP)*	

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
Avionics Upgrade Program (AUP)	C/FFP	The Boeing Corporation : St. Louis, MO	0.000	0.609	Oct 2012	-		5.687	Oct 2014	-		5.687	Continuing	Continuing	TBD
0AUP Other	Various	TBD : TBD,	0.000	-		-		-		-		-	-	-	TBD
		Subtotal	0.000	0.609		-		5.687		-		5.687	-	-	-

Remarks

Update made due to Jan 2014 ABIDES numbers.

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
Other Government Costs	Various	Not specified. : ,	0.000	0.020	Feb 2013	0.055	Feb 2014	0.055	Oct 2014	-		0.055	Continuing	Continuing	-
JMPS Support	C/FFP	Not specified. : ,	0.000	-		0.120	Mar 2014	0.120	Oct 2014	-		0.120	Continuing	Continuing	TBD
		Subtotal	0.000	0.020		0.175		0.175		-		0.175	-	-	-

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
AUP T&E	C/FFP	TBD : ,	0.000	-		-		1.200	Oct 2014	-		1.200	-	1.200	TBD
		Subtotal	0.000	-		-		1.200		-		1.200	-	1.200	-

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 Contract Support	C/FFP	Not specified. : ,	0.000	0.046	Jan 2013	0.050	Jan 2014	0.050	Dec 2014	-		0.050	Continuing	Continuing	TBD
		Subtotal	0.000	0.046		0.050		0.050		-		0.050	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 5	R-1 Program Element (Number/Name) PE 0604233F / *Specialized Undergraduate Flight Training*	Project (Number/Name) 654376 / *T-38 Avionics Upgrade Program (AUP)*	

	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	0.675		0.225		7.112		-		7.112	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0604233F / *Specialized Undergraduate Flight Training*	**Project (Number/Name)** 654376 / *T-38 Avionics Upgrade Program (AUP)*

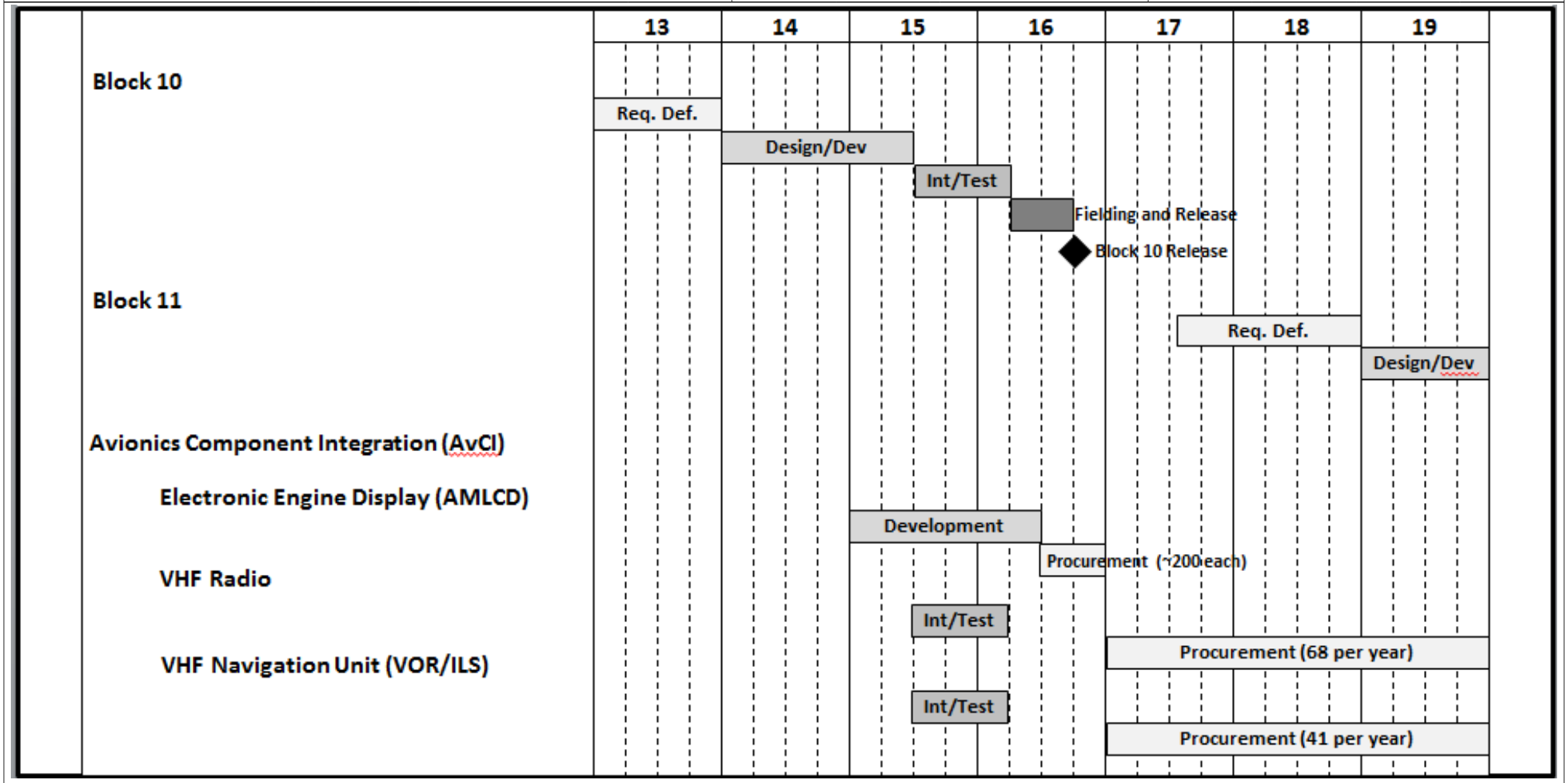


Exhibit R-4A, RDT&E Schedule Details: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0604233F / *Specialized Undergraduate Flight Training*	**Project (Number/Name)** 654376 / *T-38 Avionics Upgrade Program (AUP)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
AUP Block 10 Requirements	1	2013	4	2013
AUP Block 10 Design/Development	1	2014	2	2015
AUP Block 10 Integration and Test	3	2015	1	2016
AUP Block 10 Fielding	2	2016	3	2016
AUP Block 10 Release	3	2016	3	2016
AUP Block 11 Requirements	3	2017	4	2018
AUP Block 11 Design/Development	1	2019	4	2019
Electronic Engine Display Active Matrix Liquid Crystal Display (AMLCD) Development	1	2015	2	2016
Electronic Engine Display AMLCD Procurement	3	2016	4	2016
Integration and Test of CVC-151 Very High Frequency Radio	3	2015	1	2016
Procurement of CVC-151 Very High Frequency Radio	1	2017	4	2019
Integration and Test of CVN-251 Very High Frequency Navigation Unit	3	2015	1	2016
Procurement of CVN-251 Very High Frequency Navigation Unit	1	2017	4	2019

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 5	R-1 Program Element (Number/Name) PE 0604233F / *Specialized Undergraduate Flight Training*	Project (Number/Name) 655340 / *Advanced Trainer Replacement T-X*	

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
655340: *Advanced Trainer Replacement T-X*	2.851	0.648	1.049	-	-	-	-	-	-	-	-	4.548
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

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

Note

In FY 2015, Project 655340, Advanced Trainer Replacement T-X, efforts were transferred to Program 0605223F, Advanced Pilot Training, Project 655340, Advanced Trainer Replacement T-X, in order to comply with OSD direction that Major Defense Acquisition Programs (MDAP) be in separately identifiable program elements.

A. Mission Description and Budget Item Justification

The Advanced Trainer Replacement, T-X, will replace AETC's T-38C aircraft and associated Ground Based Training System (GBTS) currently used in the fighter/ bomber advanced Specialized Undergraduate Pilot Training (SUPT) track as well as in the Introduction to Fighter Fundamentals (IFF) program. The T-38C was first introduced in 1961.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Advanced Pilot Training (APT) Family of Systems (FoS)	0.648	1.049	-
Description: Conduct studies, analysis and acquisition activities to reduce risk in support of technology, engineering and manufacturing development. Includes APT PMA costs such as travel, Other Govt Costs (OGC) and Advisory and Assistance Services (A&AS).			
FY 2013 Accomplishments: Conducted studies, analysis and acquisition activities to reduce risk in support of technology, engineering and manufacturing development. Studies and analyses consisted of, but are not limited to, Live Virtual Constructive training concepts and applicability to AETC pilot training transformation efforts, non-developmental item (NDI) industrial base beyond 2020, USAF/DoD militarization of foreign NDI alternatives, USAF Airworthiness Certification gap analysis of NDI alternatives, RAND Project Air Force study on T-38 Repair/Replace resulting in a T-X affordability target and United States Air Force Academy/Air Force Institute of Technology sponsored studies for development of source selection tools and criteria. Includes APT PMA costs such as travel, Other Govt Costs (OGC) and Advisory and Assistance Services (A&AS).			
FY 2014 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0604233F / *Specialized Undergraduate Flight Training*	**Project (Number/Name)** 655340 / *Advanced Trainer Replacement T-X*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Conducted studies, analysis and acquisition activities to reduce risk in support of technology, engineering and manufacturing development. Funds APT PMA costs such as travel, Other Govt Costs (OGC) and Advisory and Assistance Services (A&AS). ***FY 2015 Plans:*** N/A			
Accomplishments/Planned Programs Subtotals	0.648	1.049	-

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: BA05: PE 0605223F: *Advanced Pilot Training*	-	-	8.201	-	8.201	11.920	71.685	166.595	408.618	Continuing	Continuing

Remarks

D. Acquisition Strategy

A full and open competitive source selection is anticipated with a specific acquisition strategy to be developed after acquisition milestone entry point determination.

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 / 5	R-1 Program Element (Number/Name) PE 0604233F / *Specialized Undergraduate Flight Training*	Project (Number/Name) 655340 / *Advanced Trainer Replacement T-X*	

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
Advanced Pilot Training (APT) Family of Systems (FoS) - Studies and Analyses	Various	Various : Various,	0.621	0.350	Oct 2013	-		-		-		-	-	0.971	-
		Subtotal	0.621	0.350		-		-		-		-	-	0.971	-

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
Advanced Pilot Training (APT) Family of Systems (FoS) - PMA - Contractor Services	C/FFP	AFLCMC : Dayton, OH	2.129	-		0.950	Mar 2014	-		-		-	-	3.079	-
Training (APT) Family of Systems (FoS) - PMA - Government Costs	C/Various	AFLCMC : Dayton, OH	0.101	0.298		0.099		-		-		-	-	0.498	-
		Subtotal	2.230	0.298		1.049		-		-		-	-	3.577	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 5	R-1 Program Element (Number/Name) PE 0604233F / *Specialized Undergraduate Flight Training*	Project (Number/Name) 655340 / *Advanced Trainer Replacement T-X*	

	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	2.851	0.648		1.049		-		-		-	-	4.548	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0604233F / *Specialized Undergraduate Flight Training*	**Project (Number/Name)** 655340 / *Advanced Trainer Replacement T-X*

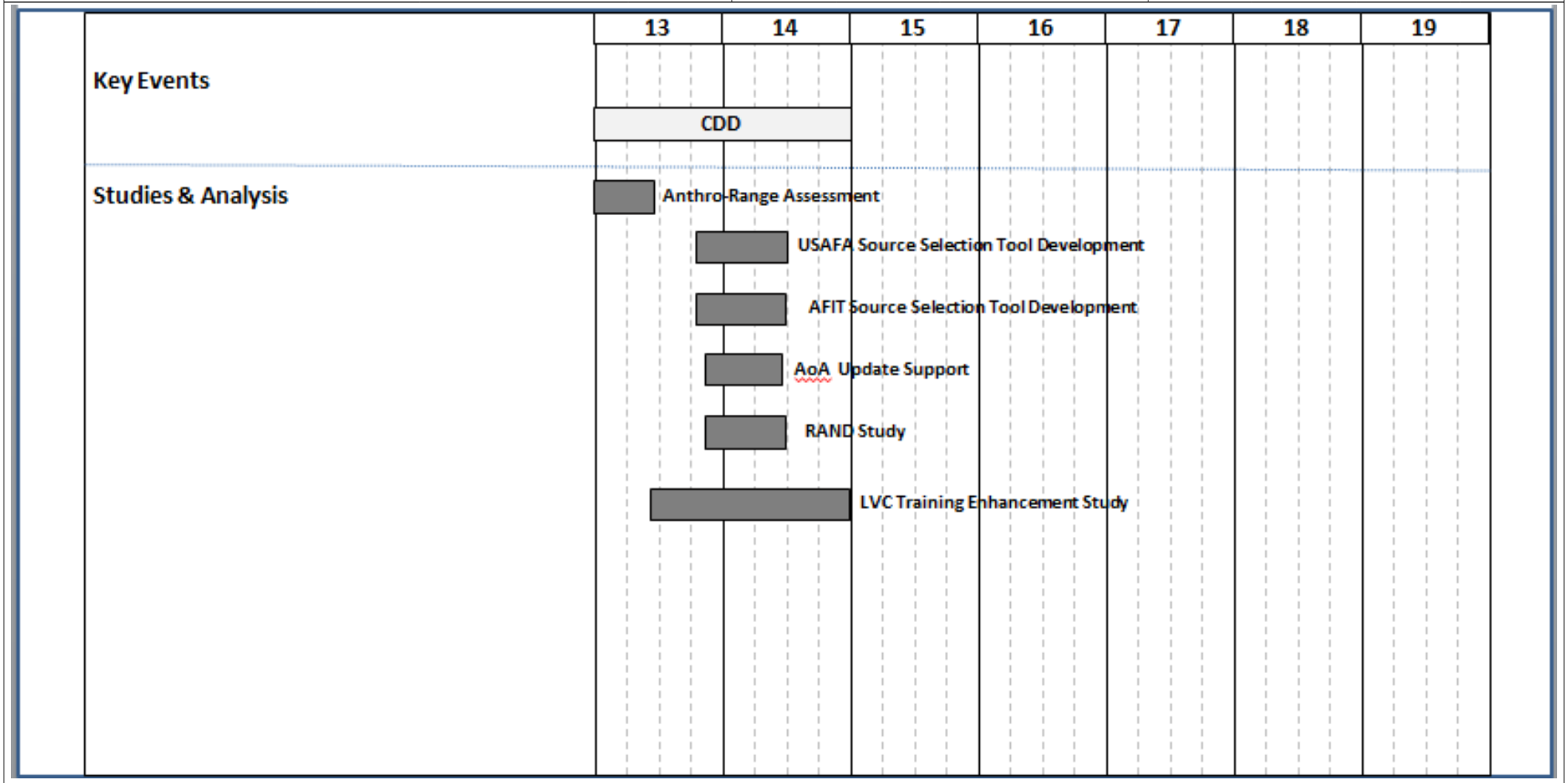


Exhibit R-4A, RDT&E Schedule Details: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0604233F / *Specialized Undergraduate Flight Training*	**Project (Number/Name)** 655340 / *Advanced Trainer Replacement T-X*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Capability Development Document	1	2013	4	2014
Anthropomertric Range Assessment	1	2013	2	2013
Analysis of Alternatives Update Support	4	2013	2	2014
USAFA Source Selection Tool Development	4	2013	2	2014
AFIT Source Selection Tool Development	4	2013	2	2014
RAND Study	4	2013	2	2014
Live / Virtual / Constructive Training Enhancement Study	2	2013	4	2014

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 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0604270F / *Electronic Warfare 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	-	1.914	1.971	1.965	-	1.965	1.967	2.003	2.041	2.080	Continuing	Continuing
653891: *Advanced IR Counter Measures (AIRCM)*	-	1.914	1.971	1.965	-	1.965	1.967	2.003	2.041	2.080	Continuing	Continuing

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

A. Mission Description and Budget Item Justification

This program consolidates Air Force funding and management of common Electronic Warfare (EW) systems from Materiel Solutions Analysis through Engineering and Manufacturing Development and transition to operational capability. EW is an integral warfighting effect supporting AF Global Strike, Global Persistent Attack and Global Mobility operations as well as Joint-Coalition operations. EW systems influence, deceive, disrupt, degrade, deny, and destroy threats to air operations throughout the electromagnetic spectrum. This PE supports Electronic Support (ES), Electronic Protection (EP), and Electronic Attack (EA). ES programs support the collection, analysis, and dissemination of information related to the detection, geo-location, characterization, and identification of threats to air operations. EP Programs preserve the electromagnetic spectrum for use by friendly forces. EA programs provide self-protection through active and passive measures that deceive threats to air operations using kinetic and non-kinetic means to defeat threats that rely on the electromagnetic spectrum (Radio Frequency (RF), Electro-Optical (EO), Infrared (IR)).

This program is in budget activity 5 - System Development and Demonstration of common EW systems to meet user requirements.

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	1.975	1.971	1.990	-	1.990
Current President's Budget	1.914	1.971	1.965	-	1.965
Total Adjustments	-0.061	-	-0.025	-	-0.025
• Congressional General Reductions	-0.003	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.058	-			
• Other Adjustments	-	-	-0.025	-	-0.025

Change Summary Explanation

No Significant Changes

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 5	R-1 Program Element (Number/Name) PE 0604270F / *Electronic Warfare Development*	Project (Number/Name) 653891 / *Advanced IR Counter Measures (AIRCM)*	

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
653891: *Advanced IR Counter Measures (AIRCM)*	-	1.914	1.971	1.965	-	1.965	1.967	2.003	2.041	2.080	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 Advanced Infrared Countermeasure (AIRCM) project contains related aircraft self-protection efforts aimed at increasing aircraft survivability against the increasing threat of sophisticated infrared-guided surface-to-air and air-to-air missiles. These missiles may employ sophisticated next-generation electro-optics or dual-mode IR and radio frequency seekers. AIRCM will provide advanced IR expendable countermeasures and/or IRCM techniques that will be functionally compatible with existing dispenser systems and employed across multiple USAF weapons systems. This also explicitly includes any and all flare and decoy development and testing that may be demanded or needed in current operations supporting the war on terrorism regardless of aircraft platform. Similar activities that are supplementary to this effort may be accomplished ad hoc using platform specific funding or through other testing activities such as joint services or NATO test groups.

BA5 - This program is in Budget Activity 5, System Development and Demonstration (SDD) because it has passed Milestone B approval and is conducting engineering and manufacturing development tasks aimed at meeting validated requirements prior to full-rate production.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: IR Flare Testing	1.914	1.971	1.965
Description: IR flare testing and qualification on aircraft ***FY 2013 Accomplishments:*** Qualified IR flare cocktails on various aircraft. ***FY 2014 Plans:*** Activities include qualification of IR flare cocktails on various aircraft. ***FY 2015 Plans:*** Activities include testing and qualification of IR flare cocktails on various aircraft.			
Accomplishments/Planned Programs Subtotals	1.914	1.971	1.965

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0604270F / *Electronic Warfare Development*	**Project (Number/Name)** 653891 / *Advanced IR Counter Measures (AIRCM)*

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
• PAAF: BA01: Line Item # 356010: *Flares*	41.545	49.194	73.356	-	73.356	103.565	109.623	97.541	99.396	Continuing	Continuing

Remarks

Qualified flares, if not in AF inventory, will be procured under PE 0208030F War Reserve Munitions, Flares.

D. Acquisition Strategy

Do not anticipate need to award contracts as activities will be be completed with Military Interdepartmental Purchase Requests.

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 / 5	**R-1 Program Element (Number/Name)** PE 0604270F / *Electronic Warfare Development*	**Project (Number/Name)** 653891 / *Advanced IR Counter Measures (AIRCM)*

Flare Test Schedule

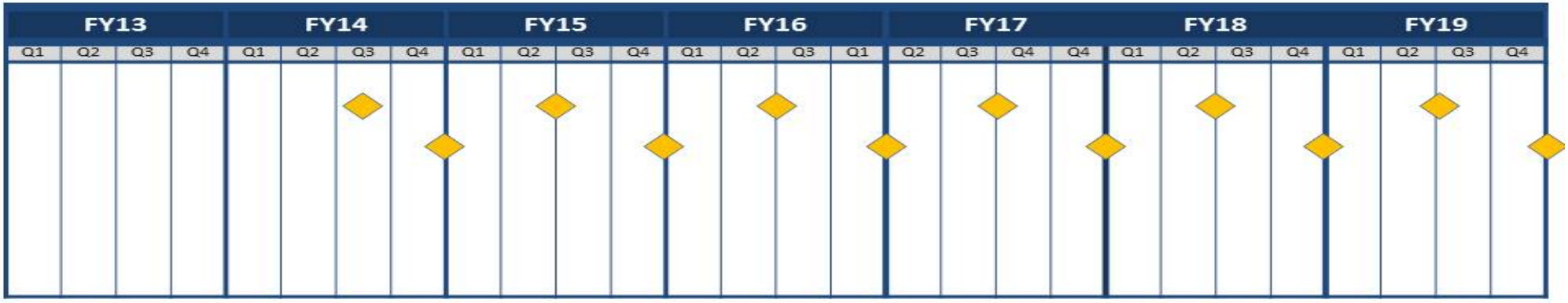


Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force											Date: March 2014	
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0604281F / *Tactical Data Networks 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	-	21.355	42.745	39.110	-	39.110	50.373	36.250	36.943	24.608	Continuing	Continuing
655050: *TDL System Integration*	-	17.973	14.262	18.764	-	18.764	34.883	36.250	36.943	24.608	Continuing	Continuing
655262: *Family of Gateways*	-	3.382	8.328	20.346	-	20.346	15.490	-	-	-	Continuing	Continuing
657003: *Airborne Networking Enterprise*	-	-	20.155	-	-	-	-	-	-	-	Continuing	Continuing

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

A. Mission Description and Budget Item Justification

The Tactical Data Networks Enterprise (TDNE) contributes to the development, delivery and deployment of the next generation aerial layer network through a portfolio of legacy and advanced waveforms and airborne network management/development efforts that advance interoperability and connectivity. This will be accomplished via fielded and future ground and gateway investments while addressing warfighter urgent demands through the establishment of Quick Reaction Capabilities (QRC). The TDNE conceptualizes, acquires and fields aerial layer networking capabilities supporting legacy, current, in-development, future and proposed systems across all domains of information exchange enabling strike, mobility, special operations, command and control (C2), intelligence, surveillance and reconnaissance (ISR), air, surface, subsurface and space operations. These capabilities ensure a robust and agile extension of the global information domain out to the tactical edge in support of increasing air domain awareness.

Funding will provide for the study (acquisitions current and proposed), analysis, enhancement, development, integration, demonstration, test, and evaluation of Tactical Data Links (TDLs) as a subset of the broader aerial layer networks. TDLs are used in both peace time and combat environments to exchange information such as character-oriented and fixed-formatted messages, data, radar tracks, target information, platform status, imagery, free-text messaging and command assignments. TDLs provide interoperability, local and global connectivity, and situational awareness to the user when operating under rapidly changing operational conditions. TDLs increase mission effectiveness by providing enhanced air domain situational awareness, positive combat identification of aircraft in the network, fusion/correlation of on- and off-board sensor data, digital sharing of machine to machine target and threat information, thereby, enabling time critical targeting and other mission assignment tasking. TDLs are used by all service theater command and control (C2) elements, weapons platforms, and sensors. TDLs include, but are not limited to: Link 16, Link 11, Situational Awareness Data Link (SADL), Variable Message Format (VMF), Intra-Flight Data Link (IFDL), and other Advanced TDL Link technologies, such as Tactical Targeting Network Technology (TTNT) and Multifunction Advanced Data Link (MADL).

Funding also supports Family of Gateways study (acquisitions current and proposed), analysis, enhancement, development, integration, demonstration, test, and evaluation efforts that will allow joint combat forces to exchange information quickly and accurately by bridging discrete airborne, terrestrial, maritime, and space-based C4ISR networks producing operational effects not possible within individual networks (i.e. Battlefield Airborne Communication Node (BACN). Gateway functions include enabling interoperability between data formats, protocols, and communication mediums. Additionally, gateway functions extend connectivity range, consolidate data from multiple networks into high capacity links for transmission to key C4ISR nodes, route information between disadvantaged users, and fuse/correlate data from multiple sources to improve accuracy. Gateway functions also provide application hosting, shared data storage, on-demand information access, smart data forwarding,

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 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604281F / *Tactical Data Networks Enterprise*

and system monitoring/network management. Funding will also support quick reaction response capability requests by the warfighter and support activities (including ramp-up) associated with the Joint Aerial Layer Network (JALN) Enterprise Analysis of Alternatives and its follow-on activities as directed by the JALN Council, in line with applicability of existing TDL performance, upgrade plans, engineering analysis, cost analysis of system designs and TDN Performance Improvements. This includes studies and planning for a gateway node with the JALN Enterprise.

This program is in Budget Activity 5, System Development and Demonstration (SDD), it has passed Milestone B approval and is conducting engineering and manufacturing development tasks aimed at meeting validated requirements prior to full-rate production.

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	24.534	51.456	46.999	-	46.999
Current President's Budget	21.355	42.745	39.110	-	39.110
Total Adjustments	-3.179	-8.711	-7.889	-	-7.889
• Congressional General Reductions	-0.033	-0.423			
• Congressional Directed Reductions	-	-8.288			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.618	-			
• Other Adjustments	-2.528	-	-7.889	-	-7.889

Change Summary Explanation

FY13 funding decreased due to a sequestration reduction of $2.528M.

FY14 funding decreased due to Congressional Directed Reductions of $8.288M ($6.788M - Program Decrease, and $1.500M 5th to 4th Generation Gateway - Program Delay).

FY15 funding decreased due to transferring $7.4M out of Project 657003, Airborne Networking Enterprise, to a DISA PE.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force											Date: March 2014	
Appropriation/Budget Activity 3600 / 5					R-1 Program Element (Number/Name) PE 0604281F / *Tactical Data Networks Enterprise*				Project (Number/Name) 655050 / *TDL System 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**
655050: *TDL System Integration*	-	17.973	14.262	18.764	-	18.764	34.883	36.250	36.943	24.608	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

Funding will provide for the study, analysis, enhancement, development, integration, demonstration, costing, test, and evaluation of Tactical Data Links (TDL) as a subset of the broader aerial layer network. TDLs are used in both peacetime and combat environments to exchange information such as character-oriented and fixed-formatted messages, data, radar tracks, target information, platform status, imagery, free-text messaging and command assignments. TDLs provide interoperability, local and global connectivity, and situational awareness to the user when operating under rapidly changing operational conditions. TDLs increase mission effectiveness by providing enhanced air domain situational awareness, positive combat identification of aircraft in the network, fusion/correlation of on- and off-board sensor data, digital sharing of machine to machine target and threat information and, thereby, enabling time critical targeting and other mission assignment tasking. TDLs are used by all service theater command and control (C2) elements, weapons platforms, and sensors.

The number of Air Force platforms hosting TDLs has expanded from C2 aircraft (E-3, E-8, E-11A, EQ-4B, or other JALN analyzed platforms, etc.) to the fighter, bomber, intelligence, surveillance and reconnaissance (ISR), tanker, airlift and other tactical fleets (F-15, F-16, F-22A, Rivet Joint, B-1, B-2, B-52, etc.), as well as to precision guided munitions. Utilization of TDLs in a joint environment requires the integration of terminals into host platforms and interoperability of TDL networks across all deployed joint and coalition platforms. TDLs have become the primary means of tactical, battlefield communications.

Efforts in this project include waveform and integration activities.

Waveform:
Waveform activities include, but are not limited to, enabling and supporting Joint Interoperability of Tactical Command and Control Systems (JINTACCS), interoperable System Management and Requirements Transformation (iSMART), Coalition Interoperability, and Link 16 Enhancements. Funding will provide training, logistics development, certification of individual TDL implementations to joint/allied standards, establishment of service-wide network management procedures/operations, and system wide enhancements/testing.

Integration:
Integration activities include, but are not limited to, Data Link Test Facility (DTF), Air Force Participating Test Unit (AFPTU), Joint Airborne Network Tactical Edge (JAN-TE), Network Centric Capability Assessment (NCCA), Tactical Edge Network C2 (TEN C2), integration analysis of the Joint Warfighting Integrated NetOps (JWIN) Joint Concept Technology Demonstration (JCTD), Cursor on Target (CoT), Tactical Communications Suite (TCS), and analysis of integration on platforms of existing TDN systems, system-of-systems analysis. Funding will ensure continued enhanced interoperability of Air Force and joint assets through efforts such as early systems engineering and use of the POET (Political, Operational, Economic and Technical) process for program requirements analysis and architectural design development/

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0604281F / *Tactical Data Networks Enterprise*	**Project (Number/Name)** 655050 / *TDL System Integration*

coordination of all TDN standards and management capabilities, configuration management, platform/system interoperability assessments, development of government reference architectures, and interoperability certification testing.

Activities also include studies and analysis (engineering and cost) to support both current program planning and execution and future program planning efforts for Tactical Data Networks, including development of joint concepts for C2 of JALN, JALN AoA follow-on analysis, JALN gateway planning, and the Joint Tactical Air Picture (JTAP).

This program is in Budget Activity 5, System Development and Demonstration (SDD), it has passed Milestone B approval and is conducting engineering and manufacturing development tasks aimed at meeting validated requirements prior to full-rate production.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Tactical Data Networks (TDN) Integration	7.354	10.733	13.481
Description: Tactical Data Networks (TDN) Integration activities include, but are not limited to, Data Link Test Facility (DTF), Air Force Participating Test Unit (AFPTU), Network Centric Capability Assessment (NCCA), Coalition Interoperability, Joint Aerial Layer Network (JALN) Analysis of Alternatives (AoA) follow-on, JALN gateway planning, and Joint Warfighting Integrated NetOps (JWIN) Joint Concept Technology Demonstration (JCTD). ***FY 2013 Accomplishments:*** Funding provided training, logistics, development, and certification to individual Tactical Data Link (TDL) implementations to joint/ allied standards. ***FY 2014 Plans:*** Funding is providing training, logistics, development, and certification to individual Tactical Data Link (TDL) implementations to joint/allied standards. Funding is also providing management with the necessary engineering, costing, technical, and administrative support needed to facilitate development. ***FY 2015 Plans:*** Funding will provide training, logistics, development, and certification to individual Tactical Data Link (TDL) implementations to joint/allied standards, and will provide management with the necessary engineering, technical and administrative support needed to facilitate development. Activities include support to TDL interoperability testing of development and fielded systems through the Data Link Test Facility (DTF); DoD mandated TDL MIL-STD conformance testing and interoperability assessments for all TDL capable Air Force platforms through the Air Force Participating Test Unit (AFPTU); and aerial layer network focused studies and analysis that support data link enhancements, and assessment of tactical airborne network and network management gaps that are validated in existing requirements documents through the Network Centric Capability Assessments (NCCA). Activities will also include studies and analysis that include but are not limited to supporting both current program planning and execution and future program planning efforts for Tactical Data Networks, including development of joint concepts for Command &			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0604281F / *Tactical Data Networks Enterprise*	**Project (Number/Name)** 655050 / *TDL System Integration*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Control (C2) and network management of the Joint Aerial Layer Network (JALN), and JALN gateway planning. Activities will also include Coalition Interoperability that provides program office system engineering to support Foreign Military Sales (FMS) case development, FMS planning for tech refresh modifications, and Crypto-Modernization.			
Title: Joint Interoperability of Tactical Command and Control Systems (JINTACCS) ***Description:*** Joint Interoperability of Tactical Command and Control Systems (JINTACCS) ensures interoperability of AF Tactical Data Link (TDL) systems with associated joint, allied, and coalition systems and includes development, interoperability certification, Tactical Data Link (TDL) message standard implementation utilizing interoperable System Management and Requirements Transformation (iSMART) (e.g., Links 11A/B, 16, 22, Variable Message Format (VMF), Integrated Broadcast Service (IBS), Multifunction Advanced Data Link (MADL), and configuration management of standards. ***FY 2013 Accomplishments:*** Funding ensured compatibility and interoperability of Tactical Data Links (TDLs) by conducting necessary joint compatibility and interoperability tests. ***FY 2014 Plans:*** Funding is ensuring compatibility and interoperability of Tactical Data Links (TDLs) by conducting necessary joint compatibility and interoperability tests. Funding is also providing management with the necessary engineering, technical, and administrative support needed to facilitate development. ***FY 2015 Plans:*** Funding will ensure compatibility and interoperability of Tactical Data Links (TDLs) by conducting necessary joint compatibility and interoperability tests. Funding will also provide management with the necessary engineering, technical, and administrative support needed to facilitate development.	1.909	2.369	3.729
Title: Cursor on Target (CoT) ***Description:*** Cursor on Target (CoT) is an extensible, 'What, When, Where' (W3) XML message format for interconnecting Command, Control, Communication & Computer (C4), intelligence, surveillance & reconnaissance (ISR) systems. The Cursor on Target (CoT) suite consists of the W3 base schema, 14 tailored sub-schemas, and a set of 10 S/W plug-ins and translators that faciliate machine to machine (M2M) transmission of Command and Control (C2), intelligence, surveillance and reconnaissance (ISR), and situational awareness data at reduced cost compared with traditional integration methods. ***FY 2013 Accomplishments:***	1.169	1.160	1.554

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0604281F / *Tactical Data Networks Enterprise*	**Project (Number/Name)** 655050 / *TDL System Integration*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Funding supported development, test, certification and accreditation of new Cursor on Target (CoT) apps/plug-ins/schema, initial draft of a Cursor on Target (CoT) MIL-STD and transitioning of apps/plug-ins/schema to sustainment. ***FY 2014 Plans:*** Funding is supporting development, test, certification and accreditation of new Cursor on Target (CoT) apps/plug-ins/schema, development of the Cursor on Target (CoT) MIL-STD and transitioning of apps/plug-ins/schema to sustainment. Funding is also providing management with the necessary engineering, technical, and administrative support needed to facilitate development. ***FY 2015 Plans:*** Funding will support development, test, certification and accreditation of new Cursor on Target (CoT) apps/plug-ins/schema, development of the Cursor on Target (CoT) MIL-STD and transitioning of apps/plug-ins/schema to sustainment. Funding will also provide management with the necessary engineering, technical, and administrative support needed to facilitate development.			
Title: Gateways Integration ***Description:*** Supporting integration efforts including Common Link Integration Processing (CLIP), Link 16 Alaska (LAK), Quick Reaction Capabilities (QRC), that cover work to support AF and Joint Urgent Operational Needs, and Joint Enterprise Terminal Pack (JETPack) Joint Concept Technology Demonstration (JCTD). ***FY 2013 Accomplishments:*** Funding supported completion of the Joint Concept Technology Demonstration (JCTD) efforts including testing and verification of the Joint Enterprise Terminal Pack (JETPack) capabilities. ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** N/A	7.541	-	-
Accomplishments/Planned Programs Subtotals	17.973	14.262	18.764

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 0207448F: *C2ISR TDL*	1.447	1.406	1.782	-	1.782	1.770	1.715	1.748	1.782	Continuing	Continuing
• APAF:BA05:Line Item #F01500: *F-15*	-	-	0.002	-	0.002	18.789	44.245	45.071	58.835	Continuing	Continuing

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0604281F / *Tactical Data Networks Enterprise*	**Project (Number/Name)** 655050 / *TDL System Integration*

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 #F01600: *F-16*	-	-	-	-	-	7.928	8.073	8.226	8.380	Continuing	Continuing
• APAF:BA05:Line Item #B00200: *B-2A*	-	0.257	0.049	-	0.049	0.474	0.400	0.497	0.199	Continuing	Continuing
• APAF:BA05:Line Item #B01B00: *B-1B*	-	0.696	1.261	-	1.261	1.133	1.319	1.490	-	Continuing	Continuing
• APAF:BA05:Line Item #OTHACF: *Other Aircraft*	-	0.192	0.037	-	0.037	2.541	1.595	1.506	1.518	Continuing	Continuing
• OPAF:BA03:Line Item #834010: *General Information Technology*	-	0.153	0.168	-	0.168	1.959	1.664	0.175	0.178	Continuing	Continuing

Remarks

D. Acquisition Strategy

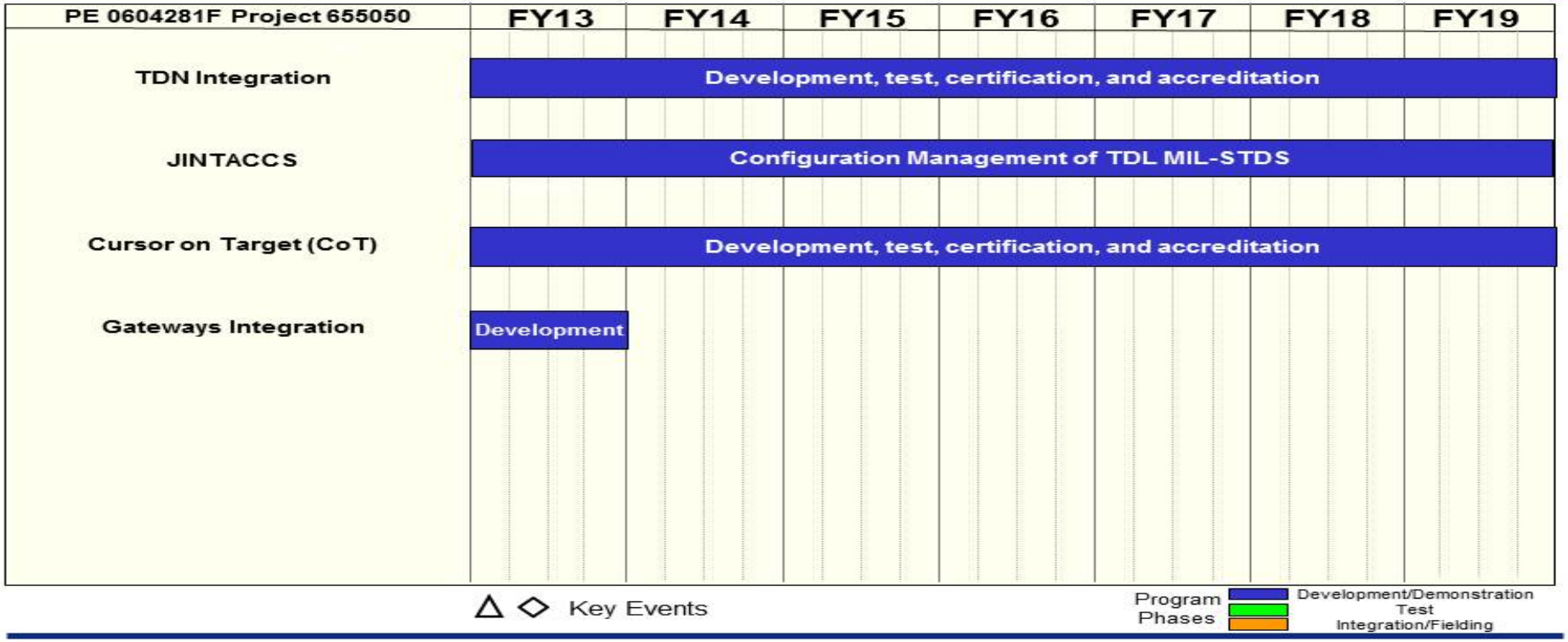
The Airborne Networking Directorate provides for common development, integration, and interoperability across the entire airborne network and ensures that data links are procured and maintained as a joint, end-to-end command and control system. Platform acquisition strategies vary by program, but the majority of development and integration is normally accomplished by the weapon system prime contractor.

E. Performance Metrics

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

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0604281F / *Tactical Data Networks Enterprise*	**Project (Number/Name)** 655050 / *TDL System Integration*

Tactical Data Networks Enterprise/ Tactical Data Link System Integration



Integrity - Service - Excellence

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 5	R-1 Program Element (Number/Name) PE 0604281F / *Tactical Data Networks Enterprise*	Project (Number/Name) 655262 / *Family of Gateways*	

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
655262: *Family of Gateways*	-	3.382	8.328	20.346	-	20.346	15.490	-	-	-	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

Funding supports Family of Gateways study (acquisitions current and proposed), analysis, enhancement, development, integration, costing, demonstration, test, and evaluation efforts that will allow joint combat forces to exchange information quickly and accurately by bridging discrete airborne, terrestrial, maritime, and space-based C4ISR networks producing operational effects not possible within individual networks. Gateway functions include enabling interoperability between data formats, protocols, and communication mediums. Additionally, gateway functions extend the connectivity range, consolidate data from multiple networks into high capacity links for transmission to key C2ISR nodes, route information between disadvantaged users, and fuse/correlate data from multiple sources to improve accuracy. Gateway functions also provide application hosting, shared data storage, on-demand information access, smart data forwarding, and system monitoring/network management. Funding in this project will also support requests by the warfighter such as the Battlefield Airborne Communications Node (BACN), 5th to 4th and 5th to 5th Generation efforts, and the STRATCOM Distributed Nuclear Command and Control (DNC2) capabilities. Additionally, funding will support activities associated with the Joint Aerial Layer Network (JALN) Enterprise Analysis of Alternatives and follow-on recommendation, in line with applicability of existing TDL performance, upgrade plans and engineering analysis of system designs and TDN Performance Improvements.

Efforts in this project include waveform, ground, and quick reaction capability activities.

Waveforms:
Waveform activities include, but are not limited to Common Link Integration Processing (CLIP), Situational Awareness Data Link (SADL), and 5th to 4th Generation efforts. CLIP is a software-only, platform-independent middleware application that provides gateway services between diverse message sets and waveforms. CLIP will initially be fielded on the B-1 and B-52 platforms. SADL integrates US Air Force close air support aircraft with the networked battlefield via the US Army's Enhanced Position Location Reporting System (EPLRS). The 5th to 4th Generation gateway facilitates sharing of 5th Generation aircraft track data with 4th Generation aircraft as well as C2 nodes.

Ground:
Ground activities include, but are not limited to the Joint Air Defense System Integrator (JADSI), Pocket J, Link 16 Alaska (LAK), Tactical Edge Network C2 (TEN C2), and Joint Range Extension (JRE)/JRE Transparant Multi-Platform Gateway Equipment Package(JTEP). Funding will support enhancements to the interoperability and capabilities of fielded gateways through processing capability upgrades, operating system updates, display/graphical user interface upgrades, incorporation of additional messaging standards and protocols, and completion of gateway architecture fielding.

Quick Reaction Capability:

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0604281F / *Tactical Data Networks Enterprise*	**Project (Number/Name)** 655262 / *Family of Gateways*

Quick reaction capability activities include, but are not limited to, BACN and Beyond Line of Sight Command and Control (BLOS C2). Funding will support AF rapid acquisition requirements for communications bridging of waveforms through gateway technology.

Activities also include studies and analysis to support both current program planning and execution and future program planning efforts for Family of Gateways.

This program is in Budget Activity 5, System Development and Demonstration (SDD), it has passed Milestone B approval and is conducting engineering and manufacturing development tasks aimed at meeting validated requirements prior to full-rate production.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: STRATCOM Distributed Nuclear Command and Control (DNC2)	3.382	3.100	-
Description: STRATCOM Distributed Nuclear Command and Control (DNC2) efforts provide for the distribution of data from airborne assets to ground components for analysis, decision-making and re-tasking of critical assets. ***FY 2013 Accomplishments:*** Funding supported development, test, and fielding of operational-hardened, wideband Ground Entry Points (GEPs) and testing with up to three aircraft to ensure functionality of the system in an operational environment. ***FY 2014 Plans:*** Funding is supporting development, test, and fielding of operational-hardened, wideband Ground Entry Points (GEPs) and testing with up to three aircraft to ensure functionality of the system in an operational environment. ***FY 2015 Plans:*** N/A			
Title: 5th To 4th Generation Gateway	-	5.228	20.346
Description: 5th to 4th Generation gateway facilitates sharing of 5th Generation track data with 4th Generation aircraft as well as Command and Control (C2) nodes. Gateway functions include enabling interoperability between data formats, protocols, and communication mediums. Additionally, gateway functions extend the connectivity range, consolidate data from multiple networks into high capacity links for transmission to key C2ISR nodes, route information between disadvantaged users, and fuse/correlate data from multiple sources to improve accuracy. ***FY 2013 Accomplishments:*** N/A ***FY 2014 Plans:*** Funding is supporting projects including 5th to 4th Generation gateway with engineering, technical, and administrative support. ***FY 2015 Plans:***			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0604281F / *Tactical Data Networks Enterprise*	**Project (Number/Name)** 655262 / *Family of Gateways*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Funding will support projects including 5th to 4th Generation gateway with engineering, technical, and administrative support.			
Accomplishments/Planned Programs Subtotals	3.382	8.328	20.346

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 0207448F: *C2ISR TDL*	1.447	1.406	1.782	-	1.782	1.770	1.715	1.748	1.782	Continuing	Continuing
• APAF:BA05:Line Item #F01500: *F-15*	-	-	0.002	-	0.002	18.789	44.245	45.071	58.835	Continuing	Continuing
• APAF:BA05:Line Item #F01600: *F-16*	-	-	-	-	-	7.928	8.073	8.226	8.380	Continuing	Continuing
• APAF:BA05:Line Item #B00200: *B-2A*	-	0.257	0.049	-	0.049	0.474	0.400	0.497	0.199	Continuing	Continuing
• APAF:BA05:Line Item #B01B00: *B-1B*	-	0.696	1.261	-	1.261	1.133	1.319	1.490	-	Continuing	Continuing
• APAF:BA05:Line Item #OTHACF: *Other Aircraft*	-	0.192	0.037	-	0.037	2.541	1.595	1.506	1.518	Continuing	Continuing
• OPAF:BA03:Line Item #834010: *General Information Technology*	-	0.153	0.168	-	0.168	1.959	1.664	0.175	0.178	Continuing	Continuing

Remarks

D. Acquisition Strategy

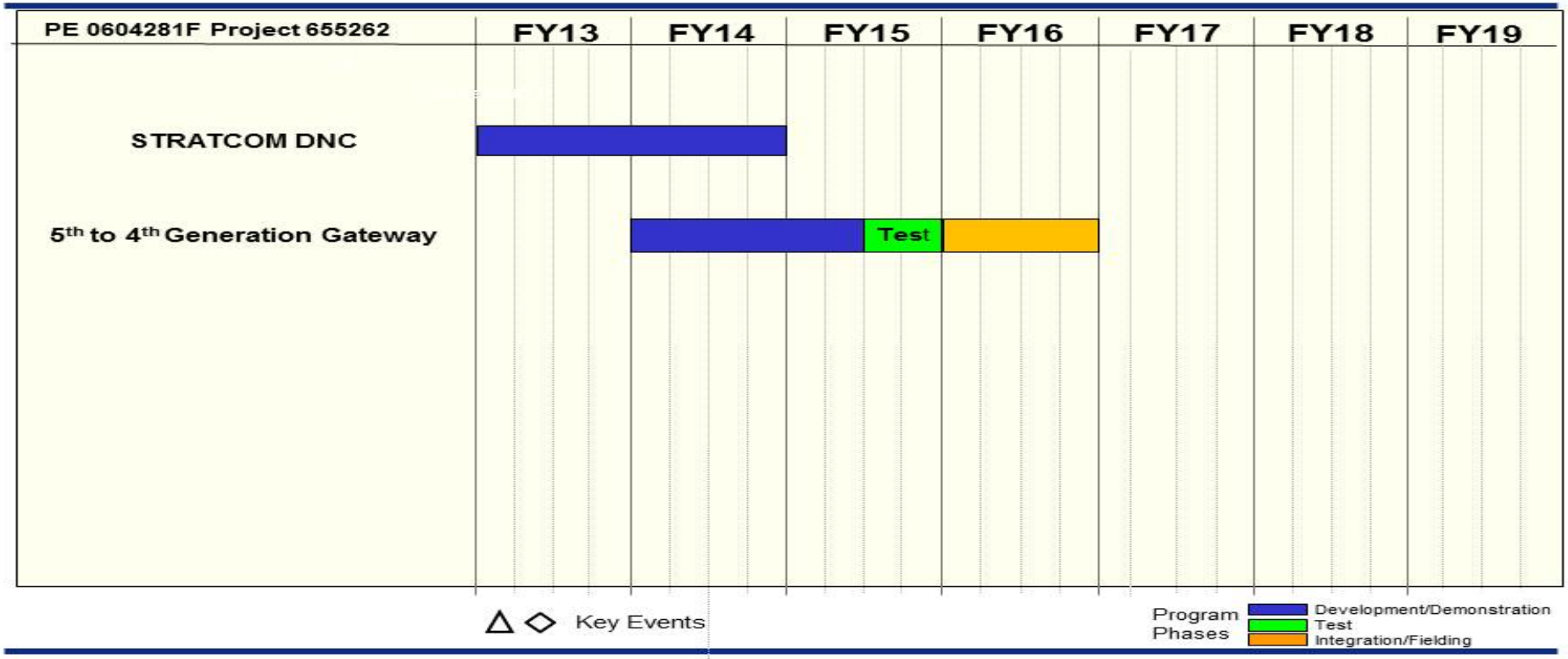
The Airborne Networking Directorate provides for common development, integration and interoperability across the entire airborne network and ensures that data links are procured and maintained as a joint, end-to-end, command and control system. Platform acquisition strategies vary by program, but the majority of development and integration is normally accomplished by the weapon system prime contractor.

E. Performance Metrics

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

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0604281F / *Tactical Data Networks Enterprise*	**Project (Number/Name)** 655262 / *Family of Gateways*

Tactical Data Networks Enterprise
Family of Gateways Schedules



Integrity - Service - Excellence

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 5	R-1 Program Element (Number/Name) PE 0604281F / *Tactical Data Networks Enterprise*	Project (Number/Name) 657003 / *Airborne Networking 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
657003: *Airborne Networking Enterprise*	-	-	20.155	-	-	-	-	-	-	-	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 is a classified effort. Details provided upon request.

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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 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0604287F / *Physical Security Equipment*							
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	-	0.051	-	3.926	-	3.926	4.036	4.155	4.236	4.316	Continuing	Continuing
645121: *Physical Security Equipment*	-	0.051	-	3.926	-	3.926	4.036	4.155	4.236	4.316	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

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

Note

In FY15, Project Number 655120, Physical Security Equipment SD&DD, efforts were transferred from PE 0603287F, Physical Security Equipment, Project Number 645121, in order to align funding in the correct Budget Activity (BA05).

A. Mission Description and Budget Item Justification

Integrated Base Defense Security Systems (IBDSS) develops, demonstrates, and tests Physical Security Equipment (PSE) systems to include Force Protection. This program supports the protection of tactical, fixed, and nuclear weapons systems, AF personnel and AF facilities. The PSE program is organized to provide PSE RDT&E for Air Force specific needs but as a complement to and in conjunction with the PSE RDT&E programs funded by the DOD Physical Security Enterprise and Analysis Group (PSEAG). As such this program will develop, demonstrate, and test PSE in the same manner and to the same standards and architecture as PSEAG funded projects to ensure interoperability with PSEAG developed PSE. In development of PSE, this RDT&E program includes spectrum planning for radio frequency (RF), communication security (cyber), and information assurance requirements. This Program Element also includes funding for Force Protection Commercial-Off-The-Shelf (FP COTS) market research, evaluation and testing. The FP COTS testing applies to all available technologies (delay, denial, detection, assessment, communication display, access control and power) which are considered effective for AF physical security use. This program supports the maintenance and test support at Site C-3 and the Cold Weather Test Site (CWTS), as annotated in DoD Directive 3200.11, listing the 46th Test Wing (TW) as a Major Range and Test facility, conducting developmental and operational testing as the primary mission.

This program is in Budget Activity 5, System Development and Demonstration (SDD) because it has passed Milestone B approval and is conducting engineering and manufacturing development tasks aimed at meeting validated requirements prior to full rate production.

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 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604287F / *Physical Security Equipment*	

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	0.051	0.050	0.050	-	0.050
Current President's Budget	0.051	-	3.926	-	3.926
Total Adjustments	-	-0.050	3.876	-	3.876
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-0.050			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-	-	3.876	-	3.876

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Integrated Base Defense Security Systems	0.051	-	3.926

Description: Develops, demonstrates, and tests Physical Security Equipment (PSE) systems, to include Force Protection. This continuing effort was previously named Physical Security Equipment and is not a New Start.

FY 2013 Accomplishments:
Conducted Force Protection Commercial Off The Shelf (COTS) evaluation and testing:.
- Capability operated for operationally representative test and evaluation accomplished at Test Area C-3, Eglin AFB, FL and the Cold Weather Test Site (CWTS) at Grand Forks AFB, ND, as annotated in DoD Directive 3200.11, listing the 46TW as a Major Range and Test facility, conducting developmental and operational testing as the primary mission
- Test site capability essential for the rapid installation of a VICADS video management system installed with Predator Elite alarm display equipment in 3QY13 with initial test and evaluation conducted in 4QFY13. Successful resolution of documented discrepancies and qualification will result in a system approved for use and would provide a way ahead to resolve a nuclear security deviation documented by the operating MAJCOM commander.

Refined, researched, and tested technology for automated entry control systems; continued to test, develop, and integrate equipment to improve security and access to facilities. Program office management and test site capability enabled prior year RDT&E investments that:
- Completed initial evaluation of Vindicator alarm display evaluation with updated operating system and information assurance configuration (46TS report 13-213); maintains viable alarm display system that can be accredited. To be delivered for New Boston AFS installation project and retrofit for aging AF security 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 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604287F / *Physical Security Equipment*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
- Completed Advantor alarm display evaluation with updated components and information assurance configuration (46TS report 13-145); maintains viable alarm display system that can be accredited. To be delivered for Fairchild AFB installation project and retrofit for aging AF security systems. Continued to manage sensor and assessment product developments and tests with the following results. Program office management and test site capability enabled prior year RDT&E investments that: - VTW-400 Fence Sensor Deficiency Resolution and Evaluation (09 Nov 12); enabled depot procurement and retrofit of components in the nuclear security environment at three locations ? completed in Sep 13. - VICADS evaluation for video storage integrated with Vindicator alarm display (46TS report 13-010); procured with installation in-process for Protection Level 1 security systems at Beale AFB, Cape Cod AFS and a USAFE protection Level 3 system to enable security operators highly reliable pre and post alarm video details for each perimeter alarm. - Fiber Defender (FD-525) Fence Sensor Cold Weather Evaluation (46TS 13-022); verified sensor performance through CTWS evaluation in the range of extreme winter conditions that nuclear security capable base security systems endure at AFGSC locations in the northern plains - Defensor-100 Fence Sensor Cold Weather Evaluation (46TS 13-023); verified sensor performance to relieve risk of one commercial source for perimeter fence sensors at nuclear security capable bases within AFGSC - Mid-Range Perimeter Surveillance Radar (STS-1400) Evaluation (46TS 13-224); applied AF developed test procedures to validate wide area detection sensor performance at a Missile Defense Agency operational location. - Pelco (ES40) Camera engineering analysis to qualify successor product and field evaluation (46TS 13-182); provided immediate relief for five installation delivery orders that had the same obsolescence problem. - Bosch (VG5) Camera Evaluation (46TS 13-112); provided immediate relief to remedy an issue with available camera that was no longer manufactured in accord with Trade Agreement Act. Continued to manage, develop, evaluate, and test Delay/Denial products: - Transitioned development work for consolidation of expeditionary and fixed base alarm display system to consolidate security operator workload into test and evaluation phase. Conducted contractor and initial Government evaluation; following FY14 evaluation and qualification the capability will be deployed at three AFCENT locations to relieve manpower burdens. Continued to prepare operational systems improvement plans; develop technology roadmap, update system architecture. PEO Battle Management and HAF/A7S developed plans to increase capacity of evaluating COTS products applicable for IBDSS projects. Plans matured through acquisition strategy development for IBDSS fielding contracts to leverage industry resources.			

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 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604287F / *Physical Security Equipment*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Rapid Improvement Event (RIE) conducted in 4QFY13 to streamline process and reduce risks that COTS product qualification introduce to deployment of IBDSS capabilities. ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** Continue Force Protection Commercial Off The Shelf (COTS) market research, evaluation and testing to address capability gaps and obsolescence. This includes integration and testing to qualify COTS equipment to provide essential upgrades/improvements and state-of the art technology to support integrated based security systems installations worldwide. - Type of technologies includes delay/ denial/detection/assessment/communication display/access control/power equipment & systems for IBDSS projects. Other developmental or modified COTS efforts to improve IBDSS physical security equipment: - Continue TASS P3I efforts including improvements to the annunciator. - Develop internal & external delay, denial, and detection options for the Nuclear Storage environment. - Delay advancements include semi-hardened transport containers for logistic movement of nuclear assets. - Denial advancement includes prototypes for denial capability within protective aircraft shelters. - Denial capability integration to improve life cycle cost and effectiveness for the Remote Target Engagement System (RTES) - Conduct RTES Independent Validation and Verification (IV&V) and safety reviews with NNMSB and applicable safety agencies to assure OSS&E of developed systems - Analyses and maturity assessment of interruption methods to disable or mitigate adversary remote airborne platforms. - Conduct IV&V of fielded PSE and integrated systems - Continue to research technological advances at NSSA, DoD, DoE, University Labs, DARPA, within industry, etc., with PSE utility. - Conduct analyses to include the adversary needs assessment and System Effectiveness Assessment (SEA) of the Nuclear Environment. - Develop Physical Security Alarm Systems; develop, integrate and evaluate fusion and display capability to improve command, control and communication to include fusion of disparate sensor technologies and threat indicators; improve situational awareness and increase the decision support provided to security system operators through a Common Operational Picture or in enhancement to established alarm display capability; planned environments are in the missile field and for weapons storage where Base Defense Operations Center aggregates threat, sensor alarms, video and thermal assessment for developing response plans and 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 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604287F / *Physical Security Equipment*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
- Support the maintenance and test support at Site C-3 and the Cold Weather Test Site (CWTS), as annotated in DoD Directive 3200.11, listing the 46TW as a Major Range and Test facility, conducting developmental and operational testing as the primary mission.			
Accomplishments/Planned Programs Subtotals	0.051	-	3.926

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
• AFOP: BA03: Line Item #30: *Air Force Physical Security System*	-	-	19.582	-	19.582	104.532	57.738	45.560	54.447	Continuing	Continuing

Remarks

E. Acquisition Strategy

COTS sub-systems, equipment and components are competitively acquired from industry after thorough market research. Equipment for testing is purchased via competitive Delivery Orders on Indefinite Delivery/Indefinite Quantity contract vehicles, direct purchase orders after competitive selection process, or other alternative competitive selection processes. For security systems COTS that are required to be qualified for nuclear security environments where industry COTS sources may not be mature, consideration is given to development of new items or modification of COTS through national laboratories; as competitive delivery order efforts on IDIQ contracts; or alternative competitive selection procedures as determined through acquisition strategy decisions.

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 / 5	**R-1 Program Element (Number/Name)** PE 0604287F / *Physical Security Equipment*	**Project (Number/Name)** 645121 / *Physical Security Equipment*

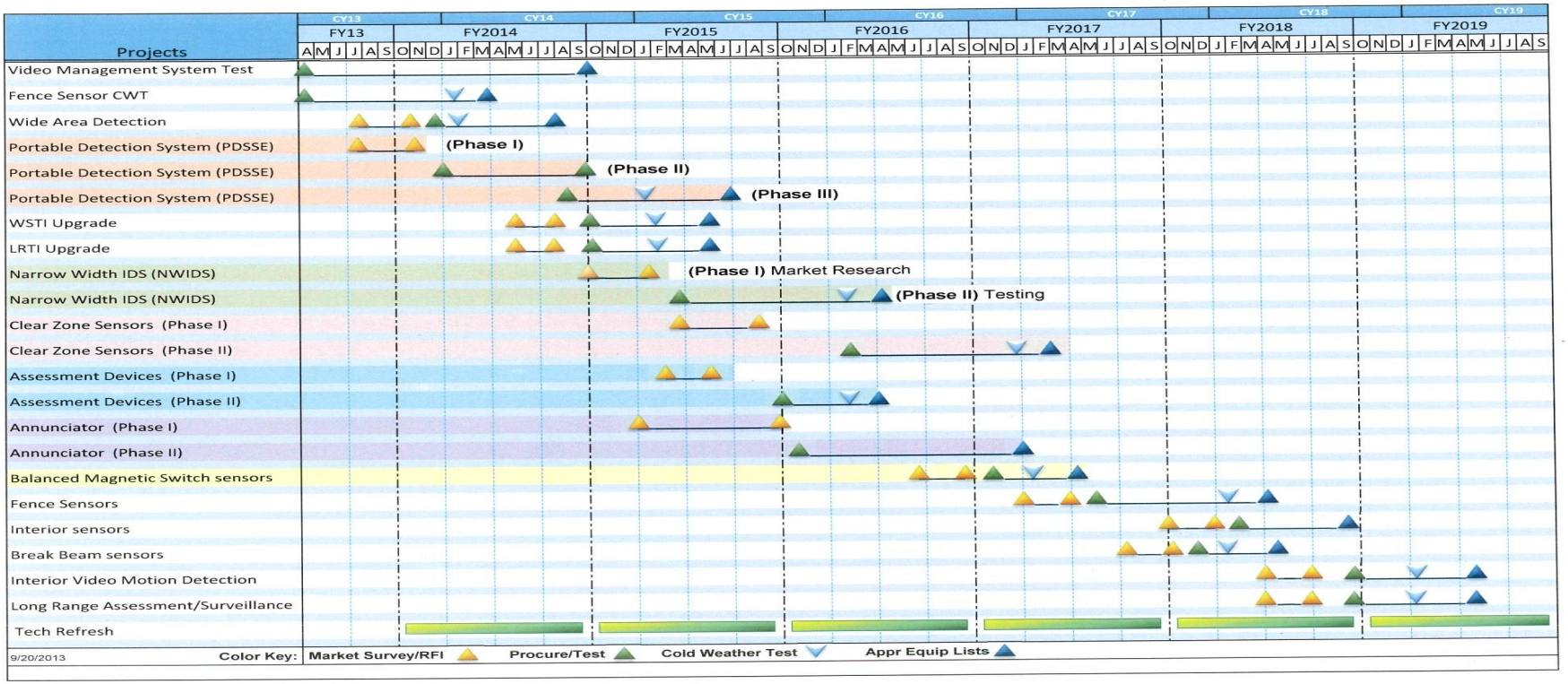

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force												Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0604329F / *Small Diameter Bomb (SDB) - EMD*							
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	731.858	125.101	113.334	68.759	-	68.759	32.842	63.366	15.544	15.840	6.533	1,173.177
655191: *SDB Increment II*	731.858	125.101	113.334	68.759	-	68.759	32.842	63.366	15.544	15.840	6.533	1,173.177
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		
MDAP/MAIS Code: 439												

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

Note

A. Mission Description and Budget Item Justification

Small Diameter Bomb Increment II (SDB II) is a joint interest United States Air Force (USAF) and Department of Navy (DoN) ACAT ID program, with the Air Force (AF) as the lead service. SDB II provides the warfighter the capability to attack mobile targets from stand-off, through weather. SDB II addresses the following warfighter requirements: attack moving and stationary targets, adverse weather operations, multiple kills per pass, multiple ordnance carriage, precision munitions capability, reduced munitions footprint, increased weapons effectiveness, minimized potential for collateral damage, reduced susceptibility of munitions to countermeasures and provides a network enabled weapon capability via Link-16 and Ultra High Frequency (UHF) Weapon Data Link. The threshold aircraft for the AF is the F-15E, and the threshold aircraft for the DoN are the F-35B and F-35C. Objective aircraft include the F-22, F-16, F-35A, B-2, A-10, MQ-9, B-1, B-52, and the F/A-18 E/F. The AC-130 is being considered as an additional objective platform. SDB II will be compatible with the BRU-61 miniature munitions carriage, the CNU-660/E carriage system, the Common Munitions Bit and Reprogramming Equipment (CMBRE), and the Joint Mission Planning System (JMPS). The SDB II program will develop and field a single weapon storage container (USAF) and a dual weapon container (DoN).

SDB II completed a 42-month competitive Risk Reduction phase in October 2009. Milestone B approval to enter the Engineering and Manufacturing Development (EMD) phase was received on 29 July 2010 and the subsequent Acquisition Program Baseline was signed on 08 October 2010. A Fixed Price Incentive Firm EMD contract was awarded on 09 August 2010. SDB II is a key component of the Air Force's Global Strike Task Force CONOPs and Global Precision Attack Core Function.

This program is in Budget Activity 5, System Development and Demonstration (SDD) because it has passed Milestone B approval and is conducting Engineering and Manufacturing Development tasks aimed at meeting validated requirements prior to full-rate production.

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 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604329F / *Small Diameter Bomb (SDB) - EMD*

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	143.000	115.000	54.000	-	54.000
Current President's Budget	125.101	113.334	68.759	-	68.759
Total Adjustments	-17.899	-1.666	14.759	-	14.759
• Congressional General Reductions	-0.182	-0.017			
• Congressional Directed Reductions	-5.000	-1.649			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	2.500	-			
• SBIR/STTR Transfer	-3.884	-			
• Other Adjustments	-11.333	-	14.759	-	14.759

Change Summary Explanation

FY13 - -$0.182M for Congressional General Reduction, Congressional Directed Reduction for other product development cost growth (-$5M) and sequestration (-$11.333M), $2.5M Below Threshold Reprogramming and -$3.884M for Small Business Innovation Research (SBIR).

FY14 - -$1.649M Congressional Directed Reduction, -$.017M for Federally Funded Research and Development Centers (FFRDC).

FY15 - $14.759M Air Force add to address SDB contract

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Development	100.803	71.944	28.927
Description: Engineering and Manufacturing Development (EMD): Development of SDB II design that delivers the capability described in the SDB II Capability Development Document (CDD) as specified in the government approved SDB II System Performance Specification (SPS) and prepare for production, deployment, and sustainment.			
FY 2013 Accomplishments: Continued System Capability and Manufacturing Process Demonstration activity and built first electronics production representative all-up-round (AUR). Transitioned test asset assembly to production facilities. Continued Developmental Test (DT) activities for SDB II Normal Attack Mode. Executed four Guided Test Vehicle (GTV) flight missions and three Controlled Test Vehicle (CTV) flight missions. Started AUR environmental qualification testing and reliability testing. Completed Manufacturing Readiness Assessment. Activities include, but are not limited to, designing, developing, and verifying production capability that delivers production quantities while ensuring the "as built" items conform to the EMD design and meet SPS requirements.			
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 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604329F / *Small Diameter Bomb (SDB) - EMD*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Complete System Verification Review and conduct Milestone C review. Continue DT for Normal Attack Mode and begin Live Fire testing. Begin the Captive Carry Reliability Test (CCRT) program. Begin development of maintenance and aircrew training. Complete Common Munitions Bit/Reprogramming Equipment software development. Conduct Production Readiness Review. Activities include, but are not limited to, designing, developing, and verifying production capability that delivers production quantities while ensuring the "as built" items conform to the EMD design and meet SPS requirements. ***FY 2015 Plans:*** Complete DT for Coordinate Attack Mode and Semi-Active Laser Mode. Complete Live Fire testing. Complete CCRT program. Conduct 28 Government Normal Attack test shots. Activities include, but are not limited to, designing, developing, and verifying production capability that delivers production quantities while ensuring the "as built" items conform to the EMD design and meet SPS requirements.			
Title: Integration and Qualification Testing	24.298	41.390	39.832
Description: F-15E aircraft Integration incorporates tests and targets, Modeling and Simulation (M&S), target lethality, data link and mission planning. Develop Suite 8E Operational Flight Program (OFP) upgrade to provide the capability to program the weapon with mission planned targets, weapon data link control, and exclusion zone information prior to launch of the weapon. It also allows the aircrew to make in-flight edits of target and weapon data link programming if/when required based on employment scenarios. ***FY 2013 Accomplishments:*** Continued to execute ground and flight testing and target procurement to support testing. Continued DT activities for SDB II Normal Attack Mode. Performed logistics demonstration. Conducted Advanced Joint Effectiveness Model (AJEM) lethality modeling and testing. Continued collaboration with National Security Agency (NSA) and Joint Interoperability Test Command (JITC) on weapon data link key management software. Continued Aviation and Missile Research Development and Engineering Center (AMRDEC) support for modeling and simulation tasks and Verification, Validation, and Accreditation (VV&A). Integrated SDB II with Command and Control Infrastructure, including Air and Space Operations Center (AOC). Delivered interim release of mission planning software and continued mission planning support during DT. ***FY 2014 Plans:*** Continue to conduct ground and flight testing and target procurement to support testing. Complete DT for Normal Attack Mode and begin Live Fire testing. Conduct AFOTEC Operational Assessment to support Milestone C. Begin update to F-15E training devices. Begin OFP update and qualification efforts for BRU-61. Continue AJEM lethality modeling and testing. Continue collaboration with NSA and JITC on weapon data link key management software. Continue AMRDEC support for modeling and			

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 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604329F / *Small Diameter Bomb (SDB) - EMD*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
simulation tasks and VV&A. Continue integration of SDB II with Command and Control Infrastructure, including AOC. Continue mission planning support during DT. Conduct Milestone C review. ***FY 2015 Plans:*** Complete DT for Coordinate Attack Mode and Semi-active Laser Mode. Complete Live Fire testing. Complete CCRT program. Conduct 28 Government Normal Attack test shots. Complete update to F-15E training devices. Continue OFP update and qualification efforts for BRU-61. Continue AJEM lethality modeling and testing. Continue collaboration with NSA and JITC on weapon data link key managements software. Continue AMRDEC support for modeling and simulation tasks and VV&A. Continue integration of SDB II with Command and Control Infrastructure, including AOC. Continue mission planning support during DT. Begin data link software updates.			
Accomplishments/Planned Programs Subtotals	125.101	113.334	68.759

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 # SDB000: *Small Diameter Bomb*	1.974	36.024	70.578	-	70.578	111.096	106.120	72.896	148.824	1,327.953	1,875.465
• RDT&E: BA05: PE 0604329N: *Small Diameter Bomb*	16.577	16.565	28.916	-	28.916	41.580	63.439	63.308	67.887	90.899	468.799
• WPN: BA05: Line Item # 223800: *Small Diameter Bomb*	-	-	-	-	-	-	24.181	93.599	95.464	456.758	669.332

Remarks

Navy RDT&E funds include F-35B and F-35C Integration and Support Cost

E. Acquisition Strategy

The SDB II Engineering and Manufacturing Development (EMD) contract was awarded using competitive procedures. At the completion of the 42-month Risk Reduction phase in October 2009, one contractor was selected in April 2010 and awarded the EMD contract in August 2010. The EMD contract is a Fixed-Price Incentive Firm (FPIF) contract with priced production options for the first five production lots. SDB II production Lots 1-3 are FPIF. Production Lots 4-5 are fixed price not-to-exceed pricing with an economic price adjustment clause for labor and materials. The Government is buying the SDB II based on the contractor System Performance Specification (SPS) which has been approved by the Government. The contractor is accountable for system performance as defined in the SPS and a system warranty as defined in the EMD contract. Accordingly, the contractor is accountable to the Government for the design of the weapon system, as well as the planning and execution of the Development Test & Evaluation (DT&E) program to verify system performance. The Government formally arranges and funds the use of Government flight test support for DT&E.

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 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604329F / *Small Diameter Bomb (SDB) - EMD*

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 / 5	R-1 Program Element (Number/Name) PE 0604329F / *Small Diameter Bomb (SDB) - EMD*	Project (Number/Name) 655191 / *SDB Increment II*	

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
Risk Reduction Contract 1	C/CPFF	Boeing : St. Louis, MO	151.922	-		-		-		-		-	-	151.922	151.922
Risk Reduction Contract 2	C/CPFF	Raytheon : Tucson, AZ	150.800	-		-		-		-		-	-	150.800	150.800
EMD Contract	C/FPIF	Raytheon : Tucson, AZ	286.003	98.391	Oct 2012	28.833	Oct 2013	19.346	Oct 2014	-		19.346	27.605	460.178	460.178
Technical Support Contract	SS/ Various	Raytheon : Tucson, AZ	1.971	2.412	Nov 2012	43.111	Dec 2013	9.581	Dec 2014	-		9.581	10.535	67.610	67.610
MPACT High Pressure Air Compressor System	SS/FFP	Boeing : St. Charles, MO	3.175	-		-		-		-		-	-	3.175	3.175
F-15E Integration and Test Support	SS/ Various	Boeing : St. Louis, MO	35.106	3.435	Jan 2013	5.642	Jan 2014	2.011	Jan 2015	-		2.011	0.668	46.862	46.862
BRU-61/A Integration and Test Support	SS/ Various	Boeing : St. Charles, MO	4.706	0.200	Mar 2013	4.031	Mar 2014	3.080	Mar 2015	-		3.080	2.074	14.091	14.091
Mission Planning	Various	Various : Various,	4.858	0.055	Dec 2012	0.602	Dec 2013	0.326	Dec 2014	-		0.326	0.060	5.901	5.901
Data Link Integration & Support	Various	Various : Various,	2.304	0.410	Dec 2012	0.691	Dec 2013	0.400	Dec 2014	-		0.400	4.138	7.943	7.943
System Performance & Lethality	Various	Various : Various,	28.009	3.197	Nov 2012	0.817	Nov 2013	1.801	Nov 2014	-		1.801	0.863	34.687	34.687
Other Product Development	Various	Various : Various,	7.526	0.970	Nov 2012	3.955	Nov 2013	1.501	Nov 2014	-		1.501	83.116	97.068	97.068
		Subtotal	676.380	109.070		87.682		38.046		-		38.046	129.059	1,040.237	1,040.237

Remarks

None.

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
Other Government Costs	Various	Various : Various,	1.698	0.954	Apr 2013	0.879	Apr 2014	0.615	Apr 2015	-		0.615	0.486	4.632	4.632
		Subtotal	1.698	0.954		0.879		0.615		-		0.615	0.486	4.632	4.632

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 5	R-1 Program Element (Number/Name) PE 0604329F / *Small Diameter Bomb (SDB) - EMD*	Project (Number/Name) 655191 / *SDB Increment II*	

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

Remarks

None.

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
DT&E: 96th Test Wing	PO	96th Test Wing : Eglin AFB, FL	8.842	5.116	Nov 2012	6.704	Nov 2013	14.619	Nov 2014	-		14.619	-	35.281	35.281
DT&E: UTTR, WSMR	Various	Various : Various,	2.942	1.086	Nov 2012	10.059	Nov 2013	9.516	Nov 2014	-		9.516	-	23.603	23.603
Targets	PO	Various : Various,	16.971	5.093	Jan 2013	3.775	Jan 2014	2.710	Jan 2015	-		2.710	1.122	29.671	29.671
Other Test Support	Various	Various : Various,	2.728	1.245	Dec 2012	1.780	Dec 2013	1.392	Dec 2014	-		1.392	1.375	8.520	8.520
		Subtotal	31.483	12.540		22.318		28.237		-		28.237	2.497	97.075	97.075

Remarks

None.

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
Technical Acquisition Management Support (TAMS)	Various	COLSA Corp : Eglin AFB, FL	0.933	0.458	Feb 2013	0.493	Feb 2014	0.381	Feb 2015	-		0.381	0.308	2.573	2.573
Technical and Engineering Acquisition Support (TEAS)	Various	Jacobs Technology : Eglin AFB, FL	14.119	1.087	Dec 2012	1.004	Dec 2013	0.786	Dec 2014	-		0.786	0.755	17.751	17.751
Program Management Administration (PMA)	Various	Various : Eglin AFB, FL	7.245	0.992	Oct 2012	0.958	Oct 2013	0.694	Oct 2014	-		0.694	1.020	10.909	10.909
		Subtotal	22.297	2.537		2.455		1.861		-		1.861	2.083	31.233	31.233

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 5	R-1 Program Element (Number/Name) PE 0604329F / *Small Diameter Bomb (SDB) - EMD*	Project (Number/Name) 655191 / *SDB Increment II*	

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

Remarks

None.

	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	731.858	125.101		113.334		68.759		-		68.759	134.125	1,173.177	1,173.177

Remarks

EMD contract is budgeted to the contract ceiling price.

The EMD Target Value includes AF funding only. The target value for the contract, including Navy funding, is $450.827.

UTTR: Utah Test and Training Range
WSMR: White Sands Missile Range

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0604329F / *Small Diameter Bomb (SDB) - EMD*	**Project (Number/Name)** 655191 / *SDB Increment II*

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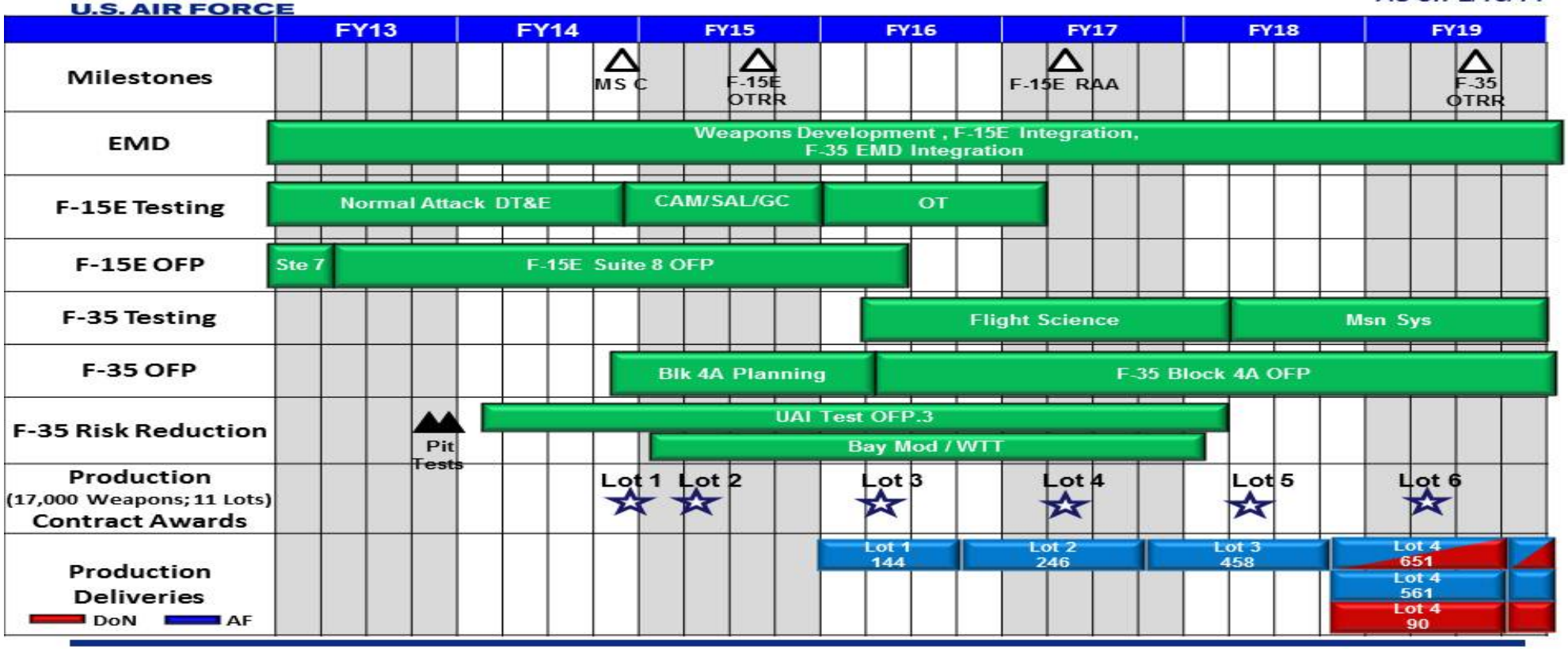
Program Schedule

As of: 2/18/14



Integrity - Service - Excellence

Exhibit R-4A, RDT&E Schedule Details: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0604329F / *Small Diameter Bomb (SDB) - EMD*	**Project (Number/Name)** 655191 / *SDB Increment II*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
F-15 Integration Developmental/Operational Testing	1	2013	4	2016
Milestone C	4	2014	4	2014
Start Government Confidence Testing	1	2015	2	2016
Commence Operational Testing	1	2016	1	2017
F-15E Required Assets Available	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 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0604421F / *Counterspace 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	-	25.775	22.655	23.746	-	23.746	24.087	-	-	-	-	96.263
65A001: *Counter Satellite Communications System*	-	14.359	15.412	16.074	-	16.074	16.275	-	-	-	-	62.120
65A003: *Rapid Identification Detection and Reporting System (RAIDRS)*	-	4.875	-	-	-	-	-	-	-	-	-	4.875
65A005: *Offensive Counterspace (OCS) C2*	-	6.541	7.243	7.672	-	7.672	7.812	-	-	-	-	29.268

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

A. Mission Description and Budget Item Justification

This program conducts critical planning, technology and capability insertion, and system acquisition of Air Force space control systems and associated command and control systems to meet current and future military space control needs in the face of an emerging threat. This funding supports the acquisition process including concept development, risk reduction, design, integration, test, and demonstration. Space control systems include both offensive counterspace (OCS) and defensive counterspace (DCS) systems. OCS systems include the means to disrupt, deny, degrade, or destroy an adversary's space systems, or the information they provide, which may be used for purposes hostile to U.S. national security interests. DCS systems include both active and passive measures to protect U.S. and friendly space related capabilities (satellites, communications links, and supporting ground systems) from enemy attack or interference. This includes development efforts to prevent adversarial ability to use U.S. space systems and services for purposes hostile to U.S. national security interests. Counterspace Command and Control (C2) includes command and control and mission planning capabilities required for the fielding and employment of counterspace systems. This program is in Budget Activity 5, System Development and Demonstration, because it is conducting demonstration, engineering and manufacturing development tasks aimed at meeting validated counterspace and space control 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 5: *System Development & Demonstration (SDD)*			R-1 Program Element (Number/Name) PE 0604421F / *Counterspace Systems*		
B. Program Change Summary ($ in Millions)	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO**	**FY 2015 Total**
Previous President's Budget	28.797	23.930	24.042	-	24.042
Current President's Budget	25.775	22.655	23.746	-	23.746
Total Adjustments	-3.022	-1.275	-0.296	-	-0.296
• Congressional General Reductions	-0.037	-0.053			
• Congressional Directed Reductions	-1.000	-1.200			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-0.022			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-1.985	-	-0.296	-	-0.296

Change Summary Explanation

FY13: -$1.0M Congressional reduction: "Historical excess from Gen Redux"
-$1.985M Sequester reduction

FY14: -$1.2m Congressional reduction

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 5	R-1 Program Element (Number/Name) PE 0604421F / *Counterspace Systems*	Project (Number/Name) 65A001 / *Counter Satellite Communications 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
65A001: *Counter Satellite Communications System*	-	14.359	15.412	16.074	-	16.074	16.275	-	-	-	-	62.120
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

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

A. Mission Description and Budget Item Justification

Acquisition Decision Memorandum (24 April 2009) directed all capabilities identified in the October 2006 CCS Block 20, JROC-approved CDD shall be accomplished as P3I upgrades to the CCS Block 10.

Provides expeditionary, deployable, reversible offensive counterspace effects applicable across the full spectrum of conflict. Prevents adversary SATCOM in AOR including C2, Early Warning and Propaganda. Hosts Rapid Reaction Capabilities in response to Urgent Needs. Included are: architecture engineering, system hardware design and development, software design and integration, testing and demonstration of capabilities to provide disruption of satellite communications signals.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Counter Communications System (CCS) Pre-planned Product Improvement (P3I) Program	14.359	15.412	16.074
Description: Develop, integrate, test and field the CCS Pre-planned Product Improvement (P3I) program. This is an incremental approach to deliver Block 20 CCS capabilities. ***FY 2013 Accomplishments:*** Continued the CCS P3I. Delivered the Increment 1 Trainer and began development of the Increment 2 capability. ***FY 2014 Plans:*** Continue development, integration and testing of Increment 2 of the Block 10 Pre-planned Product Improvement (P3I) program (CCS 10.2). ***FY 2015 Plans:*** Continue development, integration and testing of Increment 2 of the Block 10 Pre-planned Product Improvement (P3I) program (CCS 10.2).			
Accomplishments/Planned Programs Subtotals	14.359	15.412	16.074

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0604421F / *Counterspace Systems*	**Project (Number/Name)** 65A001 / *Counter Satellite Communications 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
• OPAF:BA03:Line Item #836810: *Counterspace Systems*	19.192	7.141	61.603	-	61.603	37.202	45.925	46.772	-	-	50.418

Remarks

D. Acquisition Strategy

All contracts in this program element will be awarded using competitive procedures to the maximum extent possible, to upgrade existing capabilities as well as to acquire next generation capabilities through incremental acquisitions.

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 / 5	**R-1 Program Element (Number/Name)** PE 0604421F / *Counterspace Systems*	**Project (Number/Name)** 65A001 / *Counter Satellite Communications System*

Counterspace Systems CCS Schedule

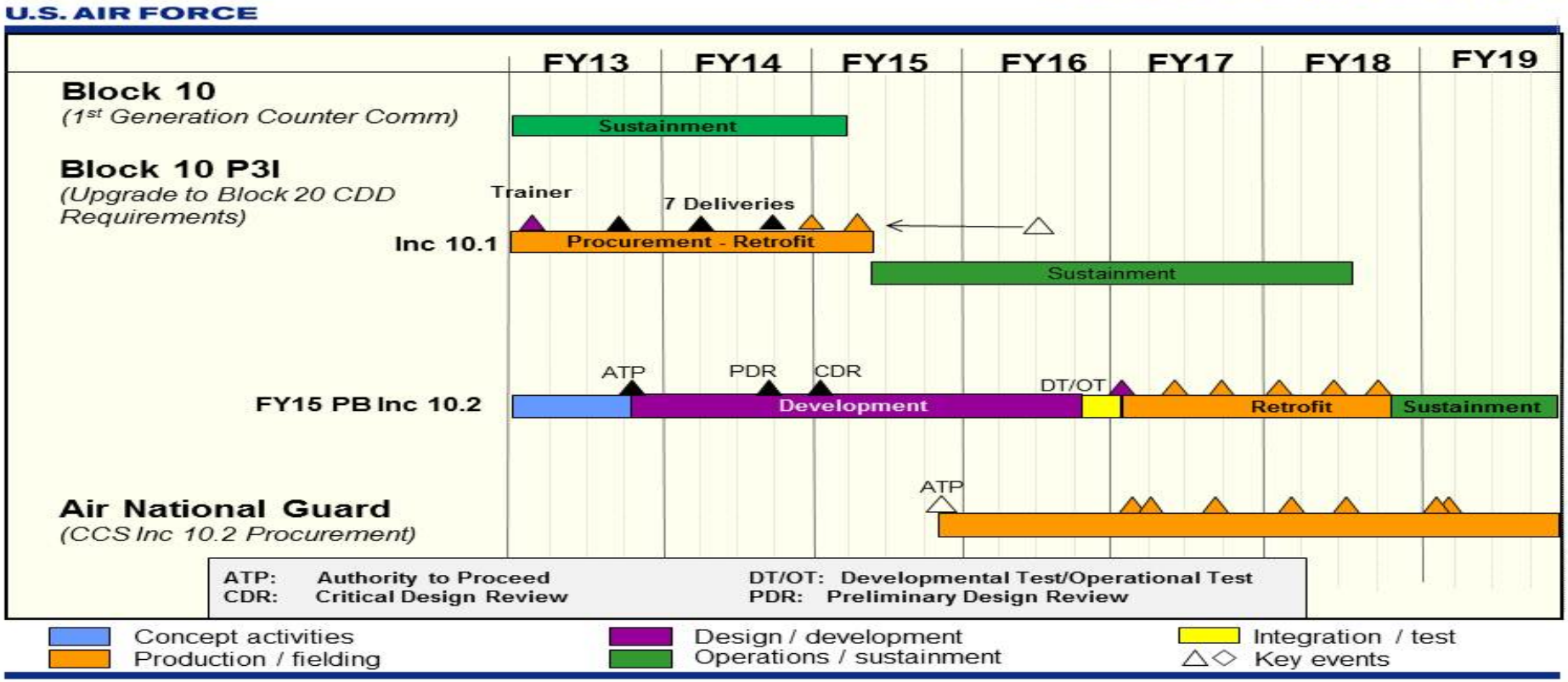


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Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 5	R-1 Program Element (Number/Name) PE 0604421F / *Counterspace Systems*	Project (Number/Name) 65A003 / *Rapid Identification Detection and Reporting System (RAIDRS)*	

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
65A003: *Rapid Identification Detection and Reporting System (RAIDRS)*	-	4.875	-	-	-	-	-	-	-	-	-	4.875
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 RAIDRS project performs attack detection, geolocation, reporting, characterization and mission impact assessment for US owned, operated or used space systems. RAIDRS capabilities support the National Security Strategy of the United States. RAIDRS is focused on detecting, characterizing, geolocating and reporting satellite communications (SATCOM) radio frequency interference (RFI) using currently existing Commercial-Off-the-Shelf (COTS) and Government-Off-the-Shelf (GOTS) technology. The event information provided by RAIDRS will allow operators to identify possible interference against space capabilities and enable rapid employment of protective responses. This program is in Budget Activity 5, System Development and Demonstration, because it has passed Milestone B approval and is conducting engineering and manufacturing development tasks aimed at meeting validated requirements in preparation for deployment.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: RAIDRS	4.875	-	-
Description: Developed, integrated, tested and fielded the Rapid Attack Identification Detection and Reporting System (RAIDRS). RAIDRS is a counterspace system designed to identify, characterize and locate interference to SATCOM communications capabilities. ***FY 2013 Accomplishments:*** Resolved numerous system deficiencies that allowed the program office to conduct operational testing. IOC planned for late CY 2013. ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** N/A			
Accomplishments/Planned Programs Subtotals	4.875	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0604421F / *Counterspace Systems*	**Project (Number/Name)** 65A003 / *Rapid Identification Detection and Reporting System (RAIDRS)*

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 #836810: *Counterspace Systems*	6.344	-	-	-	-	-	-	-	-	-	6.344

Remarks

D. Acquisition Strategy

All contracts funded in this program element 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 / 5	**R-1 Program Element (Number/Name)** PE 0604421F / *Counterspace Systems*	**Project (Number/Name)** 65A003 / *Rapid Identification Detection and Reporting System (RAIDRS)*

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Counterspace Systems RAIDRS Schedule

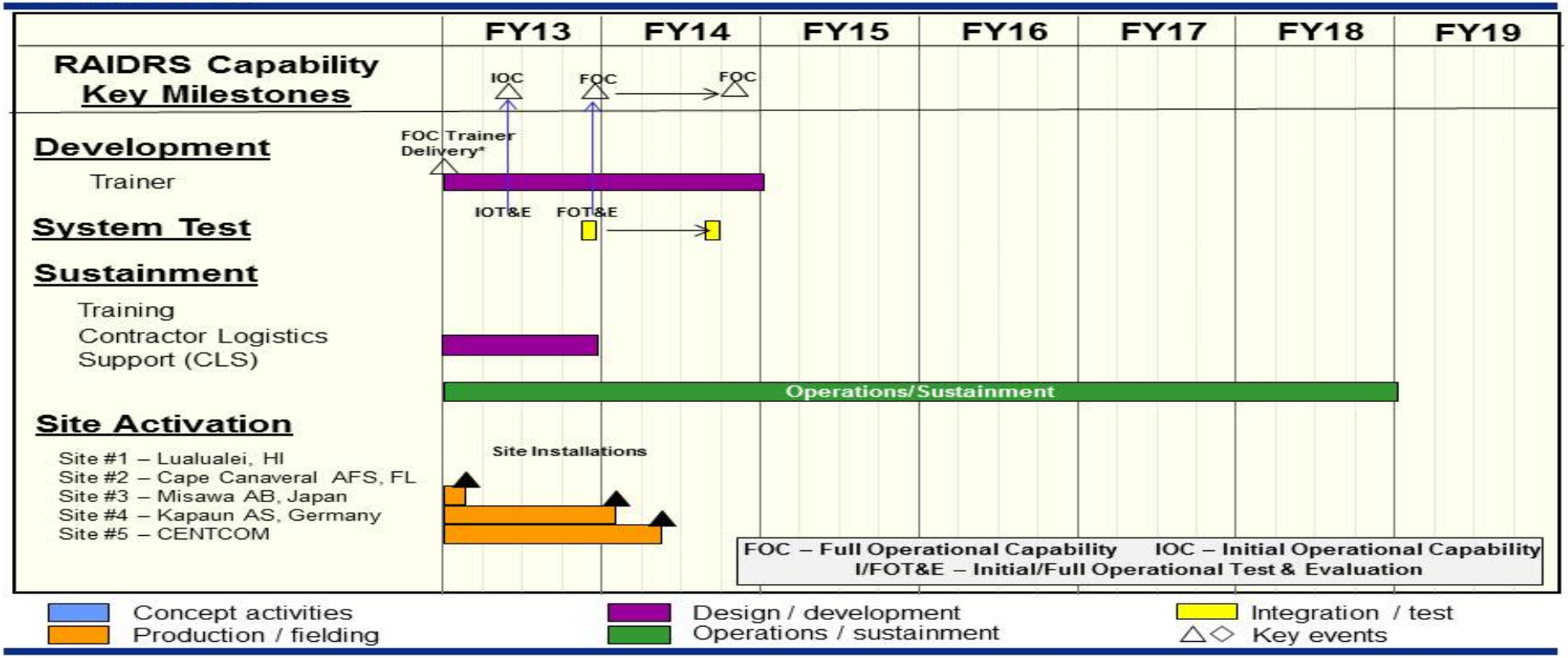

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 5	R-1 Program Element (Number/Name) PE 0604421F / *Counterspace Systems*	Project (Number/Name) 65A005 / *Offensive Counterspace (OCS) C2*	

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
65A005: *Offensive Counterspace (OCS) C2*	-	6.541	7.243	7.672	-	7.672	7.812	-	-	-	-	29.268
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 effort supports the development of command and control and mission planning capabilities in support of the fielding and employment of Counterspace Systems. It provides for the integration and development of collaborative tools to link deployable counterspace systems with Joint Warfighting C2 systems and to enable integrated planning and execution of the counterspace mission. Developed capabilities will be integrated into current and future command and control systems. This program will leverage the Joint Execution and Tasking System for Space (JETSS) effort in the development of C2 for future space control and counterspace mission capabilities. Requirements for this program are derived from AFSPC prioritized AF IMT 1067 IAW AFSPCI 63-104. The activity to modify and prepare JETSS technology/capability for transition in the JMS program is planned to occur during Spiral 5.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Joint Execution and Tasking System for Space (JETSS)	6.541	7.243	7.672
Description: Develop a Counterspace mission planning and command and control capability to support counterspace systems space control warfighter activities. ***FY 2013 Accomplishments:*** Continued JETSS development with Spiral 4 future system planning development and deployment to the JSPOC. Includes Command & Control Integrated Site Ppicture (C2ISP), Text Chat Upgrade, Rapid Text Input and Thin Client Study. ***FY 2014 Plans:*** Continuing JETSS development with Spiral 4, which includes an evaluation of the future integration into Joint Space Operations Center (JSPOC) Missions System (JMS) Service Oriented Architecture (SOA) and future system planning. ***FY 2015 Plans:*** Deliver JETSS development of Spiral 4 and begin development of Spiral 5, which includes integration into Joint Space Operations Center (JSPOC) Mission System (JMS) Service Oriented Architecture (SOA) and future system planning.			
Accomplishments/Planned Programs Subtotals	6.541	7.243	7.672

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0604421F / *Counterspace Systems*	**Project (Number/Name)** 65A005 / *Offensive Counterspace (OCS) C2*

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

All contracts will be awarded using competitive procedures to the maximum extent possible to acquire next generation capabilities through incremental acquisitions.

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 / 5	**R-1 Program Element (Number/Name)** PE 0604421F / *Counterspace Systems*	**Project (Number/Name)** 65A005 / *Offensive Counterspace (OCS) C2*

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Counterspace Systems C2 Schedule

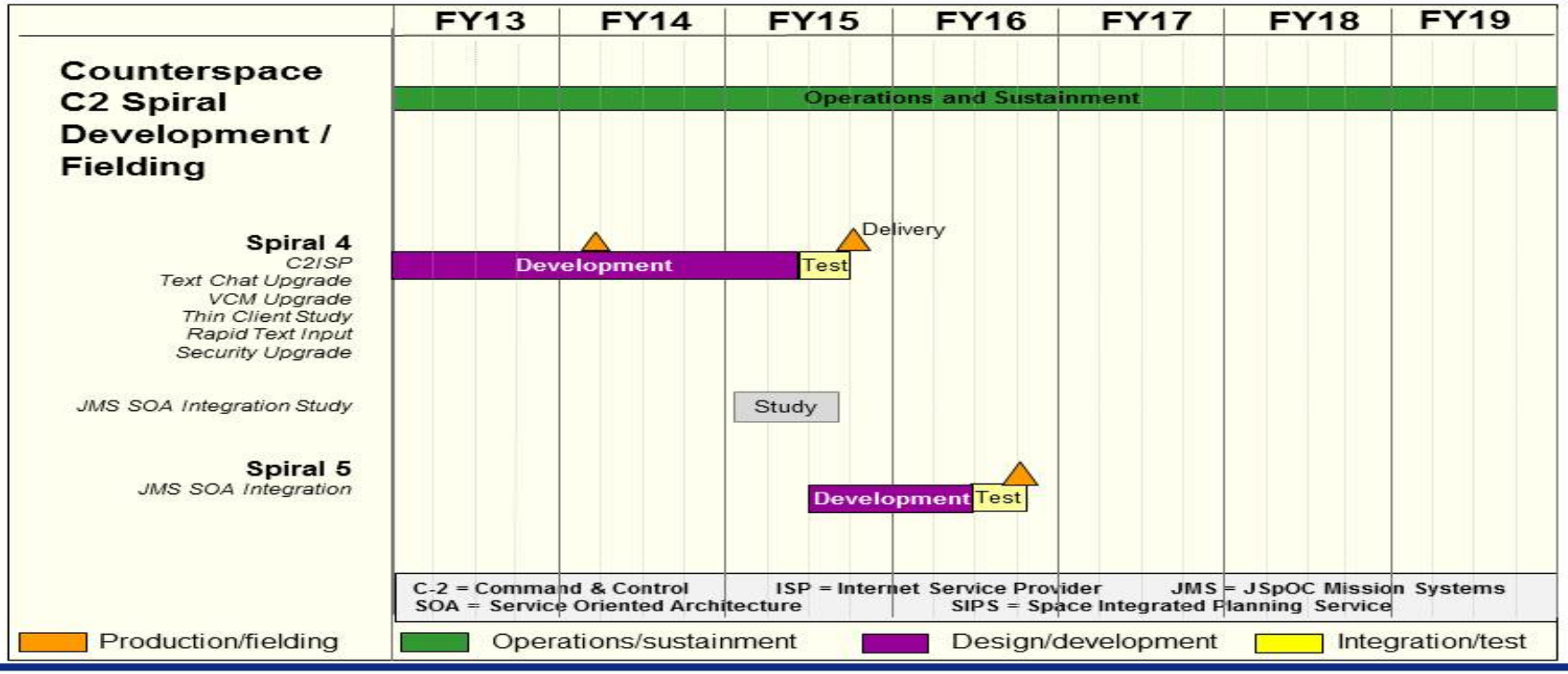

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Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force											Date: March 2014	
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0604425F / *Space Situation Awareness 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	417.076	225.838	314.625	9.462	-	9.462	13.201	36.440	67.231	135.719	Continuing	Continuing
65A006: *Space Based Space Surveillance*	0.000	3.505	1.576	-	-	-	12.311	36.440	67.231	135.719	Continuing	Continuing
65A009: *Space Fence*	363.783	204.062	294.624	-	-	-	-	-	-	-	-	862.469
65A012: *Net-centric Sensors and Data Sources*	53.293	10.471	10.771	7.092	-	7.092	-	-	-	-	-	81.627
65A026: *C-Band Radar*	0.000	7.800	7.654	2.370	-	2.370	0.890	-	-	-	Continuing	Continuing
MDAP/MAIS Code: 328												

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

Note

In FY 2015, Project 65A009 Space Fence efforts were transferred to PE 0604426F.

A. Mission Description and Budget Item Justification

Space Situational Awareness (SSA) is knowledge of all aspects of space related to operations as described in the approved SSA Initial Capabilities Document (ICD). As the foundation for space control, SSA encompasses intelligence on adversary space operations; surveillance of all space objects and activities; detailed reconnaissance of specific space assets; monitoring space environmental conditions; monitoring cooperative space assets; and conducting integrated command, control, communications, processing, analysis, dissemination, and archiving activities. This Program Element (PE) develops new Air Force sensors, and improved information capabilities for integration across the SSA network; it also includes developmental planning and technology forecasting for future blocks and emerging needs.

A companion program element, 0305940F, Space Situational Awareness Operations, fields, upgrades, operates, and sustains existing sensors and information integration capabilities within the SSA network. An additional companion program element, 0305614F, JSpOC Mission System, processes surveillance of all space objects and activities, maintains detailed reconnaissance of space assets, fuses space data, maintains awareness of cooperative space assets, and allows JFCC-Space to conduct integrated C2 of space forces.

Development activities are necessary to deploy new advanced sensors capable of searching for, tracking, and identifying the expanding number of debris objects on orbit as well as the increasing number of satellites launched by other nations, of which many are smaller and more capable than previous spacecraft. These activities are also required to better integrate the disparate elements of SSA in order to enable rapid and responsive space 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 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604425F / *Space Situation Awareness Systems*

The efforts in PE 0604425 are in Budget Activity 5, System Development and Demonstration, because they are conducting development tasks aimed at meeting validated requirements prior to full-rate production.

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	267.252	400.258	385.881	-	385.881
Current President's Budget	225.838	314.625	9.462	-	9.462
Total Adjustments	-41.414	-85.633	-376.419	-	-376.419
• Congressional General Reductions	-0.304	-0.407			
• Congressional Directed Reductions	-37.100	-85.226			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-4.010	-			
• Other Adjustments	-	-	-376.419	-	-376.419

Change Summary Explanation

FY 2013: Congressional Directed Reduction: Space Fence Contract Award Delay (-$37.1M)

FY 2014: Congressional Directed Reduction: Space Fence Contract Award Delay (-$50M); Sequestration reduction (-$35.226M)

FY 2015: Space Fence reduced due to Contract Award delay now planned for 3QFY 2014(-$164.569M)

FY 2015-2019: All remaining Space Fence funding in FY15 and out has been moved to stand alone Program Element(0604426F)

FY 2015: Funds added for C-Band Radar. (+$2.4M)

FY 2016-2019: Funds added for SBSS Follow-On (+$251.7)

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 5	R-1 Program Element (Number/Name) PE 0604425F / *Space Situation Awareness Systems*	Project (Number/Name) 65A006 / *Space Based Space Surveillance*	

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
65A006: *Space Based Space Surveillance*	-	3.505	1.576	-	-	-	12.311	36.440	67.231	135.719	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 Space-Based Space Surveillance (SBSS) Block 10 satellite was launched on 25 September 2010 and is currently operational.

The SBSS Follow-On program will develop and deliver a system that continues providing space object surveillance from space post SBSS Block 10 End-of-Life. The Follow-On program is based upon the current SSA Initial Capabilities Document (ICD) architectural requirements focused on protecting High Value Assets (HVAs) in Geosynchronous orbit (GEO).
It will provide the capability to search, detect, and track objects primarily in deep space GEO from a space-based sensor. Surveillance from space augments existing ground sensors with timely 24-hour, above the weather collection of GEO sallite metric data only possible with a space based sensor and then communicates its findings to the Joint Space Operations Center (JSpOC).

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: SBSS Follow-On Design & Development	3.505	1.576	-
Description: Performs space based SSA analysis, research, and development for SBSS Follow-On space vehicle (SV). ***FY 2013 Accomplishments:*** Conducted acquisition strategy planning and Space Situational Awareness (SSA) architecture analysis to support future generation space-based SSA capabilities. ***FY 2014 Plans:*** Lawrence Livermore National Laboratory (LLNL) is studying the potential for using the Space-based Telescope for Actionable Refinement of Ephemeris (STARE) effort to observe deep space objects. ***FY 2015 Plans:*** SBSS Follow-On activities will resume in FY16.			
Accomplishments/Planned Programs Subtotals	3.505	1.576	-

C. Other Program Funding Summary ($ in Millions)

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0604425F / *Space Situation Awareness Systems*	**Project (Number/Name)** 65A006 / *Space Based Space Surveillance*

C. Other Program Funding Summary ($ in Millions)

Remarks

D. Acquisition Strategy

The SBSS Block 10 system is currently operational.

Architectural studies have been conducted to determine the best way to provide future space-based space surveillance beyond the life of the current system.

The Acquisition Strategy for SBSS Follow-On is under 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 / 5	**R-1 Program Element (Number/Name)** PE 0604425F / *Space Situation Awareness Systems*	**Project (Number/Name)** 65A006 / *Space Based Space Surveillance*

SBSS Follow-On schedule

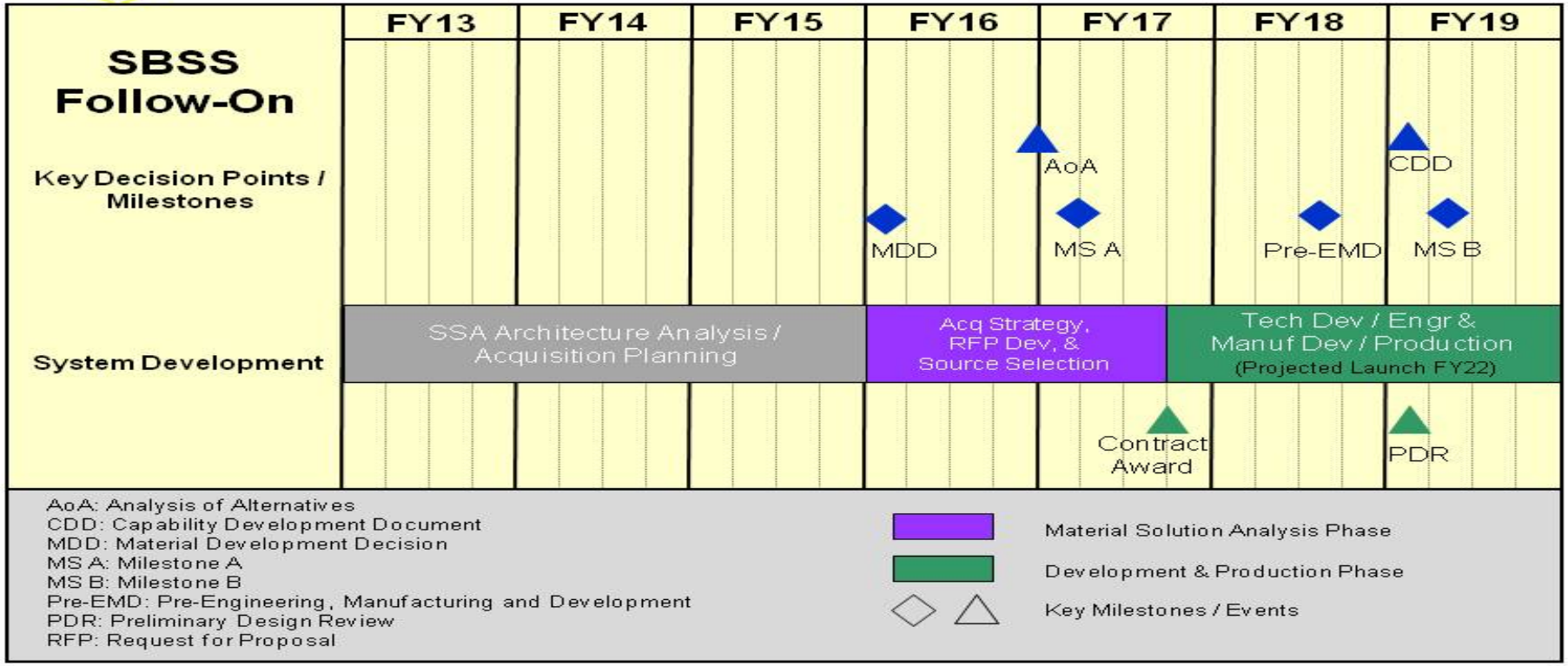

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 5	R-1 Program Element (Number/Name) PE 0604425F / *Space Situation Awareness Systems*	Project (Number/Name) 65A009 / *Space Fence*	

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
65A009: *Space Fence*	363.783	204.062	294.624	-	-	-	-	-	-	-	-	862.469
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

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

Note

The Space Fence program (BPAC 65A009) moves to a new stand alone PE 0604426F in FY15 and beyond.

A. Mission Description and Budget Item Justification

The Space Fence effort will develop a system of ground-based sensors to improve upon the former Air Force Space Surveillance System (AFSSS), a Very High Frequency (VHF) radar operational from 1961 to 2013. The Space Fence will provide a more accurate and timely detection capability of smaller orbiting objects, primarily in low-earth orbit (LEO). The system will use higher frequency S-band radars at globally dispersed sites. As a result, it will greatly expand the uncued detection and tracking capacity of the Space Surveillance Network, from around 20,000 to up to 100,000+ objects, while working in concert with other network sensors.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Space Fence	204.062	294.624	-
Description: Develops S-band SSA radar system to provide detection and tracking capability of objects in LEO. ***FY 2013 Accomplishments:*** The Milestone Decision Authority (MDA) authorized release of the Request for Proposal for the Engineering, Manufacturing, and Development (EMD) contract in the first quarter of FY 2013. The program received Department approval of its candidate Critical Technology Elements and concurrence on the Technology Readiness Assessment. The Air Force conducted source selection and completed a Milestone B Defense Acquisition Board, and is currently awaiting MDA Acquisition Decision Memorandum (ADM) signature and approval to award the contract. The Air Force has awarded contracts for a Risk Reduction Study to study the flexible radar coverage capabilities of previous contractors' Preliminary Design Review (PDR) radar system designs. ***FY 2014 Plans:*** The EMD, Production and Deployment contract award is planned for FY 2014. The winning contractor will conduct EMD, Production and Deployment activities in support of integrated system design, culminating in a Critical Design Review (CDR) and start development of the Space Fence Operations Center (SOC) and Site 1 Radar hardware and software. The purchase of long lead items and the start of manufacturing will occur. Construction of Site 1 facilities will also begin.			
Accomplishments/Planned Programs Subtotals	204.062	294.624	-

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0604425F / *Space Situation Awareness Systems*	**Project (Number/Name)** 65A009 / *Space Fence*

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: PE 0604426F: *Space Fence*	-	-	214.131	-	214.131	291.530	169.997	50.671	5.361	-	-
• OPAF: BA03: 836830: *Space Fence*	-	-	-	-	-	-	-	-	47.000	Continuing	Continuing
• N/A (2): *N/A (2)*	-	-	-	-	-	-	-	-	-	-	-

Remarks

D. Acquisition Strategy

Lockheed Martin and Raytheon successfully completed contracts for development through a Preliminary Design Review. In FY 2013, a full and open competition was conducted and Milestone B for Increment 1 was held and is pending 2366b ceertification and ADM approval. A single EMD, Production and Deployment contract will be awarded in FY 2014. The contract will take a single contractor through Critical Deisgn Review, fabrication, integration, test, production and deployment, with up to two years of Interim Contractor Support (ICS). The program will utilize a two increment approach. Increment 1/Initial Operational Capability (IOC) will consist of successful operations at the first radar site located in the Kwajalein Atoll and the Space Operations Center (SOC) at a CONUS location. Increment 2 will include completion of the second radar at a location which is to be determined pending negotiations with the proposed host 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 / 5	**R-1 Program Element (Number/Name)** PE 0604425F / *Space Situation Awareness Systems*	**Project (Number/Name)** 65A009 / *Space Fence*	

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
Design and development (Lockheed Martin)	C/FFP	Lockheed Martin : Moorestown, NJ	30.000	-		-		-		-		-	-	30.000	30.000
Design and development (Northrop Grumman)	C/FFP	Northrop Grumman : Linthicum Heights, MD	16.023	-		-		-		-		-	-	16.023	15.922
Design and development (Raytheon)	C/FFP	Raytheon : Sudbury, MA	30.000	-		-		-		-		-	-	30.000	30.000
System design and prototyping (Lockheed Martin)	C/FFP	Lockheed Martin : Moorestown, NJ	111.689	-		-		-		-		-	-	111.689	111.734
System design and prototyping (Raytheon)	C/FFP	Raytheon : Sudbury, MA	111.582	-		-		-		-		-	-	111.582	111.615
System development	C/FPIF	TBD : TBD,	0.000	180.069	May 2014	278.009	May 2014	-		-		-	-	458.078	1,255.000
Risk Reduction Study (Raytheon)	C/FFP	Raytheon : Sudbury, MA	0.000	4.950	Dec 2013	-		-		-		-	-	4.950	-
Risk Reduction Study (Lockheed Martin)	C/FFP	Lockheed Martin : Moorestown, NJ	0.000	4.947	Dec 2013	-		-		-		-	-	4.947	-
		Subtotal	299.294	189.966		278.009		-		-		-	-	767.269	-

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
Various (Independent Program Assessment, site survey, travel, software, SATAF)	Various	Various : Various,	1.099	0.136	Oct 2012	0.506	Oct 2013	-		-		-	-	1.741	-
Design Oversight and Management (Software Engineering Institute)	SS/FP	Carnegie Mellon University : Pittsburgh, PA	0.130	0.105	Aug 2013	0.478	Nov 2013	-		-		-	-	0.713	-
Design Oversight and Management (MITRE)	SS/FP	MITRE Corp : Bedford, MA	13.925	4.969	Nov 2012	4.934	Nov 2013	-		-		-	-	23.828	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0604425F / *Space Situation Awareness Systems*	**Project (Number/Name)** 65A009 / *Space Fence*	

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
Design Oversight and Management (MIT/LL)	SS/FP	MIT Lincoln Laboratory : Lexington, MA	14.125	1.300	Nov 2012	2.544	Nov 2013	-		-		-	-	17.969	-
		Subtotal	29.279	6.510		8.462		-		-		-	-	44.251	-

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 - 46th Test Group	PO	46th Test Group : Eglin AFB, FL	0.259	0.687	Jan 2013	0.989	Jan 2014	-		-		-	-	1.935	-
Test - Joint Interoperability Test Command	MIPR	Joint Interoperability Test Command : Fort Huachuca, AZ	0.023	-		0.023	Jan 2014	-		-		-	-	0.046	-
		Subtotal	0.282	0.687		1.012		-		-		-	-	1.981	-

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 Support (Infrastructure) (PMA)	Various	Various : Various,	13.533	2.551	Dec 2012	3.277	Oct 2013	-		-		-	-	19.361	-
Program Office Support, Technical Studies and Analysis, Systems Engineering and Integration Management (PMA)	Various	Various : Various,	5.664	0.638	Oct 2012	0.591	Oct 2013	-		-		-	-	6.893	-
Development Review and Management (Odyssey) (PMA)	C/CPFF	Odyssey Systems : Wakefield, MA	7.348	1.999	Nov 2012	1.590	Dec 2013	-		-		-	-	10.937	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 5	R-1 Program Element (Number/Name) PE 0604425F / *Space Situation Awareness Systems*	Project (Number/Name) 65A009 / *Space Fence*	

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
Development Review and Management (Jacobs) (PMA)	C/CPFF	Jacobs Technology : Tullehoma, TN	8.383	1.711	Dec 2012	1.683	Dec 2013	-		-		-	-	11.777	-
		Subtotal	34.928	6.899		7.141		-		-		-	-	48.968	-

	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	363.783	204.062		294.624		-		-		-	-	862.469	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0604425F / *Space Situation Awareness Systems*	**Project (Number/Name)** 65A009 / *Space Fence*

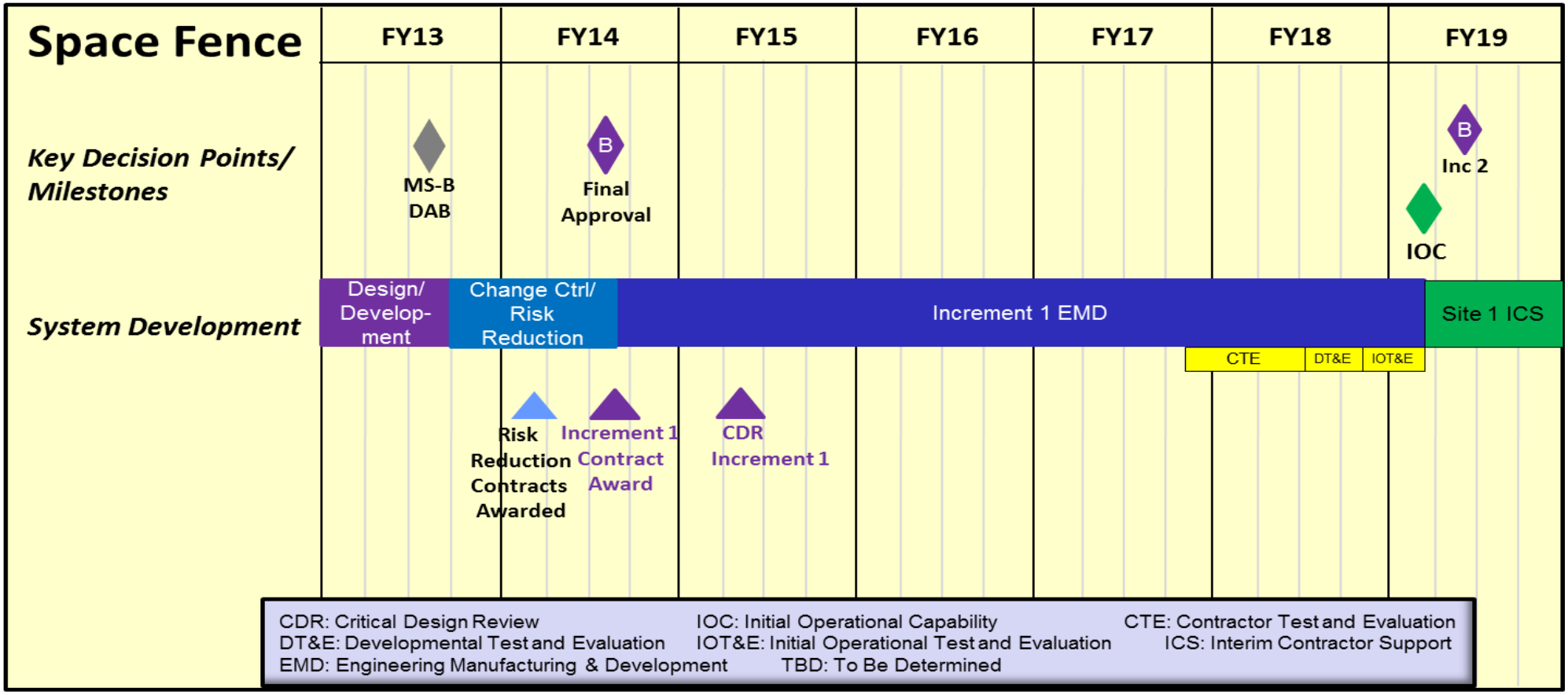

Exhibit R-4A, RDT&E Schedule Details: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0604425F / *Space Situation Awareness Systems*	**Project (Number/Name)** 65A009 / *Space Fence*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Milestone B Increment 1	3	2013	3	2014
Contract Award Increment 1	3	2014	3	2014
Critical Design Review (CDR) Increment 1	2	2015	2	2015
Initial Operational Capability (IOC) Increment 1	1	2019	1	2019
Milestone B Increment 2	2	2019	2	2019

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 5	R-1 Program Element (Number/Name) PE 0604425F / *Space Situation Awareness Systems*	Project (Number/Name) 65A012 / *Net-centric Sensors and Data Sources*	

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
65A012: *Net-centric Sensors and Data Sources*	53.293	10.471	10.771	7.092	-	7.092	-	-	-	-	-	81.627
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

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

A. Mission Description and Budget Item Justification

Net-centric Sensors and Data Sources (N-CSDS) efforts migrate the Space Surveillance Network, non-traditional SSA sensors and data sources for use by any entity (primarily the Joint Space Operations Center (JSpOC)) into a net-centric enterprise, enabling more rapid distribution of data to the warfighter based on an AFSPC provided prioritization list. This effort will define and implement the technical architecture, and support the concept to provide the foundational data necessary to enable rapid, responsive decisions by the Commander, United States Strategic Command's Joint Functional Component Commander for Space (JFCC Space) and other national capability users to detect, evaluate, attribute space events. This effort builds upon and operationalizes the successful Extended Space Sensor Architecture Advanced Concept Technology Demonstration (ESSA ACTD) and prototypes how disparate and legacy space sensor network data can be translated into a net-centric operating environment. Data will be exposed as defined by published DoD and community interface standards to ensure technical interoperability.

Data exposed from Space Situational Awareness (SSA) sensors and other non-traditional data sources via N-CSDS effort will be integrated into the JMS program (PE 0305614F).

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: SENSOR & DATA INTEGRATION & EXPOSURE	10.471	10.771	7.092
Description: Providing Data Exposure and Data Source Integation Net-Centrically for consumption and use by the JSpOC and other users			
FY 2013 Accomplishments: Delivered final versions of source road mapping. Completed developmental test and evaluation (DT&E) for sustainable sidecar to Socorro Ground-Based Electro-Optical Deep Space Surveillance (GEODSS) site. Deployed Blue Force Status (BFS) operational version for Wideband Global SATCOM (WGS). Initiated sustainment of existing Air Force Satellite Control Network (AFSCN) Link Protection System (ALPS). Continued maturation of the common data model.			
FY 2014 Plans: Deliver STSS data and begin exposure of classified data source (Concept J) data to JSpOC. Continue maturation of the common data model. Continue effort to expose classified data source (Concept C) to JSpOC.			
FY 2015 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0604425F / *Space Situation Awareness Systems*	**Project (Number/Name)** 65A012 / *Net-centric Sensors and Data Sources*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Complete exposure of two classified data sources (Concept C and Concept J) and complete GEODSS net-centric delivery. Exposure of two "other" non-traditional data sources.			
Accomplishments/Planned Programs Subtotals	10.471	10.771	7.092

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: 836790: *Space Mods Space*	-	4.036	4.549	-	4.549	4.550	-	-	-	-	19.110

Remarks

D. Acquisition Strategy

Sensor and data sources activities utilize existing engineering and study contracts and a competitively selected system engineering team.

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 / 5	**R-1 Program Element (Number/Name)** PE 0604425F / *Space Situation Awareness Systems*	**Project (Number/Name)** 65A012 / *Net-centric Sensors and Data Sources*

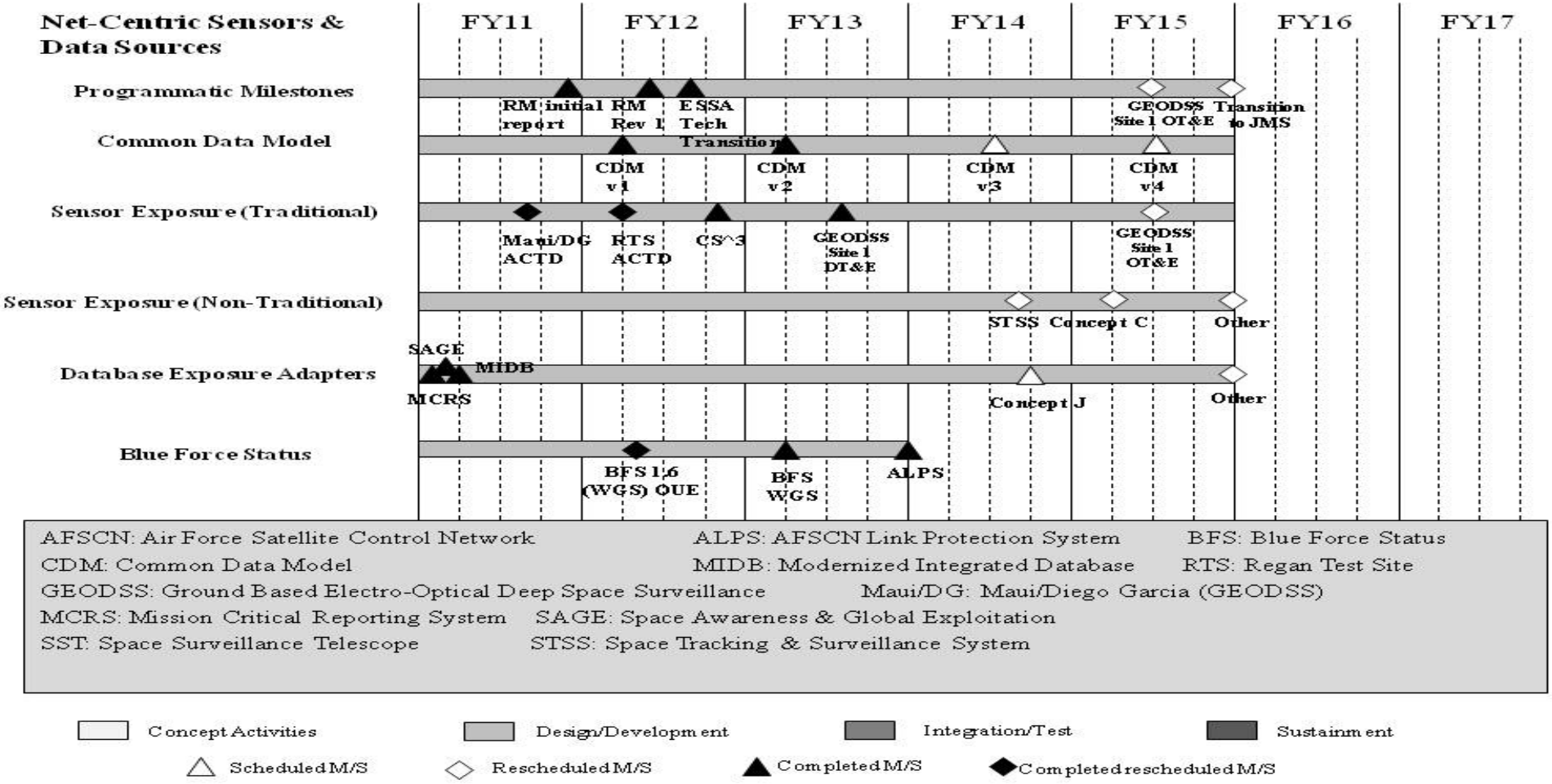

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 5	R-1 Program Element (Number/Name) PE 0604425F / *Space Situation Awareness Systems*	Project (Number/Name) 65A026 / *C-Band Radar*	

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
65A026: *C-Band Radar*	-	7.800	7.654	2.370	-	2.370	0.890	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

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

Note

This project received Congressional approval to begin in FY 2013 through both the FY 2013 National Defense Authorization Act and the FY 2013 Consolidated and Further Continuing Appropriations Act.

A. Mission Description and Budget Item Justification

A Memorandum of Understanding (MOU) between the United States Air Force and the Australian Department of Defence was signed by the United States Secretary of Defense and the Australian Minister for Defence on November 14, 2012 to support this international effort to provide an improved space situational awareness capability in the Australian geographic area. The MOU includes description of the need for Australian funding for part of the relocation project. The project will relocate a C-Band radar to Harold E. Holt Naval Communications Station (HEH NCS) in Australia and upgrade it to perform a Space Situational Awareness (SSA) mission. When completed, the radar will provide data for catalog maintenance, space object identification, and support for special events (e.g., space launches, satellite breakups, and maneuvers).

This program is in Budget Activity 5, System Development and Demonstration (SDD) because it is conducting engineering and manufacturing development tasks.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: C-Band Radar	7.800	7.654	2.370
Description: Relocates a C-Band Radar to HEH NCS in Australia and upgrades it to perform a Space Situational Awareness (SSA) mission. ***FY 2013 Accomplishments:*** MIT Lincoln Laboratory performed SSA development activities; the first of two construction phases was completed at HEH NCS. ***FY 2014 Plans:*** Software and hardware upgrades are continuing; The radar is being disassembled, shipped and reassembled in Australia. ***FY 2015 Plans:*** System upgrades will continue and Developmental Test and Evaluation will begin.			
Accomplishments/Planned Programs Subtotals	7.800	7.654	2.370

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0604425F / *Space Situation Awareness Systems*	**Project (Number/Name)** 65A026 / *C-Band Radar*

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

This project will utilize a mix of experienced contractors, FFRDC and Air National Guard resources to upgrade the C-Band system and complete the relocation to Australia.

The MOU between the United States Air Force and the Australian Department of Defence includes the need for Australian funding for part of the relocation project. Site renovation in Australia began in FY 2013 as Australian funding became available as reflected on the attached schedule.

E. Performance Metrics

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

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0604425F / *Space Situation Awareness Systems*	**Project (Number/Name)** 65A026 / *C-Band Radar*

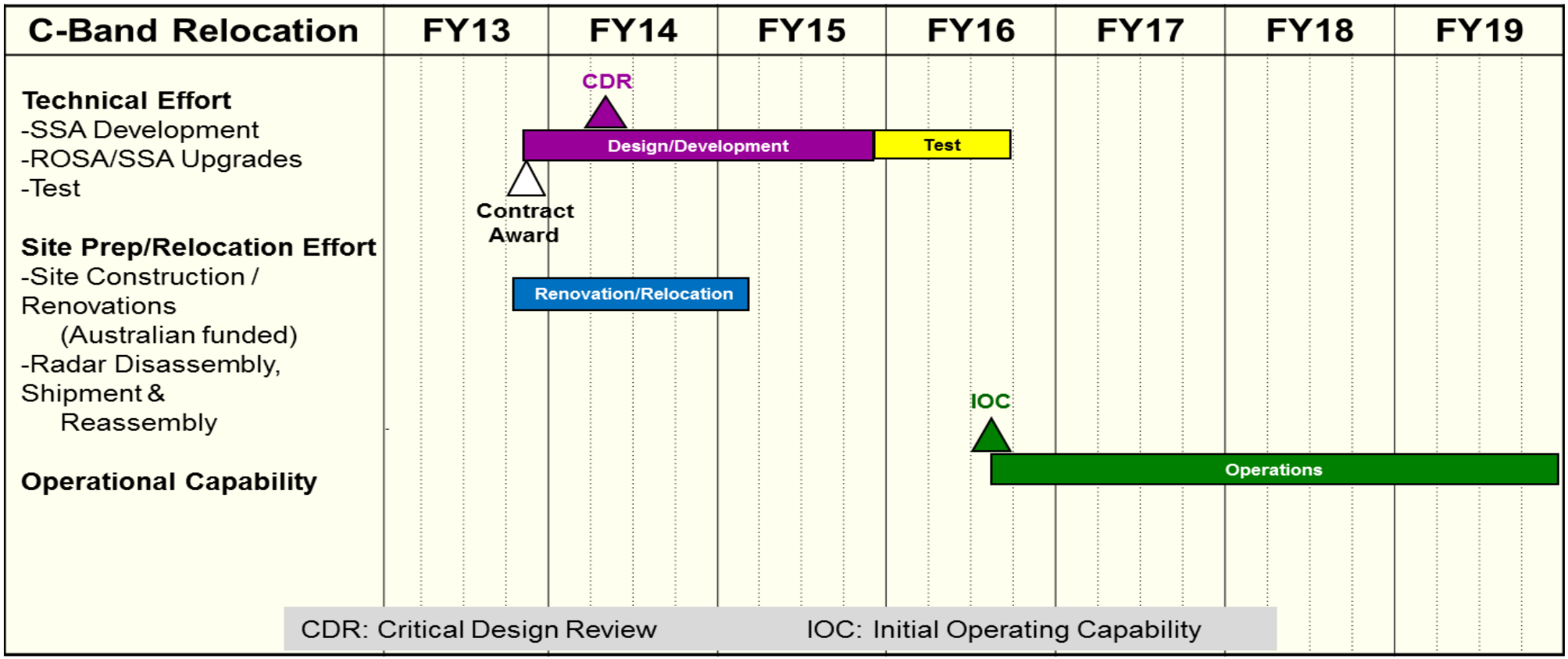

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force												Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0604426F / *Space Fence*							
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	-	-	214.131	-	214.131	291.530	169.997	50.671	5.361	-	731.690
65A009: *Space Fence*	0.000	-	-	214.131	-	214.131	291.530	169.997	50.671	5.361	-	731.690
Quantity of RDT&E Articles	-	-	-	-	-	-	-	1.000	-	-		
MDAP/MAIS Code: 438												

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

Note

In 2015, Project 65A009, Space Fence efforts were transistioned from PE 0604425F - Space Situational Awareness Systems, Project 65A009 in order to improve transparancy for ACAT I acquisition programs.

A. Mission Description and Budget Item Justification

The Space Fence effort will develop a system of ground-based sensors to improve upon the former Air Force Space Surveillance System (AFSSS), a Very High Frequency (VHF) radar operational from 1961 to 2013. The Space Fence will provide a more accurate and timely detection capability of smaller orbiting objects, primarily in low-earth orbit (LEO). The system will use higher frequency S-band radars at globally dispersed sites. As a result, it will greatly expand the uncued detection and tracking capacity of the Space Surveillance Network, from around 20,000 to up to 100,000+ objects, while working in concert with other network sensors. Requirements are identified in the June 2012 approved Space Fence Capabilities Development Document.

This program is in Budget Activity 5, System Development and Demonstration (SDD) because it has passed Milestone B approval and is conducting engineering and manufacturing development tasks aimed at meeting validated requirements prior to full-rate production.

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	-	-	214.131	-	214.131
Total Adjustments	-	-	214.131	-	214.131
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-	-	214.131	-	214.131

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 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604426F / *Space Fence*

Change Summary Explanation

FY15: Program transistioned from PE 0604425F - SSA Systems, project 65A009 in order to improve transparancy for ACAT I acquisition programs.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Space Fence	-	-	214.131
Description: Develops S-band SSA radar system to provide detection and tracking capability of objects in Low Earth Orbit. ***FY 2013 Accomplishments:*** FY13 Funds were executed in PE 0604425F Space Situational Awareness Systems. ***FY 2014 Plans:*** FY14 Funds were executed in PE 0604425F Space Situational Awareness Systems. ***FY 2015 Plans:*** Will continue EMD, Production and Deployment activities. This includes the continued construction of Site 1 facilities; continued manufacturing and integration of radar components and assemblies; and the further development and integration of the Space Fence Operations Center (SOC) and Site 1 Radar hardware and software. SOC facility preparation will also begin.			
Accomplishments/Planned Programs Subtotals	-	-	214.131

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 # 836830: *Space Fence*	-	-	-	-	-	-	-	-	47.000	63.800	110.800
• RDTE: BA05: PE 0604425F: *Space Situation Awareness Systems*	204.062	294.624	-	-	-	-	-	-	-	-	-

Remarks

E. Acquisition Strategy

Lockheed Martin and Raytheon successfully completed contracts for development through a Preliminary Design Review. In FY13, a full and open competition was conducted and Milestone B for Increment 1 was held and is pending 2366b certification and ADM approval. A single Engineering, Manufacturing, and Development (EMD), Production and Deployment contract will be awarded in FY14. The contract will take a single contractor through Critical Design Review (CDR), fabrication, integration, test, production and deployment, with up to two years of Interim Contractor Support (ICS). The program will utilize a two increment approach. Increment 1/Initial Operational Capability (IOC) will consist of successful operations at the first radar site located in the Kwajalein Atoll and the Space Fence Operations Center

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 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604426F / *Space Fence*

(SOC) at a CONUS location. Increment 2 will include completion of the second radar at a location which is to be determined pending negotiations with the proposed host nation.

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 / 5	R-1 Program Element (Number/Name) PE 0604426F / *Space Fence*	Project (Number/Name) 65A009 / *Space Fence*	

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
System Development	C/FPIF	TBD : TBD,	0.000	-		-		201.910	Oct 2014	-		201.910	478.090	680.000	-
		Subtotal	0.000	-		-		201.910		-		201.910	478.090	680.000	-

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
Various (Independent Program Assessment, site survey, travel, software, SATAF)	Various	Various : Various,	0.000	-		-		0.479	Oct 2014	-		0.479	1.483	1.962	3.219
Design Oversight and Management (Software Engineering Institute)	SS/FP	Carnegie Mellon : Pittsburgh, PA	0.000	-		-		0.478	Nov 2014	-		0.478	-	0.478	1.191
Design Oversight and Management (MITRE)	SS/FP	MITRE Corp : Bedford, MA	0.000	-		-		2.899	Oct 2014	-		2.899	11.237	14.136	31.584
Design Oversight and Management (MIT/LL)	SS/FP	MIT Lincoln Laboratory : Lexington, MA	0.000	-		-		1.438	Nov 2014	-		1.438	5.789	7.227	23.187
		Subtotal	0.000	-		-		5.294		-		5.294	18.509	23.803	59.181

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 - 46th Test Group	PO	46th Test Group : Eglin AFB, FL	0.000	-		-		1.918	Jan 2015	-		1.918	3.127	5.045	6.980
Test - Joint Interoperability Test Command	MIPR	Joint Interoperability Test Command : Fort Huachuca, AZ	0.000	-		-		0.023	Jan 2015	-		0.023	0.370	0.393	0.464
		Subtotal	0.000	-		-		1.941		-		1.941	3.497	5.438	7.444

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 5	R-1 Program Element (Number/Name) PE 0604426F / *Space Fence*	Project (Number/Name) 65A009 / *Space Fence*	

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 Support (Infrastructure) (PMA)	Various	Various : Various,	0.000	-		-		2.000	Oct 2014	-		2.000	5.122	7.122	26.074
Program Office Support,Technical Studies and Analysis, Systems Engineering and Integration Management (PMA)	Various	Various : Various,	0.000	-		-		0.596	Oct 2014	-		0.596	1.859	2.455	9.067
Development Review and Management (Odyssey) (PMA)	C/CPIF	Odyssey Systems : Wakefield, MA	0.000	-		-		1.188	Dec 2014	-		1.188	4.944	6.132	13.208
Development Review and Management (Jacobs) (PMA)	C/CPFF	Jacobs Technology : Tullehoma, TN	0.000	-		-		1.202	Dec 2014	-		1.202	5.538	6.740	17.009
		Subtotal	0.000	-		-		4.986		-		4.986	17.463	22.449	65.358

	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	-		-		214.131		-		214.131	517.559	731.690	-

Remarks

Prior to FY15 all funds were executed and reported in PE 0604225F (Space Situational Awareness Systems)

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0604426F / *Space Fence*	**Project (Number/Name)** 65A009 / *Space Fence*

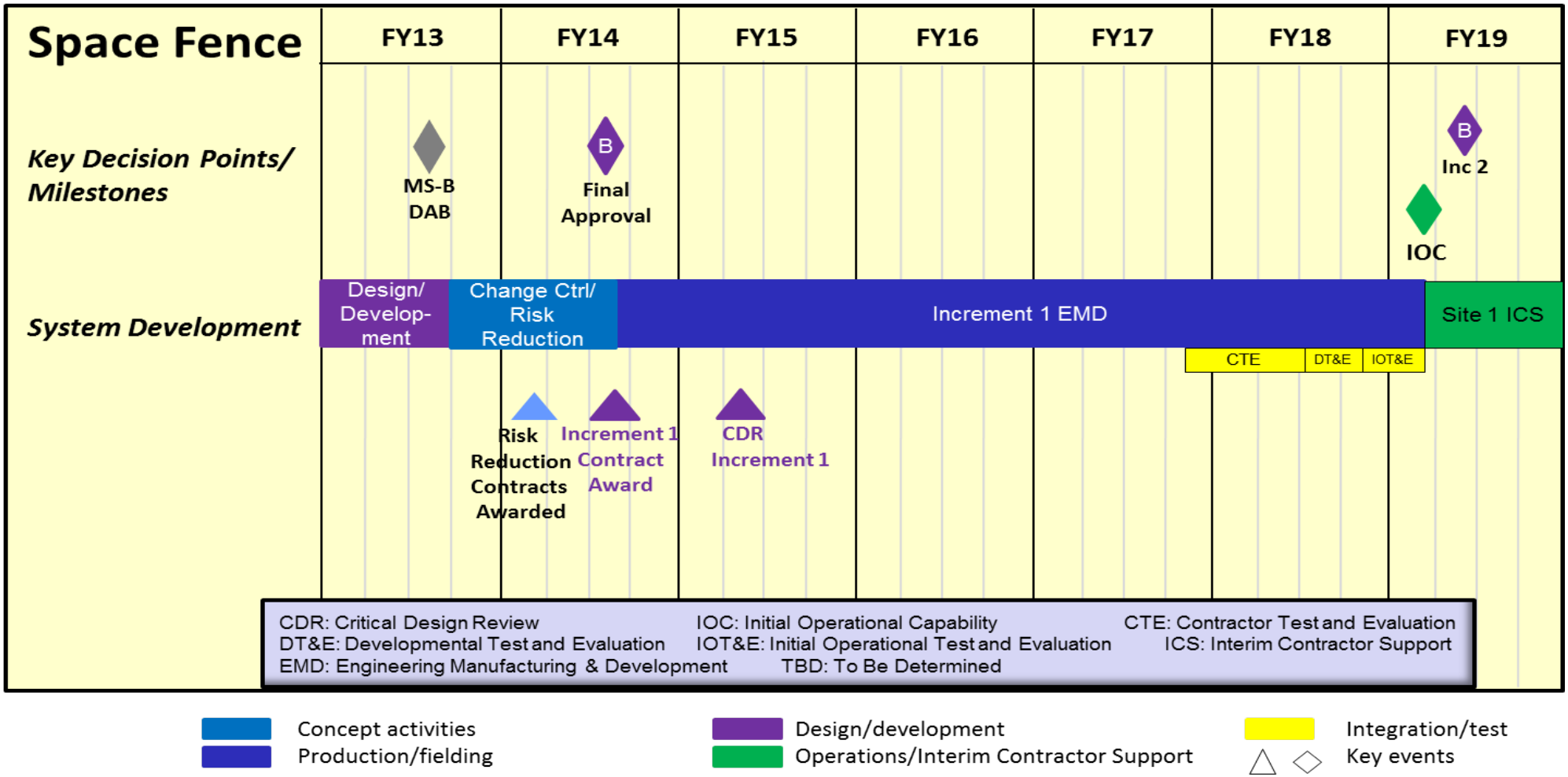

Exhibit R-4A, RDT&E Schedule Details: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0604426F / *Space Fence*	**Project (Number/Name)** 65A009 / *Space Fence*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Milestone B Increment 1	3	2013	3	2014
Contract Award Increment 1	3	2014	3	2014
Critical Design Review (CDR) Increment 1	2	2015	2	2015
Initial Operational Capability (IOC) Increment 1	1	2019	1	2019
Milestone B Increment 2	2	2019	2	2019

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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 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0604429F / *Airborne Electronic Attack*							
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	-	3.987	4.575	30.687	-	30.687	8.413	7.840	7.198	7.335	Continuing	Continuing
655192: *Network & Sys -of-Sys Dev*	-	3.987	4.575	30.687	-	30.687	8.413	7.840	7.198	7.335	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 concentrates on the overall systems engineering, modeling and simulation, architecture and network requirements development, effectiveness assessment and requirements allocation to component systems of the Airborne Electronic Attack (AEA) System of Systems (SoS). It also includes establishment and use of virtual test capabilities for system of systems effectiveness testing/evaluation for AEA, studies and technology risk mitigation demonstrations for potential AEA SoS components and AEA SoS battle management, development planning, and the development and maintenance of the Air Force electronic warfare capability investment strategy. These efforts are crucial in the development of critical electronic attack capabilities in support of Air Force and joint operations to include Global Strike and Persistent Global Attack Concepts of Operations (CONOPS).

The joint AEA SoS includes the Navy EA-6B and EA-18G core components; the Air Force Miniature Air Launched Decoy (MALD) and its stand-in jammer variant, MALD-J; the EC-130H Compass Call Baseline 0 (formerly Block 35) configuration; Active Electronically Scanned Array (AESA) radar equipped aircraft; potentially an unmanned recoverable stand-in jamming platform; potentially a manned low/mid frequency, high power component capable of location and reactive jamming suppression of enemy integrated air defense system (IADS) radars outside the ranges of the associated Surface-to-Air Missiles (SAMs) and non-IADS targets. Recent events have led to an increased focus on developing advanced electronic attack capabilities for use in irregular warfare against non-IADS targets such as communication networks, remote controlled improvised explosive devices and man portable air defenses. In addition, there is an increased focus on examining non-traditional electronic attack alternatives to counter both IADS and non-IADS components such as communication networks, computers, command and control links, etc. in both major combat and irregular warfare scenarios.

This program is included in budget activity 5, System Development and Demonstration, because of the development and/or testing associated with Airborne Electronic Attack.

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 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604429F / *Airborne Electronic Attack*

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	4.118	4.575	7.904	-	7.904
Current President's Budget	3.987	4.575	30.687	-	30.687
Total Adjustments	-0.131	-	22.783	-	22.783
• Congressional General Reductions	-0.005	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.126	-			
• Other Adjustments	-	-	22.783	-	22.783

Change Summary Explanation

FY15 funds added for Analysis of Alternatives studies.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: System Engineering Studies & Technology Transition (AEA SoS)	2.018	2.325	2.750

Description: Apply systems engineering rigor to manage Air Force Airborne Electronic Attack (AEA) System of Systems (SoS) program requirements, designs, and operational concepts. Assess operational effectiveness of multiple Electronic Warfare systems in both offensive and defensive roles.

FY 2013 Accomplishments:

Assessed potential contributions of emerging AEA components (including non-kinetic counter electronics capabilities) to both integrated air defense system (IADS) and non-IADS scenarios for both major warfare and irregular warfare, developed Air Force (AF) electronic support systems mitigation measures, updated AF electronic warfare (EW) Roadmap as directed by HQ AF, updated AF EW Capability Investment Strategy with studies in support of AF Core Function Master Plans.

FY 2014 Plans:

Conduct cost and operational effectiveness assessments of contributions of emerging AEA components such as non-kinetic counter electronics capabilities to both IADS and non-IADS scenarios for major and irregular warfare, refine AF electronic support system mitigation alternatives, update AF EW Roadmap as directed by HQ AF, update AF EW Capabilitiy Investment Strategy with studies in support of AF Core Function Master Plans.

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 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604429F / *Airborne Electronic Attack*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Conduct cost and operational effectiveness assessments of contributions of emerging AEA components such as non-kinetic counter electronics capabilities to both IADS and non-IADS scenarios for major and irregular warfare, define and recommend implementation strategies to mitigate AF electronic support system risks, update AF EW Roadmap as directed by HQ AF, update AF EW Capabilitiy Investment Strategy with studies in support of AF Core Function Master Plans.			
Title: Capability Planning (AEA SoS) ***Description:*** Provide capability planning to the Air Force electronic warfare and Airborne Electronic Attack (AEA) System of Systems (SoS) portfolio and constructive modeling and simulation and analysis management. ***FY 2013 Accomplishments:*** Conducted additional AEA simulations to assess effectiveness of newly emerging/upgraded systems operating in both stressing integrated air defense system (IADS) and Irregular Warfare/non-IADS environments. ***FY 2014 Plans:*** Conduct AEA SoS simulations to assess effectiveness of newly emerging and/or proposed upgraded systems (MALD-J, 4th Gen fighter upgrades, advanced Electronic Support Measures risk mitigation approaches, non-kinetic counter electronics capabilities, etc.) operating together in stressing IADS and Irregular Warfare/non-IADS environments. ***FY 2015 Plans:*** Conduct various analysis of alternatives related to electronic attack as well as conduct additional AEA simulations in support of a non-kinetic counter electronics analysis of alternatives and contributions of AEA components to effectiveness and survivability of 4th Generation fighters operating in both stressing IADS and Irregular Warfare/non-IADS environments.	1.969	2.250	27.937
Accomplishments/Planned Programs Subtotals	3.987	4.575	30.687

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
• None: *N/A*	-	-	-	-	-	-	-	-	-	-	-

Remarks

E. Acquisition Strategy

Project 5192, "Network and System of Systems Development" uses existing Air Force Life Cycle Management Center, Air Force Research Lab, and other contracts and instruments to provide engineering, architecture development, and other support for the Airborne Electronic Attack (AEA) System of 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 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604429F / *Airborne Electronic Attack*

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 / 5	**R-1 Program Element (Number/Name)** PE 0604429F / *Airborne Electronic Attack*	**Project (Number/Name)** 655192 / *Network & Sys -of-Sys Dev*

AEA SoS Schedule

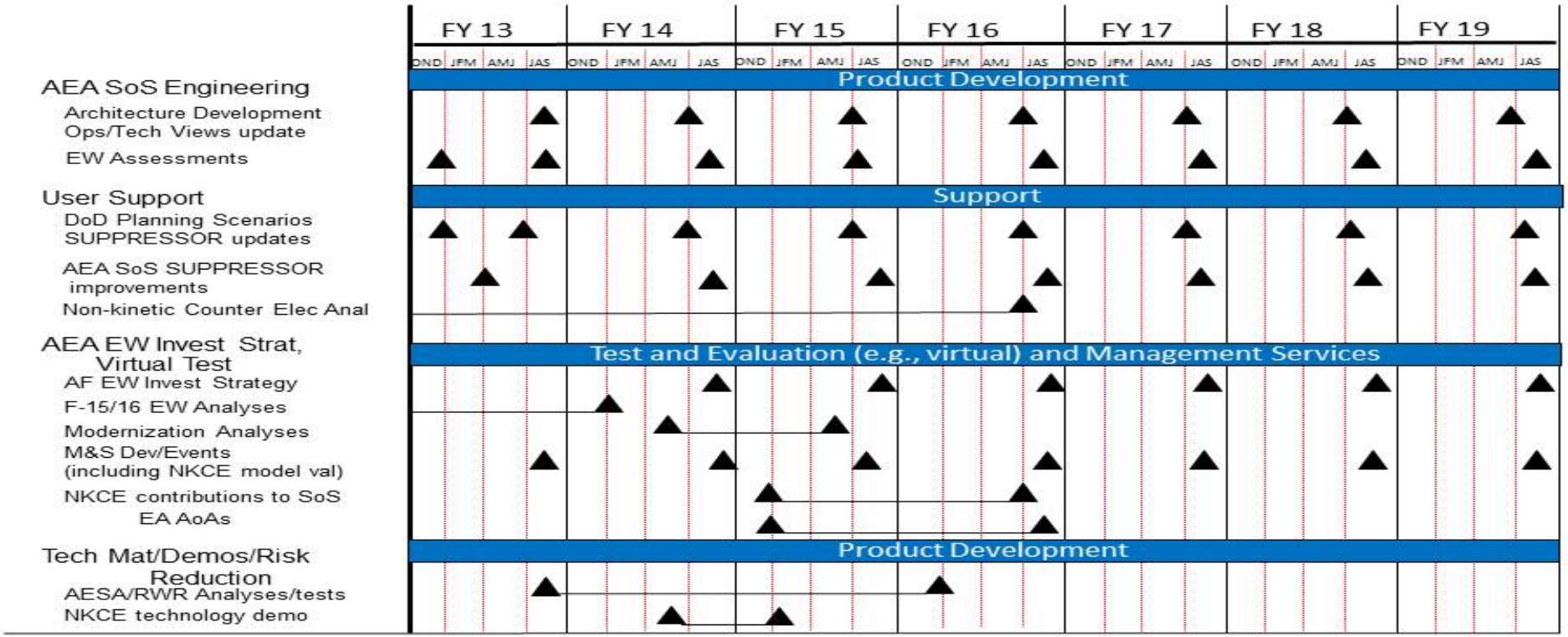

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Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force											Date: March 2014	
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0604441F / *Space Based Infrared System (SBIRS) High EMD*							
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	8,968.993	486.647	322.399	319.501	-	319.501	274.826	200.357	483.856	613.999	Continuing	Continuing
653616: *SBIRS High Element EMD*	8,929.162	407.979	266.975	230.893	-	230.893	185.541	110.848	97.177	-	-	10,228.575
657009: *Space Modernization Initiative*	0.000	78.668	55.424	88.608	-	88.608	89.285	89.509	89.197	90.894	Continuing	Continuing
657106: *EVOLVED SBIRS*	0.000	-	-	-	-	-	-	-	297.482	523.105	Continuing	Continuing
MDAP/MAIS Code: 210												

(+) The sum of all Prior Years is $39.831 million less than the represented total due to several projects ending

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

Note

Prior Years: Total Program Element above includes $39.831M for BPAC 65A040 Commercially Hosted Payload funded in FY11 and FY12.
MDAP PNO 210 includes only BPAC 653616 SBIRS High EMD.

A. Mission Description and Budget Item Justification

The SBIRS RDT&E FY15 budget justification exhibits describe three elements of the SBIRS program: 1) the SBIRS Engineering and Manufacturing Developement (EMD) program of record PNO 210 MDAP, 2) the Space Modernization Initiative (SMI) (non-MDAP) and the 3) Evolved SBIRS follow-on (non-MDAP).

1. SBIRS EMD: The Space-Based Infrared Systems (SBIRS) primary mission is to provide initial warning of a ballistic missile attack on the US, its deployed forces, and its allies. SBIRS will enhance detection and improve reporting of intercontinental ballistic missile launches, submarine launched ballistic missile launches, and tactical ballistic missile launches. SBIRS supports Missile Defense, Battlespace Awareness, and Technical Intelligence missions by providing reliable, accurate, and timely data to Unified Combatant Commanders, Joint Task Force (JTF) Commanders, the intelligence community, and other users. SBIRS provides increased detection and tracking performance in order to meet requirements in Air Force Space Command's Operational Requirements Document. The SBIRS system includes both space and ground elements. The space segment consists of Geosynchronous Earth Orbit (GEO) satellites, payloads hosted on satellites in Highly Elliptical Orbit (HEO), and Defense Support Program (DSP) satellites. The ground segment consists of both fixed and mobile data processing elements, communications infrastructure, and relay ground stations serving all SBIRS space elements. The HEO-1 and HEO-2 payloads are on-orbit and certified for Integrated Tactical Warning/Attack Assessment (ITW/AA) missile warning operations and technical intelligence operations. The GEO-1 and GEO-2 satellites have completed AFSPC and USSTRATCOM operational acceptance. GEO-1 received ITW/AA certification in August 2013 The GEO-2 satellite received ITW/AA certification in December 2013. Ground segment development continues through FY18. The baseline requirement document is the 1996 SBIRS ORD.

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 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604441F / *Space Based Infrared System (SBIRS) High EMD*

2. SMI: Future SBIRS Overhead Persistent Infrared (OPIR) satellites will be procured using the Department of Defense (DOD) Efficient Space Procurement (ESP) concept. ESP is an approach which seeks stable production and efficient sub-contractor product management through the block buy of two space vehicles at one time (please see SBIRS P-40 Exhibit). A portion of the savings realized from ESP block buys are programmed for investment into OPIR Space Modernization Initiative (SMI); the current OPIR SMI project was established in this manner in the FY12 President's Budget. The primary objective of SMI is to enable and inform future decisions to maintain and evolve a capable, resilient, and affordable OPIR architecture, by maturing technologies and mitigating risk areas to facilitate OPIR modernization to be executed within the Department's constrained resources. SMI supports the Program of Record by assessing future parts and material obsolescence and future affordability and capability design modifications. SMI funds engineering activities to reduce future system and production costs through manufacturing and producibility enhancements and through technology insertion. SMI will also mature potential technology upgrades at the component and system level for future space and ground architecture affordability and capability enhancements. The SBIRS OPIR SMI plan includes studies and risk reduction activities to evolve the current Program of Record SBIRS GEO satellites, reduce production schedules, and reduce system costs. SMI funded data exploitation efforts include OPIR mission data processing, data fusion, data publication, algorithm development, network connectivity, and sensor performance assessments. The data exploitation efforts will identify affordable, responsive, and resilient measures to improve battlespace awareness data dissemination to the warfighter. SMI Architecture and Component Study efforts will assess future architecture alternatives for viability, affordability, capability and resilience. The SMI Hosted Payloads and Wide Field of View Testbeds efforts will explore technology maturation, qualification of new components, and subsystem/component prototyping to evolve the OPIR architecture.

3. Evolved SBIRS Follow-on: Knowledge gained from the SBIRS SMI projects will inform a future Defense Acquisition Board(DAB)decision for the Evolved SBIRS effort. DAB alternatives are expected to include 1) continued production of SBIRS PoR design; 2) an evolved satellite and ground system derived from the SBIRS POR designs; 3) an evolved satellite and ground system that includes a combination of PoR derivatives and new systems; or 4)a disaggregated OPIR system. The Evolved SBIRS effort will implement the DAB directed program alternative begining with FY18 funding. The Evolved SBIRS efforts will also include the initial HEO 5-6 development anticipate to begin in FY19.

This program is in Budget Activity 5, System Development and Demonstration (SDD) because it has passed Milestone B approval and is conducting engineering and manufacturing development tasks aimed at meeting validated requirements prior to full-rate production.

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	448.594	352.532	279.888	-	279.888
Current President's Budget	486.647	322.399	319.501	-	319.501
Total Adjustments	38.053	-30.133	39.613	-	39.613
• Congressional General Reductions	-0.702	-29.700			
• Congressional Directed Reductions	-15.000	-0.433			
• Congressional Rescissions	-	-			
• Congressional Adds	98.000	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-44.245	-	39.613	-	39.613

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 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604441F / *Space Based Infrared System (SBIRS) High EMD*

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2013	FY 2014
Project: 653616: *SBIRS High Element EMD*		
Congressional Add: *Starer Acceleration ($40.000M add less $7.154 CGR/Sequestration)*	32.846	-
Congressional Add: *HEO Command and Control Ground Expansion*	40.000	-
Congressional Add Subtotals for Project: 653616	72.846	-
Project: 657009: *Space Modernization Initiative*		
Congressional Add: *SMI Program Increase*	18.000	-
Congressional Add Subtotals for Project: 657009	18.000	-
Congressional Add Totals for all Projects	90.846	-

Change Summary Explanation

FY13:
Congressional Directed Reductions: -$5.0M SBIRS SMI architecture studies, -$10.0M SBIRS evolution

Other Adjustments: -$44.245M sequestration reduction (base).

(Note: The Congressional Adds total of $98.000M above is comprised of: +$40.000M SBIRS ground expansion for HEO C2, +$40.000M SBIRS ground starer/ scanner integration acceleration, +$18.000M program increase Space Modernization Initiative)

FY14:
Congressional Directed Reductions: -$29.7M modernization projects execution
delays excluding exploitation efforts

FY15:
Other Adjustments: +$43.6M funded EMD ground shortfall, less -$2.881M EMD and -$1.106M SMI inflation adjustments

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 5	R-1 Program Element (Number/Name) PE 0604441F / *Space Based Infrared System (SBIRS) High EMD*	Project (Number/Name) 653616 / *SBIRS High Element EMD*	

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
653616: *SBIRS High Element EMD*	8,929.162	407.979	266.975	230.893	-	230.893	185.541	110.848	97.177	-	-	10,228.575
Quantity of RDT&E Articles	4.000	-	-	-	-	-	-	-	-	-		

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

Note

Quantity of RDT&E articles above reflect delivery of GEO-1 in FY11 and GEO-2 in FY12. Both were developed under this project.

A. Mission Description and Budget Item Justification

The Space-Based Infrared Systems (SBIRS) primary mission is to provide initial warning of a ballistic missile attack on the US, its deployed forces, and its allies. SBIRS will enhance detection and improve reporting of intercontinental ballistic missile launches, submarine launched ballistic missile launches, and tactical ballistic missile launches. SBIRS supports Missile Defense, Battlespace Awareness, and Technical Intelligence missions by providing reliable, accurate, and timely data to Unified Combatant Commanders, Joint Task Force (JTF) Commanders, the intelligence community, and other users. SBIRS provides increased detection and tracking performance in order to meet requirements in Air Force Space Command's Operational Requirements Document. The SBIRS system includes both space and ground elements. The space segment consists of Geosynchronous Earth Orbit (GEO) satellites, payloads hosted on satellites in Highly Elliptical Orbit (HEO), and Defense Support Program (DSP) satellites. The ground segment consists of both fixed and mobile data processing elements, communications infrastructure, and relay ground stations serving all SBIRS space elements. The HEO-1 and HEO-2 payloads are on-orbit and certified for Integrated Tactical Warning/Attack Assessment (ITW/AA) missile warning operations and technical intelligence operations. The GEO-1 and GEO-2 satellites have completed AFSPC and USSTRATCOM operational acceptance. GEO-1 received ITW/AA certification in August 2013. The GEO-2 satellite received ITW/AA certification in December 2013. Ground segment development continues through FY18. Enterprise systems engineering and integration (SE&I) provides intra- and inter-program requirements development, enterprise master planning, validation and verification, specialty engineering, and architecture developement.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: SBIRS EMD	335.133	266.975	230.893
Description: Continued EMD contracts for Space and Ground segment development, concept studies/activities for obsolescence issues.			
FY 2013 Accomplishments: Continued GEO development. Completed GEO-1 operational user evaluation and certification. Accelerated starer tuning and infrastructure improvements to make starer data available to battlespace awareness and technical intelligence users. Launched GEO-2 in March 2013, completed early orbit testing, and began accelerated Developmental Test & Evaluation. Continued Ground System Development (continued Block 10 and began Block 20), System Engineering and Program Management, HEO host			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0604441F / *Space Based Infrared System (SBIRS) High EMD*	**Project (Number/Name)** 653616 / *SBIRS High Element EMD*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
program office support, Technical Intelligence activities, Data Processing/Exploitation/ground integration activities, Combined Task Force (CTF) support activities, systems integration and test studies. Continued Program Office and related support activities (to include SETA), technical analysis and independent verification and validation of Contractor. Continued enterprise SE&I. ***FY 2014 Plans:*** Complete the first three (of four) Block 10 system deliveries. Complete development and delivery of the Block 10 Standard Space Trainer to support 460 OG training. Complete development and delivery of the Block 10 Launch and Anomaly Resolution Center to support SBIRS GEO-3 system test. Complete development of Ground mission processing risk reduction build, which includes starer processing for non-ITW/AA users. Complete GEO-2 operational user evaluation and certification. Continue Ground System Development (Block 10 and Block 20), System Engineering and Program Management, HEO host program office support, Technical Intelligence activities, Data Processing/ Exploitation/ground integration activities, CTF support activities, systems integration and test studies. Continue Program Office and related support activities, technical analysis and independent verification and validation of Contractor. Continue enterprise SE&I. ***FY 2015 Plans:*** Continue Ground System Development (Block 10) and begin Block 10 Operational Utility Evaluation. Continue Block 20 Ground System Development, System Engineering and Program Management, HEO host program office support, Technical Intelligence activities, Data Processing/ Exploitation/ground integration activities, CTF support activities, systems integration and test studies. Continue Program Office and related support activities, technical analysis and independent verification and validation of Contractor. Continue enterprise SE&I.			
Accomplishments/Planned Programs Subtotals	335.133	266.975	230.893

	FY 2013	FY 2014
Congressional Add: Starer Acceleration ($40.000M add less $7.154 CGR/Sequestration) ***FY 2013 Accomplishments:*** Accelerates development of ground processing of the GEO starer sensor in the program of record ground system.	32.846	-
Congressional Add: HEO Command and Control Ground Expansion ***FY 2013 Accomplishments:*** The $40 million for SBIRS Ground Expansion for HEO C2 will be used to increase the system capabilities to support HEO-4 Launch and Early On orbit Test (LEOT) and support HEO 3/4 State of Health monitoring prior to transition to operations and the Ground tuning required to enable the transition into operations.	40.000	-
Congressional Adds Subtotals	72.846	-

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0604441F / *Space Based Infrared System (SBIRS) High EMD*	**Project (Number/Name)** 653616 / *SBIRS High Element EMD*

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 # 836720: *Space Based Ir Sensor Pgm Space*	39.582	25.408	26.100	-	26.100	7.683	7.663	7.799	7.939	-	-
• MPAF: BA05: Line Item # MSSBIR: *SBIR High (Space)*	392.271	524.587	450.884	-	450.884	434.162	384.134	984.178	100.074	220.174	7,433.600

Remarks

D. Acquisition Strategy

The pre-SDD SBIRS contracts were competed in full and open competition. Two contracts were awarded to Lockheed/Loral/Aerojet and Hughes/TRW in 1995 for the pre-SDD phase. A single contract was awarded to Lockheed Martin in 1996 for the SDD phase. This contract is still ongoing and will incrementally deliver the ground segment through FY18. Production contracts are discussed in the procurement budget exhibits.

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 / 5	**R-1 Program Element (Number/Name)** PE 0604441F / *Space Based Infrared System (SBIRS) High EMD*	**Project (Number/Name)** 653616 / *SBIRS High Element EMD*

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
Pre-EMD (LMMS & Hughes)	C/CPFF	Hughes Aircraft Company : El Segundo, CA	159.600	-		-		-		-		-	-	159.600	159.600
SBIRS EMD	Various	Prime: Lockheed Martin Sunnyvale, CA; Sub: Northrop Grumman, Azusa, CA : ,	8,040.774	317.415	Oct 2012	231.130	Oct 2013	200.203	Oct 2014	-		200.203	316.958	9,106.480	9,106.480
Enterprise Systems Engineering and Integration (SE&I)	C/CPAF	The Analytical Sciences Corporation : Andover, MA	33.999	8.682	Dec 2012	6.206	Dec 2013	5.194	Dec 2014	-		5.194	14.494	68.575	68.575
SBIRS Pre-SDD Contract Adjustment	Various	Various : ,	4.780	-		-		-		-		-	-	4.780	4.780
Technology	Various	Various : ,	11.600	-		-		-		-		-	-	11.600	11.600
Phenomenology	Various	Various : ,	17.350	-		-		-		-		-	-	17.350	17.350
Sensor Technology	Various	Sandia National Lab : Albuquerque, NM	10.000	-		-		-		-		-	-	10.000	10.000
HEO Command & Control (C2) Ground Expansion	SS/TBD	Lockheed Martin : Sunnyvale, CA	0.000	40.000	May 2014	-		-		-		-	-	40.000	40.000
		Subtotal	8,278.103	366.097		237.336		205.397		-		205.397	331.452	9,418.385	9,418.385

Remarks

SBIRS EMD includes SBIRS EMD prime contract with Lockheed Martin, Program/Mission Support and Host SPO efforts. Award dates represent date of first award of the funds for that fiscal year.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0604441F / *Space Based Infrared System (SBIRS) High EMD*	**Project (Number/Name)** 653616 / *SBIRS High Element EMD*	

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
WFOV Testbed Concept Study	MIPR	Millennium Space Systems : Torrance, CA	8.000	-		-		-		-		-	-	8.000	8.000
Various Program Support	Various	Various : ,	11.538	-		-		-		-		-	-	11.538	11.538
		Subtotal	19.538	-		-		-		-		-	-	19.538	19.538

Remarks

Award dates represent date of first award of the fiscal year.

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
Technical Support (FFRDC)	RO	Aerospace Corp. : El Segundo, CA	407.721	21.281	Dec 2012	13.702	Oct 2013	12.133	Oct 2014	-		12.133	32.940	487.777	487.777
SMC Admin Support (PMA)	C/FP	Quantech Services, Inc. : Lexington, MA	8.866	1.161	Dec 2012	1.819	Dec 2013	0.824	Dec 2014	-		0.824	2.200	14.870	14.870
SMC Technical Support (PMA)	C/FP	Scitor Corp. : El Segundo, CA	67.014	5.336	Dec 2012	3.758	Dec 2013	3.721	Dec 2014	-		3.721	7.785	87.614	87.614
SMC Financial Support (PMA)	C/FP	Tecolote, Inc. : Goleta, CA	15.930	1.448	Dec 2012	2.034	Dec 2013	0.998	Dec 2014	-		0.998	2.692	23.102	23.102
Various Management Support Services (PMA)	Various	Various : Various,	131.990	12.656	Oct 2012	8.326	Oct 2013	7.820	Oct 2014	-		7.820	16.497	177.289	177.289
		Subtotal	631.521	41.882		29.639		25.496		-		25.496	62.114	790.652	790.652

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 5	R-1 Program Element (Number/Name) PE 0604441F / *Space Based Infrared System (SBIRS) High EMD*	Project (Number/Name) 653616 / *SBIRS High Element EMD*	

	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	8,929.162	407.979		266.975		230.893		-		230.893	393.566	10,228.575	10,228.575

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0604441F / *Space Based Infrared System (SBIRS) High EMD*	**Project (Number/Name)** 653616 / *SBIRS High Element EMD*

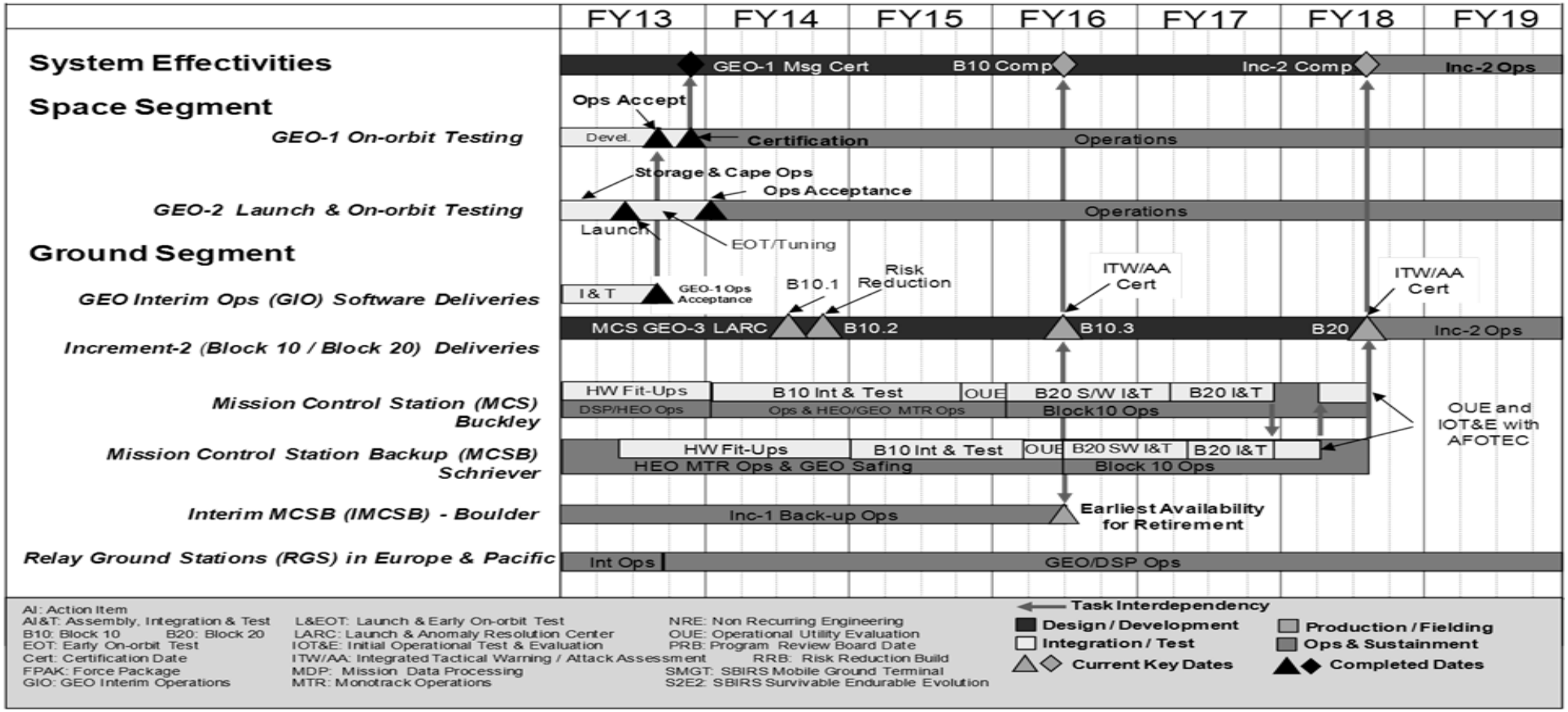

Exhibit R-4A, RDT&E Schedule Details: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0604441F / *Space Based Infrared System (SBIRS) High EMD*	**Project (Number/Name)** 653616 / *SBIRS High Element EMD*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Block 10 Mission Control Station (MCS) Fit Up	1	2013	1	2014
GEO-1 Message Certification	4	2013	4	2013
GEO-2 Early Orbit Testing (EOT)/Tuning/Certification	2	2013	1	2014
Back-up Mission Control Station (MCSB) Fit Up	2	2013	4	2014
Block 10 Integration & Test at MCS	1	2014	4	2015
Block 10 Integration & Test at MCSB	1	2015	1	2016
MCS Launch and Anomaly Resolution Center (LARC) ready for GEO-3 launch and early on-orbit System Test	3	2014	3	2014
B10.3 Completed and ITW/AA Certified	2	2016	2	2016
B20 Completed and ITW/AA Certified	3	2018	3	2018

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 5	R-1 Program Element (Number/Name) PE 0604441F / *Space Based Infrared System (SBIRS) High EMD*	Project (Number/Name) 657009 / *Space Modernization 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
657009: *Space Modernization Initiative*	-	78.668	55.424	88.608	-	88.608	89.285	89.509	89.197	90.894	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

Future SBIRS Overhead Persistent Infrared (OPIR) satellites will be procured using the Department of Defense (DOD) Efficient Space Procurement (ESP) concept. ESP is an approach which seeks stable production and efficient sub-contractor product management through the block buy of two space vehicles at one time (please see SBIRS P-40 Exhibit). A portion of the savings realized from ESP block buys are programmed for investment into OPIR Space Modernization Initiative (SMI); the current OPIR SMI project was established in this manner in the FY12 President's Budget. The primary objective of SMI is to enable and inform future decisions to maintain and evolve a capable, resilient, and affordable OPIR architecture, by maturing technologies and mitigating risk areas to facilitate OPIR modernization to be executed within the Department's constrained resources. SMI supports the Program of Record by assessing future parts and material obsolescence and future affordability and capability design modifications. SMI funds engineering activities to reduce future system and production costs through manufacturing and producibility enhancements and through technology insertion. SMI will also mature potential technology upgrades at the component and system level for future space and ground architecture affordability and capability enhancements. The SBIRS OPIR SMI plan includes studies and risk reduction activities to evolve the current Program of Record SBIRS GEO satellites, reduce production schedules, and reduce system costs. SMI funded data exploitation efforts include OPIR mission data processing, data fusion, data publication, algorithm development, network connectivity, and sensor performance assessments. The data exploitation efforts will identify affordable, responsive, and resilient measures to improve battlespace awareness data dissemination to the warfighter. SMI Architecture and Component Study efforts will assess future architecture alternatives for viability, affordability, capability and resilience. The SMI Hosted Payloads and Wide Field of View Testbeds efforts will explore technology maturation, qualification of new components, and subsystem/component prototyping to evolve the OPIR architecture.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Evolved SBIRS	-	5.110	11.597
Description: Assess obsolescence, affordability, capability design modifications, and SBIRS Follow-on Analysis of Alternatives.			
FY 2013 Accomplishments: Not applicable.			
FY 2014 Plans: Initiate and complete design trade studies with the incumbent SBIRS contractor to 1) identify obsolescence issues and corresponding hardware/software design modifications to mitigate future spacecraft/payload production risks; 2) identify payload and spacecraft modifications to improve affordability of the current satellite; and 3) identify design modifications required to			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0604441F / *Space Based Infrared System (SBIRS) High EMD*	**Project (Number/Name)** 657009 / *Space Modernization Initiative*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
segregate the scanning and staring payload hardware, software, and functionality to enable evolution of the Program of Record SBIRS satellite. Initiate SBIRS Follow-on Analysis of Alternatives. ***FY 2015 Plans:*** Initiate detailed design studies and hardware/software risk reduction efforts (e.g., brassboards/breadboards/engineering model testing) to implement approved recommendations from FY14 design trade studies. Continue SBIRS Follow-on Analysis of Alternatives.			
Title: Data Exploitation ***Description:*** Exploit existing OPIR data (Defense Support Program (DSP), SBIRS, Commercially Hosted InfraRed Payload (CHIRP), other classified sources) through data processing, data publication, algorithm development, network connectivity and sensor performance assessments. ***FY 2013 Accomplishments:*** Extended data collection and analysis from the on-orbit CHIRP payload throughout the entire FY 13. Provided near real-time weather alerts over data-sparse Areas of Interest (AOI) in support of Air Force Weather Agency (AFWA) and CENTCOM. Provided second wide band connection to Spacecraft Payloads Orbital Test Station (SPOTS) in support upgrades to Space Awareness and Global Exploitation (SAGE). Continued development and testing of WVOF detection algorithms. Provided enhanced ground segment capabilities for command and control, data collection, mission processing, and data dissemination. Provided post mission analysis of OPIR events using SAGE to process multiple OPIR sensors (DSP, SBIRS, CHIRP, other classified sources). Provided Wide Field of View starer data and demonstrated ability to aid in the detection of forest fires. ***FY 2014 Plans:*** Continue to provide enhanced ground segment capabilities for command and control, data collection, mission processing, and data dissemination. Continue development, testing, and maturation of WFOV detection algorithms. Initiate development of an open architecture ground processing capability for WFOV sensors to evolve the current SBIRS Program of Record ground system. ***FY 2015 Plans:*** Continue to provide enhanced ground segment capability for command and control, data collection, mission processing, and data dissemination. Continue development, testing, and maturation of WFOV detection algorithms. Continue development of an open architecture ground processing capability for WFOV sensors to support future evolution of the current SBIRS Program of Record ground system.	20.867	19.754	23.159
Title: Hosted Payloads ***Description:*** Explore Wide Field of View (WFOV) payload technology maturation, qualification of new components, and subsystem/component prototyping to evolve SBIRS and the OPIR architecture.	7.139	23.252	21.612

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0604441F / *Space Based Infrared System (SBIRS) High EMD*	**Project (Number/Name)** 657009 / *Space Modernization Initiative*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
FY 2013 Accomplishments: Awarded six contracts for Tactical WFOV Payload development to include Preliminary Design Review (PDR). Initiated new 4Kx4K Sensor Chip space qualification. Initiated WFOV payload test and calibration planning activities. Note: FY13 funding includes $7.139M plus the $18.000M Congressional Add below for a total of $25.139M. ***FY 2014 Plans:*** Continue development of Tactical WFOV Payload. Award new contract for single payload vendor to complete payload development and build prototype sensor for operational flight demonstration (launch in Dec 2016). Complete payload Critical Design Review (CDR) and order long lead parts/materials. Complete Sensor Chip qualification tests and determine feasibility for use on the flight demo. Initiate Strategic on-board processing demonstration to support Strategic WFOV payload on-board exceedance generation requirements. Continue WFOV payload test planning. ***FY 2015 Plans:*** Continue development of Tactical WFOV Payload. Continue Strategic on-board processing demonstration and initiate Strategic WFOV payload development. Continue WFOV payload test planning.			
Title: WFOV Testbeds ***Description:*** Explore spacecraft technology maturation, qualification of new components, and subsystem/component prototyping to evolve the OPIR architecture. Explore international, commercial, or other rideshare opportunities for an on-orbit WFOV payload demonstration. ***FY 2013 Accomplishments:*** Completed concept and design trade studies for a small GEO spacecraft. Initiated design and build phase of the spacecraft to support the Tactical WFOV Payload on-orbit demonstration. Completed spacecraft PDR. ***FY 2014 Plans:*** Continue development of spacecraft for the Tactical WFOV Payload. Complete CDR and order long lead parts/materials. ***FY 2015 Plans:*** Continue development of spacecraft for the Tactical WFOV payload. Integrate and test spacecraft subsystems and components. Initiate launch vehicle integration planning for December 2016 launch. Initiate Host-Payload Office studies to evaluate Government, international, and commercial rideshare opportunities for the Alternative WFOV Strategic Payload on-orbit demonstration.	29.400	3.500	29.747
Title: Management Services	3.262	3.808	2.493

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0604441F / *Space Based Infrared System (SBIRS) High EMD*	**Project (Number/Name)** 657009 / *Space Modernization Initiative*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Description: Conduct System Engineering and Program Management to include Program Office support such as Federally Funded Research and Development Center (FFRDC) analyses and System Engineering Technical Assistance (SETA). ***FY 2013 Accomplishments:*** Funded Program Office support for SMI projects ***FY 2014 Plans:*** Provide Program Office support for all SMI projects. ***FY 2015 Plans:*** Provide Program Office support for SMI projects.			
Accomplishments/Planned Programs Subtotals	60.668	55.424	88.608

	FY 2013	FY 2014
Congressional Add: SMI Program Increase	18.000	-
FY 2013 Accomplishments: This Congressional Add was incorporated into Hosted Payloads. Please refer to the Hosted Payloads FY13 Accomplishments above for content.		
Congressional Adds Subtotals	18.000	-

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
• RDTE: BA05: PE 0604441F: *Evolved SBIRS*	-	-	-	-	-	-	-	297.482	523.105	Continuing	Continuing

Remarks

D. Acquisition Strategy

The program office will use a variety acquisition approaches to execute various concept studies, technology maturation efforts, testbed/prototype demonstrations, and data exploitation initiatives and projects. The program office will collaborate with appropriate contracting agencies to support each individual effort. Activities such as SBIRS GEO obsolescence and affordability enhancements to the existing satellite design will leverage existing Program of Record contracts. Technology maturation and component prototyping and/or qualification could leverage existing contracts, but where practical could be competed. New technology, replacement components and system designs will be acquired with government data rights to a maximum extent to allow their incorporation into any future OPIR satellite production or system

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0604441F / *Space Based Infrared System (SBIRS) High EMD*	**Project (Number/Name)** 657009 / *Space Modernization Initiative*

development. Contracting partnerships with other agencies will also be used to study, develop and demonstrate and prove emerging capabilities. FFRDC and SETA contractors will also be used to conduct and support studies.

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 / 5	R-1 Program Element (Number/Name) PE 0604441F / *Space Based Infrared System (SBIRS) High EMD*	Project (Number/Name) 657009 / *Space Modernization Initiative*	

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
Evolved SBIRS	TBD	TBD : ,	0.000	-		5.110	Mar 2014	11.597	Oct 2014	-		11.597	Continuing	Continuing	-
Data Exploitation	Various	Americom Government Services Mclean VA; Northrop Grumman Boulder, CO; Others : ,	0.000	20.867	Oct 2012	19.754	Nov 2013	23.159	Oct 2014	-		23.159	Continuing	Continuing	-
Hosted Payloads	Various	Various : ,	0.000	25.139	Jul 2013	23.252	Dec 2013	21.612	Oct 2014	-		21.612	Continuing	Continuing	-
WFOV Testbeds	MIPR	Millenium Space Systems : Torrance, CA	0.000	29.400	Dec 2012	3.500	Dec 2013	29.747	Oct 2014	-		29.747	Continuing	Continuing	-
		Subtotal	0.000	75.406		51.616		86.115		-		86.115	-	-	-

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
Various Management Support Services (PMA)	Various	Various : ,	0.000	3.262	Oct 2012	3.808	Oct 2013	2.493	Oct 2014	-		2.493	Continuing	Continuing	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0604441F / *Space Based Infrared System (SBIRS) High EMD*	**Project (Number/Name)** 657009 / *Space Modernization Initiative*

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	3.262		3.808		2.493		-		2.493	-	-	-

	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	78.668		55.424		88.608		-		88.608	-	-	-

Remarks

Each Cost Category Item with "TBD" or "Various" annotated contains several contract elements with some contracts still TBD.
Under Hosted Payload the BAA Contractors are Ball, L3, Northrop Grumman, Raytheon, SAIC, and Lockheed Martin.

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0604441F / *Space Based Infrared System (SBIRS) High EMD*	**Project (Number/Name)** 657009 / *Space Modernization Initiative*

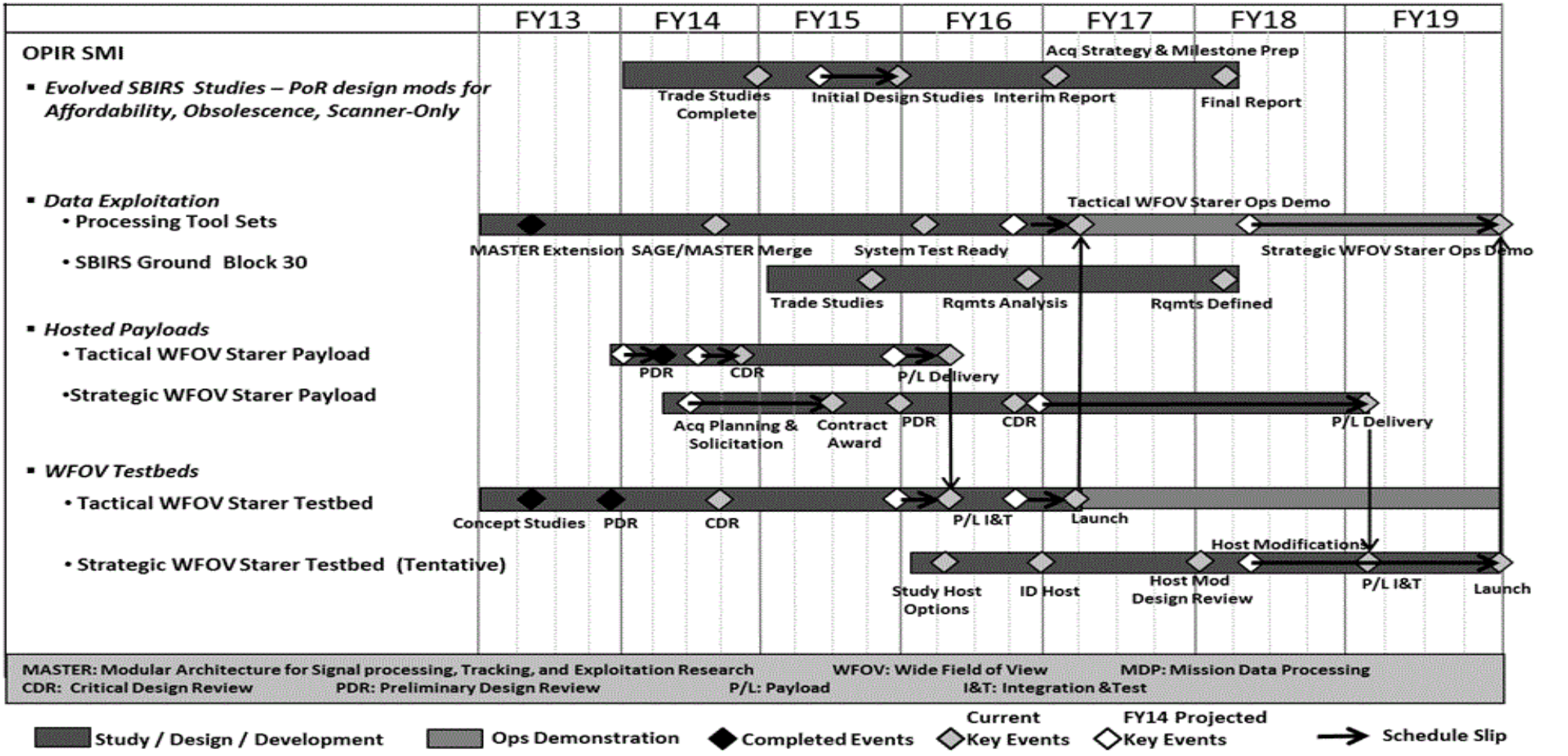

Exhibit R-4A, RDT&E Schedule Details: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0604441F / *Space Based Infrared System (SBIRS) High EMD*	**Project (Number/Name)** 657009 / *Space Modernization Initiative*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
WFOV Testbeds	2	2013	4	2019
Hosted Payloads	4	2013	1	2019
OPIR Data Exploitation	1	2013	4	2019

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 5	R-1 Program Element (Number/Name) PE 0604441F / *Space Based Infrared System (SBIRS) High EMD*	Project (Number/Name) 657106 / *EVOLVED SBIRS*	

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
657106: *EVOLVED SBIRS*	-	-	-	-	-	-	-	-	297.482	523.105	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

Knowledge gained from the SBIRS SMI projects will inform a future Defense Acquisition Board (DAB) decision for the Evolved SBIRS effort. DAB alternatives are expected to include 1) continued production of SBIRS PoR design; 2) an evolved satellite and ground system derived from the SBIRS POR designs; 3) an evolved satellite and ground system that includes a combination of PoR derivatives and new systems; or 4) a disaggregated OPIR system. The Evolved SBIRS effort will implement the DAB directed program alternative begining with FY18 funding. The Evolved SBIRS efforts will also include the initial HEO 5-6 development (anticipate to begin in FY19).

The "cost to complete" and "total cost" fields above will be populated after completion of the formal cost estimate in support of the DAB decision.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Evolved SBIRS	-	-	-
Description: Development effort for the Evolved SBIRS space and ground systems. Initial development program is expected to be for a new or derivative follow-on system(s) for the SBIRS GEO and HEO systems. Evolved SBIRS will also include development of ground system modifications to accommodate evolved SBIRS satellite design changes for GEO and HEO. ***FY 2013 Accomplishments:*** N/A, Evolved SBIRS funding starts in FY18. ***FY 2014 Plans:*** N/A, Evolved SBIRS funding starts in FY18. ***FY 2015 Plans:*** N/A, Evolved SBIRS funding starts in FY18.			
Accomplishments/Planned Programs Subtotals	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0604441F / *Space Based Infrared System (SBIRS) High EMD*	**Project (Number/Name)** 657106 / *EVOLVED SBIRS*

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: BA05: PE 0604441F: *Space Modernization Initiative*	78.668	55.424	88.608	-	88.608	89.285	89.509	89.197	90.894	Continuing	Continuing

Remarks

D. Acquisition Strategy

TBD until Milestone Decision in the FY16-17 timeframe.

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 / 5	R-1 Program Element (Number/Name) PE 0604441F / *Space Based Infrared System (SBIRS) High EMD*	Project (Number/Name) 657106 / *EVOLVED SBIRS*	

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
Evolved SBIRS	TBD	Not specified. : ,	0.000	-		-		-		-		-	Continuing	Continuing	-
		Subtotal	0.000	-		-		-		-		-	-	-	-

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 and Administration	TBD	TBD : TBD,	0.000	-		-		-		-		-	Continuing	Continuing	-
		Subtotal	0.000	-		-		-		-		-	-	-	-

	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	-		-		-		-		-	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0604441F / *Space Based Infrared System (SBIRS) High EMD*	**Project (Number/Name)** 657106 / *EVOLVED SBIRS*

Evolved SBIRS Schedule

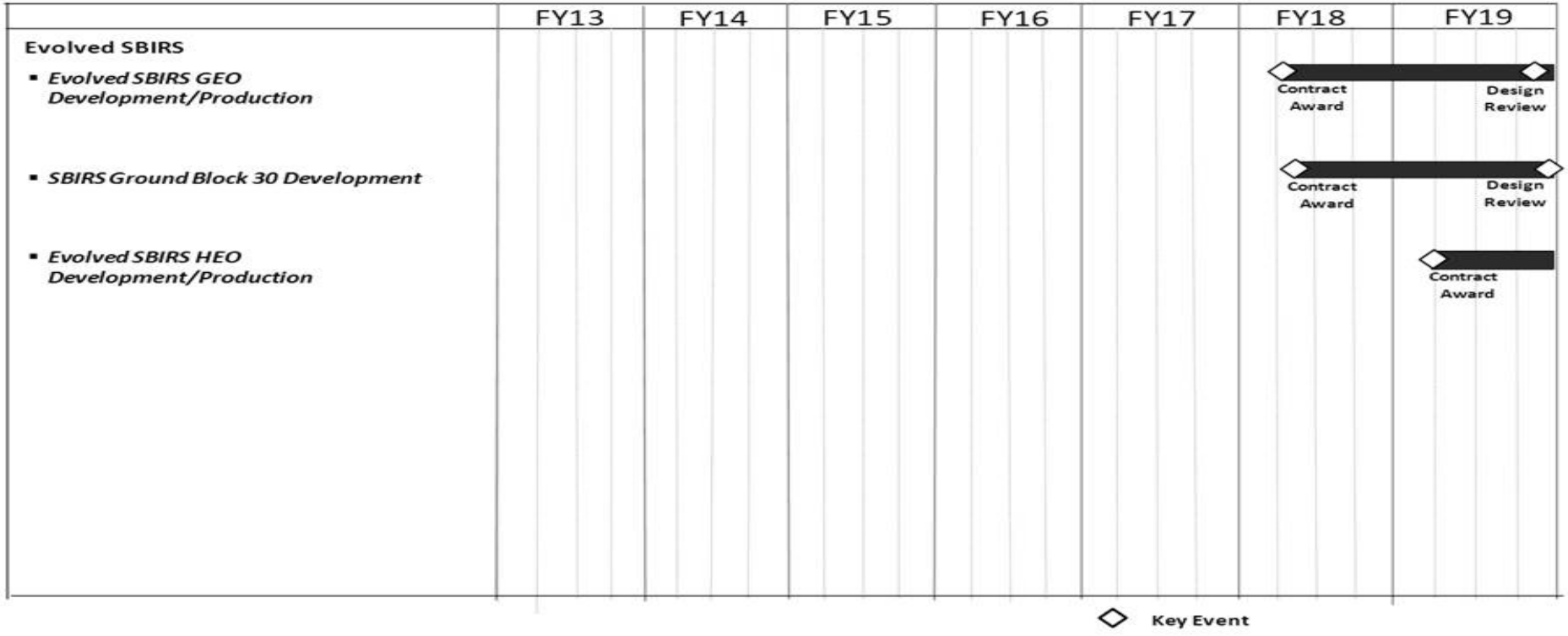

Exhibit R-4A, RDT&E Schedule Details: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0604441F / *Space Based Infrared System (SBIRS) High EMD*	**Project (Number/Name)** 657106 / *EVOLVED SBIRS*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Evolved SBIRS GEO Development/Production	2	2018	4	2019
SBIRS Ground Block 30 Development	2	2018	4	2019
Evolved SBIRS HEO Development/Production	2	2019	4	2019

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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 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0604602F / *Armament/Ordnance 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	-	8.874	13.661	31.112	-	31.112	37.460	16.788	6.012	6.126	Continuing	Continuing
653133: *Bombs & Fuzes*	-	3.561	0.720	11.001	-	11.001	20.856	11.162	1.083	1.104	Continuing	Continuing
653134: *BLU-109 and BLU-113 Upgrade*	-	-	8.877	14.325	-	14.325	11.069	0.791	-	-	Continuing	Continuing
655361: *Stores-Aircraft Interface*	-	5.313	4.064	5.786	-	5.786	5.535	4.835	4.929	5.022	Continuing	Continuing

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

Note

In FY 2015, Project 653133, Bombs & Fuzes, includes new start efforts, Improved Lethality (IL).

A. Mission Description and Budget Item Justification

The Armament/Ordnance Development program provides for initial and continuing development of weapons/munitions (kinetic and non-kinetic) and munitions equipment for support and operational use. This program develops and improves the following weapons and weapons subsystems: bombs, bomb fuzes (to include the FMU-152 and FMU-139 general purpose, commodity fuzes), insensitive explosive fills (Insensitive Munitions - IM), aircraft ammunition, stores-aircraft interface upgrades to include the Universal Armament Interface (UAI), directed energy technology transition to weapons, munitions materiel handling equipment (MMHE), munitions containers, and other weapon subsystems.

- Bombs and Fuzes (Armament Subsystems): This project develops and improves conventional weapons/munitions (kinetic and non-kinetic) and fuzes. The project also provides an opportunity to quickly insert emerging technologies into existing and developing aircraft munitions and fuzes. Bombs and fuzes provides research, development and testing of conventional warhead and fuzing modifications to improve lethality against area targets, to include anti-personnel anti-material (APAM) targets. This project provides for the development and testing necessary to provide a suitable manufacturing base of conventional warheads and fuzes. The project provides for research, development, and testing of medium caliber ammunition and enterprise management of guns, ammunition, and Munitions Materiel Handling Equipment (MMHE) systems integration and testing to ensure tested and certified medium caliber ammunition is provided to users. The project helps the AF meet Insensitive Munitions (IM) compliance requirements through strategic planning, development of insensitive explosive fills, and bomb case modifications to make weapons insensitive to unplanned stimuli. Armament Standardization/Control/Munitions Materiel Handling Equipment (MMHE) is a continuing project to develop and improve the standardization and commonality of munitions handling and armament equipment to preclude duplication. This project also funds the operation of the tri-service Container Design Retrieval System (CDRS), maintaining a container database to preclude proliferation and duplication of munitions containers and supporting organic container design.

- BLU-109 and BLU-113 Upgrade [Advanced BLU-109 and BLU-113 (A2K/A5K)]: This project demonstrates advancements in capability of these two legacy penetrator warheads, enabling them to hold more targets at risk than currently achievable.

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 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604602F / *Armament/Ordnance Development*

- Stores-Aircraft Interface: This project conducts stores-aircraft interface upgrades and standards development to include the Universal Armament Interface (UAI). UAI is an Air Force initiative to develop standardized software interfaces in aircraft, weapons and mission planning to support integration of weapons independent of aircraft Operational Flight Program (OFP) cycles. Significant savings of cost and time are achieved using UAI.

This program is in Budget Activity 5, System Development and Demonstration (SDD) because it has passed Milestone B approval and is conducting engineering and manufacturing development tasks aimed at meeting validated requirements prior to full rate production.

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	9.951	16.284	23.596	-	23.596
Current President's Budget	8.874	13.661	31.112	-	31.112
Total Adjustments	-1.077	-2.623	7.516	-	7.516
• Congressional General Reductions	-0.013	-			
• Congressional Directed Reductions	-	-2.623			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.230	-			
• Other Adjustments	-0.834	-	7.516	-	7.516

Change Summary Explanation

FY 2013, Other Adjustments: -$0.834M, Sequestration

FY 2014, Congressional Directed Reductions: -$2.623M, Program decrease

FY 2015, Other Adjustments: +$7.516M
+9.900M, Improved Lethality
-1.384M, Reduction of funds due to higher AF priorities

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 5	R-1 Program Element (Number/Name) PE 0604602F / *Armament/Ordnance Development*	Project (Number/Name) 653133 / *Bombs & Fuzes*	

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
653133: *Bombs & Fuzes*	-	3.561	0.720	11.001	-	11.001	20.856	11.162	1.083	1.104	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

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

Note

In FY 2015, Project 653133, Bombs & Fuzes, includes new start efforts.

A. Mission Description and Budget Item Justification

The Bombs & Fuzes (Armament Subsystems) Project contains a variety of work:

- Bombs/munitions and fuzes.
(a) Medium Caliber Ammunition project assesses, refines, and develops medium caliber ammunition, to include, but not limited to, conducting PGU-28A/B (F-22) and 25mm (F-35) qualification testing.
(b) This project funds follow-on development activities for legacy fuzes, including reliability enhancements and producibility improvements.
(c) Improved Lethality (IL): IL continues and expands development planning and legacy warhead efforts to improve lethality against area targets, to include anti-personnel anti-material (APAM) targets. This effort studies, designs, develops and tests warhead and fuzing modifications which improve lethality against APAM while meeting current DoD policy on cluster munitions and unintended harm to civilians. These improvements may be synergistic with maintaining a suitable manufacturing base. This effort is a new start effort in Project 653133, Bombs & Fuzes, in FY15.

- Insensitive Munitions (IM). IM develops less sensitive explosive fills and bomb case modifications to improve the response of conventional weapons to unplanned stimuli. The project also supports AF IM strategic planning to achieve IM compliance IAW U.S. Code, Title 10, Subtitle A, Part N, Chapter 141, Section 2389, Ensuring safety regarding insensitive munitions.

- Munitions Materiel Handling Equipment (MMHE) and Container Design Retrieval System (CDRS). Armament Standardization/Control/Munitions Materiel Handling Equipment (MMHE) is a continuing project to develop and improve the standardization and commonality of munitions handling and armament equipment to preclude duplication. Efforts are limited to the study, design, and development of MMHE and armament control systems. Procurement will be performed and funded by the applicable weapons system project. The tri-service Container Design Retrieval System (CDRS) is a database intended to preclude proliferation and duplication of munitions containers. It also supports organic container design, acquisition transportation, prototyping and testing capabilities, as well as the Joint Ordnance Commander's Working Group (JOCG) for Packaging, Handling, and Loading.

BA5 - This program is in Budget Activity 5, System Development and Demonstration (SDD) because it has passed Milestone B approval and is conducting engineering and manufacturing development tasks aimed at meeting validated requirements prior to full-rate production.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0604602F / *Armament/Ordnance Development*	**Project (Number/Name)** 653133 / *Bombs & Fuzes*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Munitions Materiel Handling Equipment/Container Design Retrieval System	0.734	0.466	0.738

Description: Munitions Materiel Handling Equipment (MMHE) and Container Design Retrieval System (CDRS). Armament Standardization/Control/Munitions Materiel Handling Equipment (MMHE) is a continuing project to develop and improve the standardization and commonality of munitions handling and armament equipment to preclude duplication. Efforts are limited to the study, design, and development of MMHE and armament control systems. Procurement will be performed and funded by the applicable weapons system project. The tri-service Container Design Retrieval System (CDRS) is a database intended to preclude proliferation and duplication of munitions containers. It also supports organic container design, acquisition transportation, prototyping, Packaging, Handling, Storage & Transportation (PHS&T) support and testing capabilities, as well as the Joint Ordnance Commander's Working Group (JOCG) for Packaging, Handling, and Loading.

FY 2013 Accomplishments:
CDRS provided DoD wide customer support with container design and technical support for munitions/weapons containers developers. Completed 54 customer requests to provide container or technical information and design resulting in $550K in container cost savings. Provided repair and test procedures for the Conventional Air Launched Cruise Missile (CALCM) Container. Provided System Program Office (SPO) Integrated Product Team (IPT) Team with technical guidance for the B61-12 Tail Fin Container acquisition. Provided specification and budgetary cost estimate for the HARM Control Section Container. MMHE completed 16 MMHE support equipment projects to include engineering, drafting, proof load, technical data, and safety authorizations. Fabricated 17 prototypes and first article equipment fabrications for drafting verification and delivery to Air Force units for additional test and evaluation. Engineered and developed a Pylon Lift Adapter and Missile Pylon Load Adapter to support F-35 Program Office. Engineered and developed F-22 Single Pylon Storage Stand for ready pylon storage. Engineered and developed GAU-8 Drum Helix Handler for the A-10 30MM gun system. Engineered and developed BRU-57 Load Adapter to ease bomb rack handling. Engineered and developed Bomb Rack Load Adapter for B-1B maintenance personnel. Provided support to all SPOs with new weapons and container development. Continued support and sustainment of all previously existing items developed by the MMHE program office.

FY 2014 Plans:
Provide container design expertise and technical support to AF munitions/weapons containers developers. Maintain the tri-service Container Design Retrieval System (CDRS) database search ability to preclude proliferation and duplication of munitions containers. Complete six Munitions Materiel Handling Equipment (MMHE) support equipment projects to include engineering, drafting, proof load, technical data, and safety authorizations. Fabricate six prototypes for test and evaluation purposes. Complete four first article equipment fabrications for drafting verification and delivery to Air Force units for additional test and evaluation. Provide support to all SPO with new weapons and container development. Continue support to the multi service F-35/JSF programs with equipment to test and evaluate various Alternate Mission Equipment to include pylons, racks and adapters.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0604602F / *Armament/Ordnance Development*	**Project (Number/Name)** 653133 / *Bombs & Fuzes*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Continue support and sustainment of all previously existing items developed by the MMHE program office. Continue to provide direct customer support through limited customer support visits. ***FY 2015 Plans:*** Provide expert DoD wide customer support with container design and technical support for munitions/weapons containers developers. Complete 10 Munitions Materiel Handling Equipment (MMHE) support equipment projects to include engineering, drafting, proof load, technical data, and safety authorizations. Fabricate 7 prototypes for test and evaluation purposes. Complete 7 first article equipment fabrications for drafting verification and delivery to Air Force units for additional test and evaluation. Provide support to all Specialized Program Office (SPO) with new weapons and container development. Continue support to the F-35 program with equipment to aid safe munitions loading and handling of various pylons and adapters. Continue support and sustainment of all previously existing items developed by the MMHE program office.			
Title: Medium Caliber Ammunition ***Description:*** Assess, refine, and develop medium caliber ammunition. The project provides enterprise management of guns, ammunition, and Munitions Materiel Handling Equipment (MMHE) systems integration. ***FY 2013 Accomplishments:*** Completed 20mm PGU-28A/B F-22 ground qualification and operational suitability and flight testing. Procured 25mm FAP rounds to support updates to LFT&E lethality predictions in FATEPEN modeling and simulation software. Initiated procurement of 25mm FAP rounds to support DT/OT of gun system during F-35 EMD. [FAP = Frangible Armor Piercing (now PGU-48/B); FATEPEN = Fast Air Target Encounter Penetration] ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** Complete procurement of 25mm FAP rounds to support DT/OT of gun system during F-35 EMD.	2.460	-	0.100
Title: Insensitive Munitions (IM) ***Description:*** Strategic IM planning for the AF; support Joint Service IM efforts; provide technical guidance and test expertise to AF IM programs ***FY 2013 Accomplishments:***	0.367	0.254	0.400

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0604602F / *Armament/Ordnance Development*	**Project (Number/Name)** 653133 / *Bombs & Fuzes*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Initiated the FY15/16 AF IM Strategic Plan; supported DoD and Joint Service IM planning; provided IM planning expertise to individual AF programs, including AMRAAM, SDB II, BLU-109/113, BLU-117, BLU-129, and the Hard Target Void Sensing Fuze (HTVSF). ***FY 2014 Plans:*** Deliver the FY 15/16 AF IM Strategic Plan; support DoD and Joint Service IM planning; provide IM planning expertise to individual AF programs. ***FY 2015 Plans:*** Initiate the FY17/18 AF IM Strategic Plan; support DoD and Joint Service IM planning; provide IM planning expertise to individual AF programs.			
Title: Improved Lethality (IL) - New Start ***Description:*** Improve lethality against area targets, to include anti-personnel anti-material (APAM) targets. Improvements must meet current DoD policy on cluster munitions and unintended harm to civilians and may be synergistic with maintaining a suitable manufacturing base. ***FY 2015 Plans:*** Expand previous development planning efforts to study options and demonstrate technologies for improved lethality in future scenarios which meet DoD policy on cluster munitions and unintended harm to civilians. Complete development and begin test of a direct attack employed, interim, 500lb warhead for improved APAM target lethality which meets DoD policy.	-	-	9.763
Accomplishments/Planned Programs Subtotals	3.561	0.720	11.001

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: BA04: PE 0604337F: *Requirements Analysis and Maturation*	14.760	11.884	-	-	-	-	-	-	-	-	-

Remarks

The Improved Lethality (IL) effort continues and expands upon developmental planning work accomplished in the Requirements Analysis and Maturation PE.

D. Acquisition Strategy

- Fuzes (including the FMU-152) is a continuing effort with most activities performed in-house or through contracted services (small contracts).

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0604602F / *Armament/Ordnance Development*	**Project (Number/Name)** 653133 / *Bombs & Fuzes*

- MMHE/CDRS project activities are performed in-house with limited technical and analysis contract support.

- Medium Caliber project activities are performed in-house with technical and analysis contract support, organic government test support, and possible contracted services (small contracts).

E. Performance Metrics

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

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0604602F / *Armament/Ordnance Development*	**Project (Number/Name)** 653133 / *Bombs & Fuzes*

Armament/Ordinance RDT&E Schedule

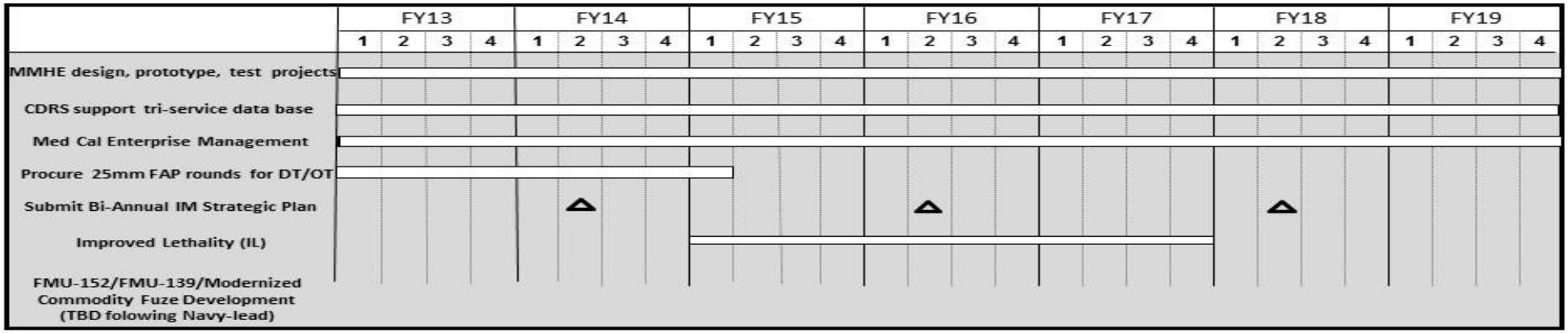

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 5	R-1 Program Element (Number/Name) PE 0604602F / *Armament/Ordnance Development*	Project (Number/Name) 653134 / *BLU-109 and BLU-113 Upgrade*	

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
653134: *BLU-109 and BLU-113 Upgrade*	-	-	8.877	14.325	-	14.325	11.069	0.791	-	-	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

BLU-109 and BLU-113 Upgrade [Advanced BLU-109 and BLU-113 (A2K/A5K)]: This project develops, tests and implements upgrades to penetrator bomb designs (BLU-109, BLU-113) to improve their reliability and survivability during penetration into hardened targets. The enhancements will enable these two weapons to hold more targets at risk than currently achievable with legacy weapons. The initial effort will focus on demonstrating an advanced 2000 lb (A2K) warhead and an advanced 5000 lb (A5K) warhead, which improve the survivability and reliability of the legacy warheads. The project leverages work previously accomplished by the Legacy Warhead Improvement Program (LWIP).

BA5 - This program is in Budget Activity 5, System Development and Demonstration (SDD) because it has passed Milestone B approval and is conducting engineering and manufacturing development tasks aimed at meeting validated requirements prior to full-rate production.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Advanced 2000 lb Penetrator (A2K) and Advanced 5000 lb Penetrator (A5K) Demonstrations	-	8.877	14.325
Description: Conduct A2K & A5K design analysis, warhead modifications, and testing to improve BLU-109/113 performance against increasingly hardened targets. Designs will maintain the current BLU-109/113 mold lines and will attempt to maintain current BLU-109/113 mass properties and Insensitive Munitions (IM) characteristics. ***FY 2014 Plans:*** Complete risk reduction and begin demonstration/qualification testing of A2K design to include modified FMU-152 fuzing units (FZUs) and cables, modified JDAM hardbacks, and modified warhead cases employed on the threshold platform (B-2A). The demonstration/qualification effort will complete in FY16. Design new A5K warhead in FY14 in preparation for test asset production in FY15. ***FY 2015 Plans:*** Complete risk reduction and begin demonstration/qualification testing of A2K design to include modified FMU-152 FZUs and cables, modified JDAM hardbacks, and modified warhead cases employed on the threshold platform (B-2A). The demonstration/			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0604602F / *Armament/Ordnance Development*	**Project (Number/Name)** 653134 / *BLU-109 and BLU-113 Upgrade*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
qualification effort will complete in FY16. Build A5K test assets in preparation for test and produceability study in FY16, and limited qualification in FY17.			
Accomplishments/Planned Programs Subtotals	-	8.877	14.325

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:BA04:PE 0604618F: *Joint Direct Attack Munition*	-	2.500	2.469	-	2.469	-	-	-	-	-	-
• PAAF:BA01:Line Item # 353020: *Legacy Weapon Improvement Program*	3.000	3.000	3.000	-	3.000	3.000	3.000	3.000	-	Continuing	Continuing

Remarks

N/A

D. Acquisition Strategy

The A2K/A5K Demonstration and Partial Qualification program will provide a BLU-109/BLU-113 modification package that would precede efforts to achieve a full qualification and low rate initial production (LRIP) phase in FY18.

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 / 5	**R-1 Program Element (Number/Name)** PE 0604602F / *Armament/Ordnance Development*	**Project (Number/Name)** 653134 / *BLU-109 and BLU-113 Upgrade*

A2K Schedule

War-Winning Capabilities…On Time, On Cost

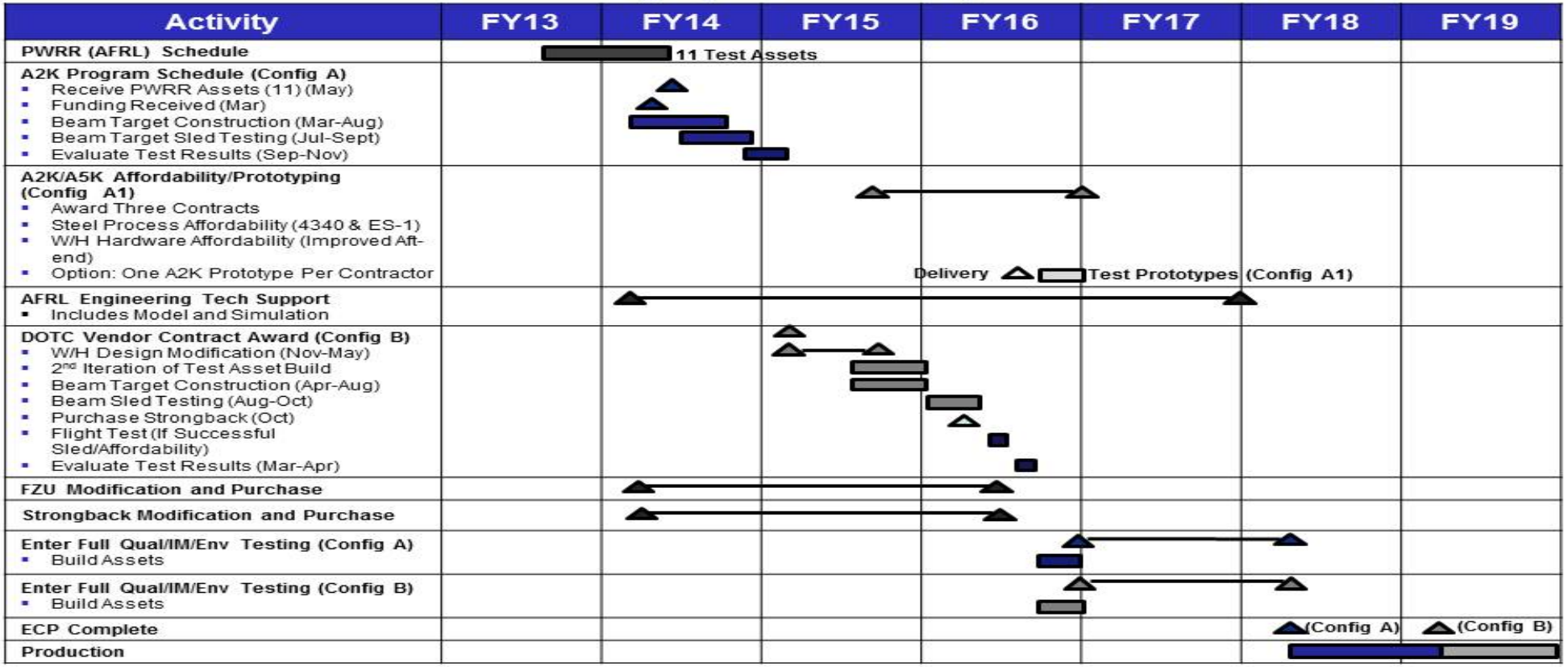

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0604602F / *Armament/Ordnance Development*	**Project (Number/Name)** 653134 / *BLU-109 and BLU-113 Upgrade*

A5K Schedule

War-Winning Capabilities…On Time, On Cost

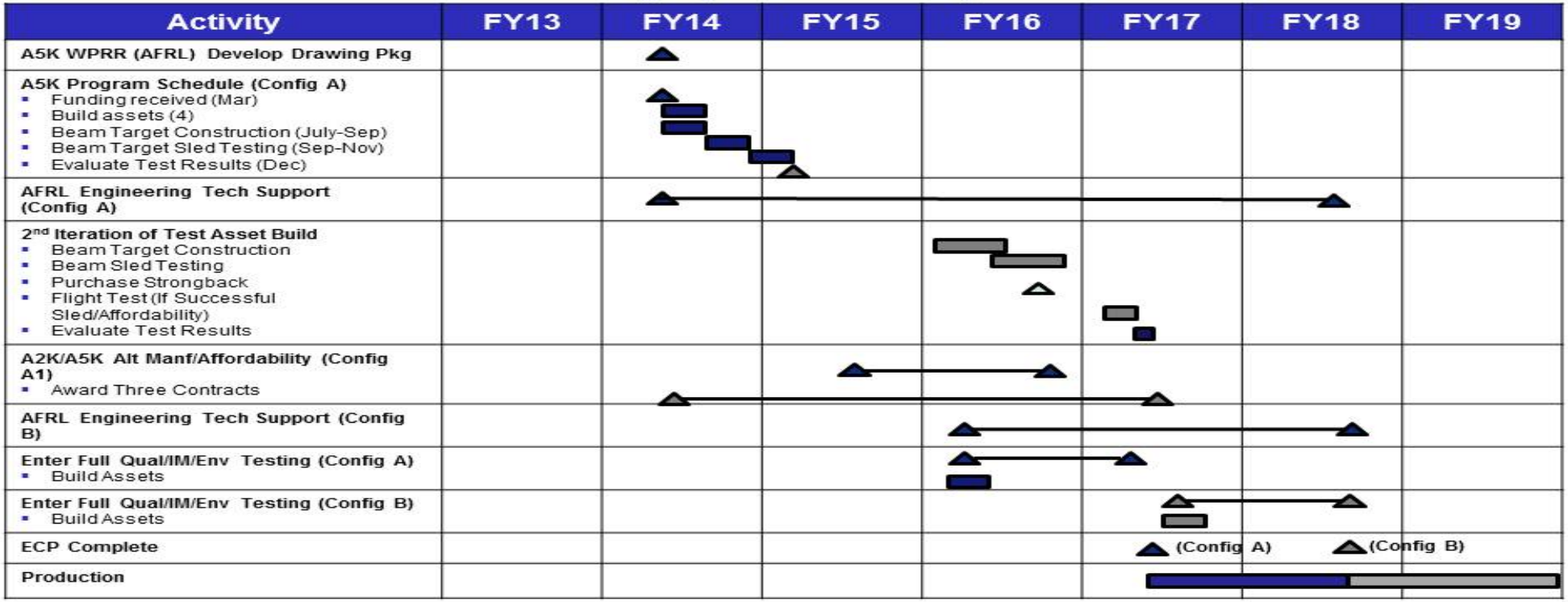

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 5	R-1 Program Element (Number/Name) PE 0604602F / *Armament/Ordnance Development*	Project (Number/Name) 655361 / *Stores-Aircraft Interface*	

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
655361: *Stores-Aircraft Interface*	-	5.313	4.064	5.786	-	5.786	5.535	4.835	4.929	5.022	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

Universal Armament Interface (UAI) is an Air Force program to develop, enhance, and implement standardized interfaces in current and future aircraft (manned or unmanned), weapons and mission planning to support integration of weapons independent of aircraft Operational Flight Program (OFP) cycles. UAI is currently being implemented on the F-15E, F-16 Block 40/50, and EPAF(European Participating Air Forces) F-16 aircraft, Small Diameter Bomb (SDB) I and II, Joint Direct Attack Munition (JDAM), Laser JDAM, Joint Air-to-Surface Stand-off Missile (JASSM) and Precision Guided Munitions Planning Software (PGMPS). Additional aircraft and weapons, including but not limited to, Joint Strike Fighter (JSF/F-35), MQ-9, as well as Army and Navy systems, have program plans to implement UAI. The UAI program office is responsible for development and enhancement of the standard (U.S. and allied), support to coalition/allied/joint interoperability efforts for weapons-platform interface efforts, provision of certification tools and implementation support to aircraft and weapons.

BA5 - This program is in Budget Activity 5, System Development and Demonstration (SDD) because it has passed Milestone B approval and is conducting engineering and manufacturing development tasks aimed at meeting validated requirements prior to full-rate production.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: UAI Development	5.313	4.064	5.786
Description: Conduct stores-aircraft interface upgrades and standards development to the Universal Armament Interface (UAI), development of and maintenance to the UAI, and facilitation of aircraft and stores program users in the UAI process.			
FY 2013 Accomplishments: Continued development and configuration management of UAI standards in response to user needs, working group management, technical meetings and workshops, risk reduction studies, common mission planning, and integration support and updates to test. Accomplishments: Completed Moving Target Launch Acceptability Region Study Interface Control Notice; Released version 4 of began/completed 14 Platform-Store and 2 Mission Planning (MP) interface changes Interface Control Documents in response to aircraft program needs. With support from UAI SPO, B-2 MP SPO signed the UAI Interface Control Program, precision Guided Munitions Planning System designated UAI as its single future MP interface (even to non-UAI a/c), and Army/Navy/AF Unmanned Systems Interoperability Profile (USIP) Weapons IP 5.0 mandated UAI as its primary interface on Unmanned Aerial Vehicles.			
FY 2014 Plans: Continue development and configuration management of UAI standards in response to user needs, working group management, technical meetings and workshops, risk reduction studies, common mission planning, and integration support. Also, continue			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0604602F / *Armament/Ordnance Development*	**Project (Number/Name)** 655361 / *Stores-Aircraft Interface*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
integration and updates to test tools, including maintenance and procurement of certification tools. These tools are shared among aircraft and weapons programs to reduce time and cost for UAI integration efforts. Start negotiation for multinational Memorandum of Understanding to broaden the use of coalition partners. ***FY 2015 Plans:*** Continue development and configuration management of UAI standards in response to user needs, working group management, technical meetings and workshops, risk reduction studies, common mission planning, integration support and updates to test tools. Procure certification tools with miniature and micro munitions interface capability to meet F-35, SDB II and other future user system integration lab test certification needs.			
Accomplishments/Planned Programs Subtotals	5.313	4.064	5.786

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

N/A

D. Acquisition Strategy

In December 2004, under the authority of a class Justification and Approval (J&A), the UAI program office awarded individual Cost Plus Fixed Fee (CPFF) contracts to Boeing, Lockheed Martin, Northrop Grumman and Raytheon. Each Original Equipment Manufacturer is responsible for a different piece of the total UAI requirement based on its product-specific (platform/weapon) expertise. During FY10 these contracts expired. Under the authority of a new class J&A, Cost Plus Incentive Fee (CPIF) contracts were awarded to the four UAI vendors in August 2010. Follow-on period of performance was awarded in February 2013 for 12 months to better align future contract awards with funding through the Five Year Defense Plan.

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 / 5	**R-1 Program Element (Number/Name)** PE 0604602F / *Armament/Ordnance Development*	**Project (Number/Name)** 655361 / *Stores-Aircraft Interface*

Exh R-4, UAI Technical Roadmap

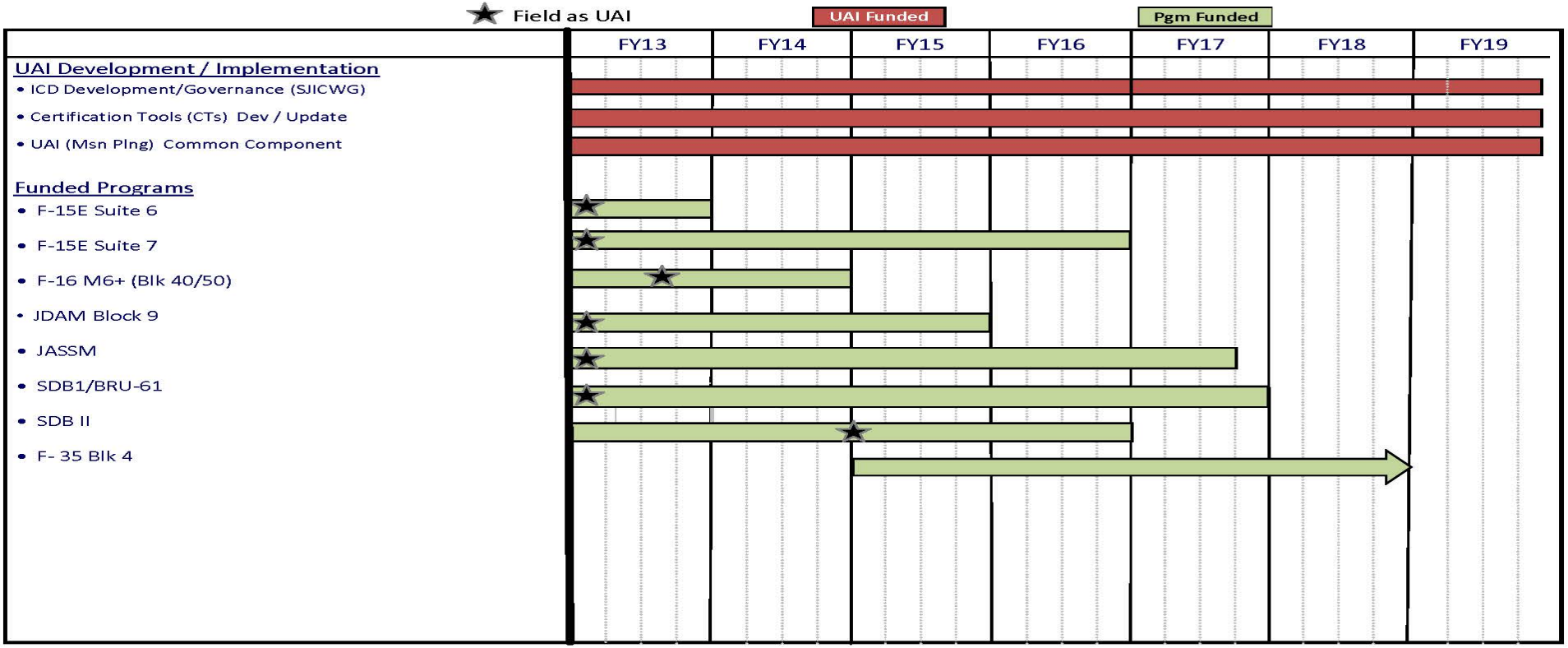

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Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force											Date: March 2014	
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0604604F / *Submunitions*							
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	-	2.352	2.564	2.543	-	2.543	2.617	2.655	2.708	2.761	Continuing	Continuing
653166: *Joint Smart Munitions Test and Evaluation*	-	2.352	2.564	2.543	-	2.543	2.617	2.655	2.708	2.761	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 Chicken Little (PCL) continues providing superior rapid reaction signature exploitation capabilities for use on both the traditional and the asymmetrical battlefield. PCL delivers vital one-of-a-kind research, development, test and evaluation (RDT&E) expertise directly to the warfighter, capability developer, and allied/coalition forces.

From its inception in 1985, PCL constantly advances the state-of-the-art for developmental smart munitions, seekers/sensors and their platforms. PCL also focuses its capability against today's networked weapons, emerging weapon concepts, and helps develop innovative targeting technologies to be employed against a wide variety of vehicle targets, theater air defense units, and an extensive array of associated equipment.

Combat systems and support equipment exhibit physical characteristics (i.e. signatures), and present certain vulnerabilities, which can be exploited by various targeting technologies leading to the elimination or incapacitation of the threat through the application of force (e.g. smart munitions or directed energy) or application of intelligence, surveillance, reconnaissance (ISR) methods. PCL collects physical, functional, and signature attributes of real foreign threat systems and related equipment; these data feed high-fidelity models used to predict detection, classification, vulnerability and effectiveness performance for ISR sensor and weapon system design. PCL collects high resolution signature data using a variety of ground, air, and space-based sensors against both new and existing (obtained, sustained, and maintained to be signature representative) foreign targets; with and without the presence of camouflage, concealment, and deception materials; and operated using enemy tactics/CONOPS. The resulting highly reliable, realistic data directly supports munitions/targeting development programs and helps mitigate overall acquisition risk. PCL serves as a major focal point for joint signature exploitation, collection, and dissemination amongst the DoD and intelligence community (IC). PCL is a prime contributor in the time critical process to rapidly exploit, assess, and determine US and allied weapon/targeting performance against high value targets. Customers include: the major Defense and Service Intelligence Centers, all Services, the Joint Technical Coordinating Group (JTCG) who develop the Joint Munitions Effectiveness Manuals (JMEMs), Combatant Commands, AF Major Commands, US Air Force Weapons School curriculum support, and others. Current projects include, but are not limited to: target signature exploitation, target geometric modeling (for identifying vulnerabilities), improving air capabilities against protected structures (specifically hard and deeply buried targets), and the testing of multiple seekers, sensors, and targeting technologies in representative environments against COCOM/MAJCOM/IC high value targets.

This program is in Budget Activity 5, System Development and Demonstration (SDD) because it has passed Milestone B approval and is conducting engineering and manufacturing development tasks aimed at meeting validated requirements prior to full-rate production.

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 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604604F / *Submunitions*	

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	2.567	2.564	2.574	-	2.574
Current President's Budget	2.352	2.564	2.543	-	2.543
Total Adjustments	-0.215	-	-0.031	-	-0.031
• Congressional General Reductions	-0.004	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-0.211	-	-0.031	-	-0.031

Change Summary Explanation

Reduction of $0.211M in FY13 due to sequestration.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Model Development and Vulnerability Analysis	0.375	0.150	0.380

Description: Develop, validate, and accredit improved models for target vulnerability and weapons effectiveness in support of Combatant Commands' (CoCOMs) requirements.

FY 2013 Accomplishments:

Developed, validated, and accredited improved models for target vulnerability and weapons effectiveness in support of warfighter requirements.

No OCONUS requirements.

FY 2014 Plans:

Develop, validate, and accredit improved computer models to determine target vulnerability and weapons effectiveness in support of warfighter requirements.

No OCONUS requirements.

FY 2015 Plans:

Develop, validate, and accredit improved computer models to determine target vulnerability and weapons effectiveness in support of warfighter 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 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604604F / *Submunitions*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
No OCONUS requirements.			
Title: System Exploitation	0.820	0.450	0.840
Description: Provide the DoD community accurate multi-spectral signatures obtained from high-value, signature representative modern threat systems using advanced collection technologies. Exploitations typically occur CONUS; however, Project Chicken Little is postured to support OCONUS collections as dictated by mission requirements. ***FY 2013 Accomplishments:*** Exploited high value threat systems. Provided signature data from multiple threat systems in various environments using advanced and developmental seeker/sensor technologies No OCONUS requirements. ***FY 2014 Plans:*** Exploit high value threat systems (typically 4 per year) and other targets of warfighter interest using multi-spectral collection technologies, national technical means, and developmental seeker/sensor technologies. In even calendar years, this effort is scaled-back considerably to redirect funding for the bi-annual Sensor Week. ***FY 2015 Plans:*** Exploit high value threat systems (typically 4 per year). Provide signature data from multiple threat systems in various environments using advanced and developmental seeker/sensor technologies No OCONUS requirements.			
Title: Bi-Annual Sensor Week	0.020	0.950	0.020
Description: A critical underpinning of the System Exploitation major thrust area, Sensor Week occurs in even years and provides a unique air, ground, and National Technical Means (NTM) demonstration/validation of candidate Seeker/Sensor/ISR technologies.			

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 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604604F / *Submunitions*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Sensor Week is a specialized venue of the System Exploitation Major Thrust area; therefore, in even calendar years this major thrust receives the majority of the program element funding. During odd calendar years this major thrust area receives funding for planning the next Sensor Week. ***FY 2013 Accomplishments:*** Sensor Week (SW) provided a singularly unique forum for joint service demonstration of developmental and operational seekers/ sensors/ISR assets against a wide array of US, coalition, and foreign national ground targets. No OCONUS requirements. ***FY 2014 Plans:*** Sensor Week (SW) provides a singularly unique forum for joint service demonstration of developmental and operational seekers/ sensors/ISR assets against a wide array of US, coalition, and foreign national ground targets. ***FY 2015 Plans:*** Sensor Week (SW) provides a singularly unique forum for joint service demonstration of developmental and operational seekers/ sensors/ISR assets against a wide array of US, coalition, and foreign national ground targets.			
Title: ISR Exploitation ***Description:*** Plan and conduct captive carry flight tests and signature collection for seeker/sensor technology evaluations. ***FY 2013 Accomplishments:*** Exploited the signatures of ISR targets; conducted rapid reaction performance analysis & evaluations in support of COCOM/ MAJCOM immediate/urgent warfighter needs; optimized current project methods to support ISR testing No OCONUS requirements. ***FY 2014 Plans:*** Exploit the signatures of high priority targets for use in ISR direct combat support and filling capability gaps; conduct rapid reaction performance analysis & evaluations in support of COCOM/MAJCOM immediate/urgent warfighter needs; optimize current project methods to support ISR testing ***FY 2015 Plans:*** Exploit the signatures of ISR targets; conduct rapid reaction performance analysis & evaluations in support of COCOM/MAJCOM immediate/urgent warfighter needs; optimize current project methods to support ISR testing	0.337	0.214	0.503

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 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604604F / *Submunitions*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
No OCONUS requirements.			
Title: Fleet Relevance	0.800	0.800	0.800
Description: Obtain/maintain high value signature quality threat assets. Project Chicken Little manages this major thrust area by ensuring Chicken Little, DoD Major Test Range Facility Base (MTRFB), and other government threat capabilities remain current and representative for RDT&E. This funding ensures Project Chicken Little provides combat representative signatures. ***FY 2013 Accomplishments:*** Assisted in obtaining relevant, high value, and emergent threat assets and/or decoys. Ensured the fleet foreign threat assets remain properly "signature representative" for systems development and testing. No OCONUS requirements. ***FY 2014 Plans:*** Assist in obtaining relevant, high value, and emergent threat assets and/or decoys. Ensure the fleet foreign threat assets remain properly "signature representative" for systems development and testing. Combat representative signatures are critical when supporting the development of 5th generation fighter weapon systems, Techniques, Tactics and Procedures (TTPs), next generation ISR capabilities, and rapid reaction COCOM exploitation efforts. ***FY 2015 Plans:*** Assist in obtaining relevant, high value, and emergent threat assets and/or decoys. Ensure the fleet foreign threat assets remain properly "signature representative" for systems development and testing. No OCONUS requirements.			
Accomplishments/Planned Programs Subtotals	2.352	2.564	2.543

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
• None: *N/A*	-	-	-	-	-	-	-	-	-	-	-

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 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604604F / *Submunitions*

E. Acquisition Strategy

Funds are executed organically in support of test and evaluation activities including studies, analyses, flight & ground tests, model building and simulation. Virtually all of the work is performed in-house by the 46th Test Wing.

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 / 5	**R-1 Program Element (Number/Name)** PE 0604604F / *Submunitions*	**Project (Number/Name)** 653166 / *Joint Smart Munitions Test and Evaluation*

SCHEDULE

Project 3166, Joint Smart Munition Test and Evaluation program (project Chicken Little) does not execute in accordance with established acquisition milestones. Chicken Little is a continuing test effort: Target/warhead evaluation/analysis, signature tests, and captive carry flight tests are ongoing throughout the year and continue through the FYDP. The type of activities is given in Section B. The timing, duration, and level of effort is decided at the annual Steering Committee meetings.

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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 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0604617F / *Agile Combat 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**
Total Program Element	-	21.145	17.036	46.340	-	46.340	58.060	50.350	17.280	17.483	Continuing	Continuing
652895: *CE Readiness*	-	19.245	14.175	44.903	-	44.903	56.585	48.771	15.670	15.843	Continuing	Continuing
654910: *Aeromedical Readiness*	-	1.900	2.861	1.437	-	1.437	1.475	1.579	1.610	1.640	Continuing	Continuing

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

Note

In FY15, Project 652895, CE Readiness, includes a New Start for Airfield Protection.
In FY15, Project 654910, Aeromedical Readiness, includes a New Start for Non-Invasive Warming and Cooling Device (NIWCD).

A. Mission Description and Budget Item Justification

This program supports the vision of Agile Combat Support (ACS), which is to provide an integrated and interoperable mission-ready total force capable of delivering responsive, persistent, effective, and affordable support across the range of military operations to achieve joint effects. To this end, ACS is challenged to provide lighter, leaner, rapidly-deployable and technologically-advanced materiel and forces; timelier planning and execution capabilities; and more agile, responsive, and efficient sustainment capabilities to the warfighter. Consequently, this program provides capabilities to field, base, protect, support, and sustain air, space, and cyberspace forces with an intentional focus on efficiency and effectiveness. Current projects in this program provide Civil Engineering Readiness (BPAC 652895) and Aeromedical Readiness (BPAC 654910). Civil Engineering Readiness projects enable rapid deployment, defense, and sustainment of airfield operations within established timelines anywhere in the world. Aeromedical Readiness projects provide aerospace medical systems and treatment equipment to meet unique, worldwide warfighter medical operational requirements.

BA 5 - This program is in Budget Activity 5, Engineering and Manufacturing Development (EMD) because it has passed Milestone B approval and is conducting engineering and manufacturing development tasks aimed at meeting validated requirements prior to full-rate production.

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 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604617F / *Agile Combat Support*

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	13.059	17.036	24.109	-	24.109
Current President's Budget	21.145	17.036	46.340	-	46.340
Total Adjustments	8.086	-	22.231	-	22.231
• Congressional General Reductions	-0.034	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	13.000	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-2.275	-			
• SBIR/STTR Transfer	-0.327	-			
• Other Adjustments	-2.278	-	22.231	-	22.231

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2013	FY 2014
Project: 652895: *CE Readiness*		
Congressional Add: *Power Generation and Storage Research*	11.847	-
Congressional Add Subtotals for Project: 652895	11.847	-
Congressional Add Totals for all Projects	11.847	-

Change Summary Explanation

FY13 adjustments include a $13M Congressional add for power generation and storage research, -$2.275M for internal Air Force reprogramming and -$2.278M for sequestration reductions.

FY15 increase is to accelerate Airfield Damage Repair and Airfield Protection efforts.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 5	R-1 Program Element (Number/Name) PE 0604617F / *Agile Combat Support*	Project (Number/Name) 652895 / *CE Readiness*	

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
652895: *CE Readiness*	-	19.245	14.175	44.903	-	44.903	56.585	48.771	15.670	15.843	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

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

Note

In FY15, Project 652895, CE Readiness, includes a New Start for Airfield Protection.

A. Mission Description and Budget Item Justification

This Civil Engineering (CE) Readiness project develops airfield assessment, repair, and unexploded ordnance identification, removal, disposal, and mitigation capabilities to enable rapid recovery and regeneration of airfield operations within established time limits. This project develops and transitions infrastructure design criteria, construction methods and materials, and evaluation tools for both main operating bases and forward operating locations. This project also provides efficient and effective Basic Expeditionary Airfield Resources (BEAR) capabilities to support forward deployed airfields in bare-base locations or augment existing airfield infrastructure in support of joint operations. All of these efforts enable air superiority.

BA 5 - This program is in Budget Activity 5, Engineering and Manufacturing Development (EMD) because it has passed Milestone B and is conducting engineering and manufacturing development tasks aimed at meeting validated requirements prior to full-rate production.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Airfield Damage Repair	-	10.475	36.778
Description: This effort develops, tests, and certifies equipment, materials, and Tactics, Techniques, and Procedures (TTPs) for the rapid assessment and repair of airfield damage, which includes identification, mitigation or removal of unexploded ordnance and expedient repairs for fuel and utility systems. This effort also intends to accelerate the transition of proven technologies in expedient and sustained protection of critical infrastructure, including operating surfaces, shelters, fuel storage and distribution systems, and command and control (C2) systems. This effort focuses on the resiliency of airbase infrastructure as well as the timely repair and regeneration of airfield operations within established time limits in order to gain and maintain air superiority.			
FY 2013 Accomplishments: N/A			
FY 2014 Plans: Develop rapid airfield damage assessment capabilities; update Geospatial Expeditionary Planning Tool; develop damage plotting tools; automate tools for Minimum Airfield Operating Surface (MAOS) determination and repair quality; develop advanced			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0604617F / *Agile Combat Support*	**Project (Number/Name)** 652895 / *CE Readiness*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
procedures employing asphalt to repair large craters; improve job mix formula for calculation of locally procured materials; update TTPs as necessary; develop command and control (C2) training products. ***FY 2015 Plans:*** Develop rapid assessment and repair of airfield damage, which includes automated identification, mitigation or removal of unexploded ordnance, and rapid setting material storage and transfer capability; develop expeditionary fuel and utility restoration capability; develop aircraft performance data for MAOS selection criteria; conduct detailed engineering development, prototyping, and prototype testing of new systems for expeditionary lighting, fuel storage, fuel distribution, and aircraft shelters.			
Title: Recovery of Airbase Denied by Ordnance (RADBO) ***Description:*** This effort provides capability in support of the Air Force Central Command (AFCENT) need for clearance of Unexploded Ordnance (UXO) during runway and air base recovery operations. It integrates a laser, a robotic arm, and a clearance blade to an existing Air Force Cougar Mine-Resistant Ambush Protected (MRAP) vehicle, for use by AFCENT Explosive Ordnance Disposal (EOD) personnel. ***FY 2013 Accomplishments:*** Successfully demonstrated the dual alternator design required for laser system power. Completed development and optimization of the Zeus laser system. Approved Preliminary and Critical Design Reviews for the RADBO system integration. Fabrication initiated on all parts required to build the prototype RADBO vehicle to be tested in FY14 and FY15. ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** N/A	7.398	-	-
Title: Basic Expeditionary Airfield Resources (BEAR) Energy Initiatives ***Description:*** This effort develops, tests, and evaluates BEAR technologies in support of air bases at austere locations and augmentation of bed-down at fixed installations. The BEAR initiative, a joint effort with the Army, focuses on efficiency and economy of resources. This program includes development of smart shelter energy management. The smart shelter project will develop an autonomous, in-shelter smart control system for expeditionary structures. ***FY 2013 Accomplishments:*** N/A ***FY 2014 Plans:***	-	3.700	-

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0604617F / *Agile Combat Support*	**Project (Number/Name)** 652895 / *CE Readiness*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Initiate development of an end-to-end system of BEAR energy reduction technologies by developing BEAR smart shelter system. The smart shelter energy project will reduce deployed base fuel consumption by 25%. ***FY 2015 Plans:*** N/A			
Title: Airfield Protection - New Start ***Description:*** This effort advances and transitions various solutions for protecting airfield infrastructure (not associated with airfield surfaces) from penetrating threats, whether ballistic and guided. Included within this effort are structural solutions, expeditionary and expedient hardening and protection solutions, rapid restoration of fuels distribution and storage, hardening criteria, implementation costs, and updated Tactics, Techniques and Procedures (TTPs). Airfield infrastructure includes buildings, hangars, aircraft and ground equipment, fuels distribution and storage, as well as all other assets on or near airfields. This effort is designed to advance solutions developed under the Hardened Installation Protection for Persistent Operations (HIPPO) Joint Capability Technology Demonstration (JCTD) and transition for implementation at fixed and expeditionary locations, providing improved resiliency and rapid restoration of airbase and airfield operations following an attack. ***FY 2013 Accomplishments:*** N/A ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** Begin EMD of technology solutions developed under the HIPPO JCTD. Correct deficiencies identified in HIPPO. Define and develop fully integrated solution(s) for hardening and protection identified in HIPPO JCTD. Begin test and evaluation planning; conduct test and evaluation of new panel designs. Advance fuel distribution restoration and recovery equipment and methods. Develop retrofit of sunshades for fighter aircraft. Advance expedient protection systems for small scale equipment and facilities.	-	-	8.125
Accomplishments/Planned Programs Subtotals	7.398	14.175	44.903

	FY 2013	FY 2014
Congressional Add: Power Generation and Storage Research	11.847	-
FY 2013 Accomplishments: Develop Basic Expeditionary Airfield Resources (BEAR) System for Load and Installation Management (BSLIM) and Waste-to-Energy Systems. This effort includes autonomous and manual power grid management power grid situational awareness; contingency base waste-to-energy system; power		

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0604617F / *Agile Combat Support*	**Project (Number/Name)** 652895 / *CE Readiness*

	FY 2013	FY 2014
outage management; thermal comfort energy reduction; and evaluation of overall energy consumption to spread demand more evenly. ***FY 2014 Plans:*** N/A		
Congressional Adds Subtotals	11.847	-

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:BA04:845100:PE 0280028F: *Other Base Maintenance Equipment Procurement*	45.748	20.056	47.726	-	47.726	33.382	11.507	34.262	34.879	Continuing	Continuing

Remarks

D. Acquisition Strategy

The majority of efforts in this project employ a streamlined acquisition approach. Whenever practical and appropriate, commercial-off-the-shelf (COTS) and modified-COTS will be procured to address mission capability requirements. Existing contracts will be used, including contracts of other services or agencies; new contracts will be used as appropriate for the type and scope of work 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 / 5	**R-1 Program Element (Number/Name)** PE 0604617F / *Agile Combat Support*	**Project (Number/Name)** 652895 / *CE Readiness*

Civil Engineering Readiness Schedule

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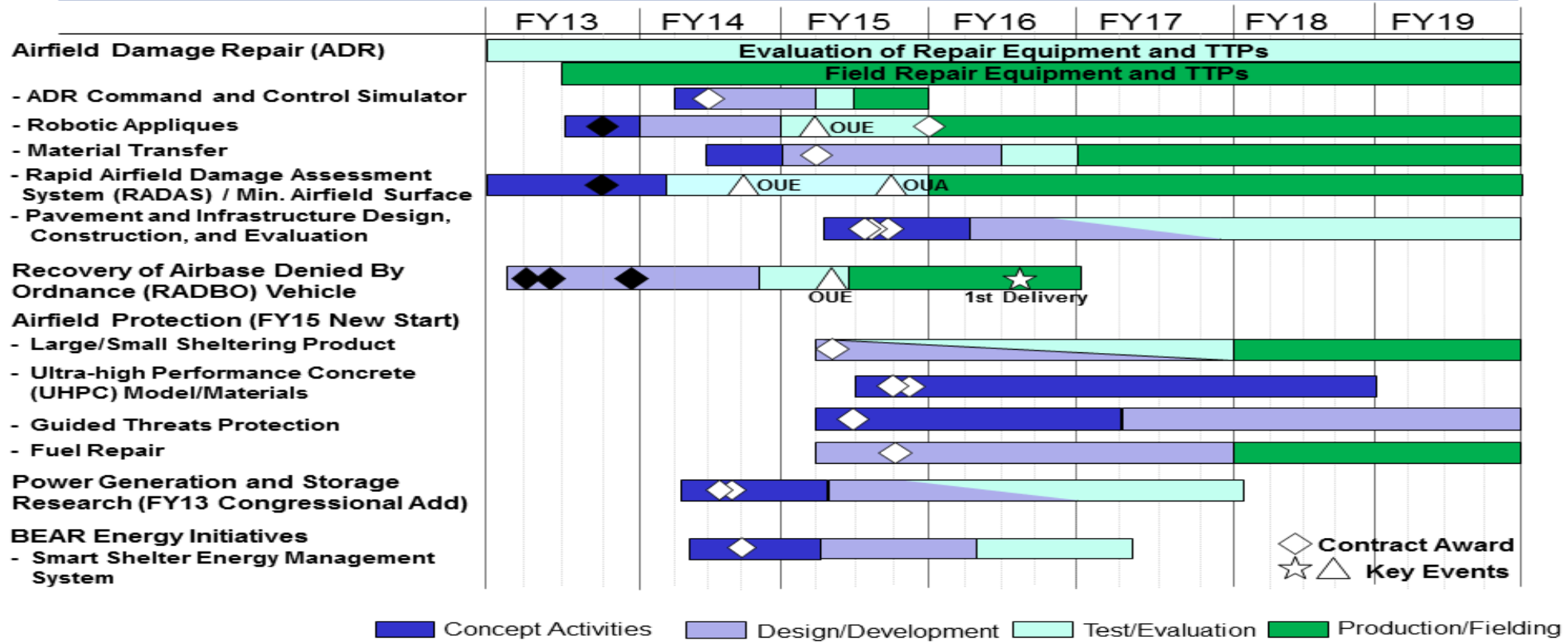

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 5	R-1 Program Element (Number/Name) PE 0604617F / *Agile Combat Support*	Project (Number/Name) 654910 / *Aeromedical Readiness*	

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
654910: *Aeromedical Readiness*	-	1.900	2.861	1.437	-	1.437	1.475	1.579	1.610	1.640	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

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

Note

In FY15, Project 654910, Aeromedical Readiness, includes a New Start for Non-Invasive Warming and Cooling Device (NIWCD).

A. Mission Description and Budget Item Justification

This program provides tactical and strategic management of combat casualties by further developing and optimizing existing technologies for ground Expeditionary Medical Systems (EMEDS) and Aeromedical evacuation systems. The program also supports capabilities development in the multi-disciplinary area of aerospace medicine, provides command and control, and supports the collection of medical information via deployable medical automated information systems that provide light-weight, durable, and rapidly deployable medical treatment equipment to meet Air Force medical readiness and operational requirements.

BA 5 - This program is in Budget Activity 5, Engineering and Manufacturing Development (EMD) because it has passed Milestone B and is conducting engineering and manufacturing development tasks aimed at meeting validated requirements prior to full-rate production.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Deployable Oxygen Generation System - Small (DOGS-S) ***Description:*** This effort designs, develops, and engineers manufacturing capability for a portable oxygen generation system, which provides medical grade, gaseous oxygen for Expeditionary Medical Systems (EMEDS) hospitals and mobile aeromedical staging facilities. ***FY 2013 Accomplishments:*** Conducted Preliminary Design Review and Critical Design Review. ***FY 2014 Plans:*** Conduct and complete Developmental and Operational Test & Evaluation. Submit approval package for Food & Drug Administration clearance. Initiate Milestone C. ***FY 2015 Plans:*** Conduct program office oversight and EMD completion.	0.306	0.242	0.120
Title: Field Intravenous Fluid Reconstitution (FIVR)	0.017	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0604617F / *Agile Combat Support*	**Project (Number/Name)** 654910 / *Aeromedical Readiness*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Description: This effort designs, develops, and tests the FIVR system, which produces intravenous fluids for treating critical casualties in Expeditionary Medical Systems (EMEDS) hospitals and mobile aeromedical staging facilities. ***FY 2013 Accomplishments:*** Completed Developmental Test & Evaluation. Conduct rampdown and closeout. ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** N/A			
Title: Non-Invasive Warming and Cooling Device (NIWCD) - New Start ***Description:*** Single device to provide therapeutic temperature control (hyperthermia/hypothermia) during treatment and movement of patient from point of injury through the continuum of care. The mortality in combat casualties with hypothermia is double that of normothermic casualties with similar injuries. Cooling the patient is required to treat hyperthermia and is also advantageous when treating brain injuries. ***FY 2013 Accomplishments:*** N/A ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** Conduct concept activities and development.	-	-	0.610
Title: Aeromedical Systems Planning, Studies, and Analysis ***Description:*** This effort is for foundational studies, requirements analysis, and product demonstrations to satisfy aeromedical operational needs. Define acquisition strategies and baselines for potential system solutions. ***FY 2013 Accomplishments:*** Conducted Shelter Vestibule testing for Collective Protection in contaminated environments. War Reserve Materiel (WRM) Modernization Study identified operational gaps in current technology and business processes and identified courses of action (COA) to improve information technology (IT) management and leverage modern business practices, software, hardware, and infrastructure to efficiently support the execution of Expeditionary Medical Systems (EMEDS) missions. Field Intravenous Fluid	1.577	2.619	0.707

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0604617F / *Agile Combat Support*	**Project (Number/Name)** 654910 / *Aeromedical Readiness*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Reconstitution (FIVR) follow-on technical study identified manufacturing processes to reduce the cost of producing intravenous bags in theater. ***FY 2014 Plans:*** Conduct foundational studies, requirements analysis, and product demonstrations to satisfy aeromedical operational needs. Define acquisition strategies and baselines for potential system solutions. ***FY 2015 Plans:*** Conduct foundational studies, requirements analysis, and product demonstrations to satisfy aeromedical operational needs. Define acquisition strategies and baselines for potential system solutions.			
Accomplishments/Planned Programs Subtotals	1.900	2.861	1.437

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
• NA: *NA*	-	-	-	-	-	-	-	-	-	-	-

Remarks

D. Acquisition Strategy

Programs will consider a streamlined acquisition approach. Whenever practical, commercial items are tested and evaluated as candidates for providing solutions to user needs. This normally involves characterization, verification, and qualification testing to ensure commercial off-the-shelf equipment is properly evaluated to identify any capability gaps that may require minor modifications for military use.

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 / 5	**R-1 Program Element (Number/Name)** PE 0604617F / *Agile Combat Support*	**Project (Number/Name)** 654910 / *Aeromedical Readiness*

Aeromedical Readiness Schedule

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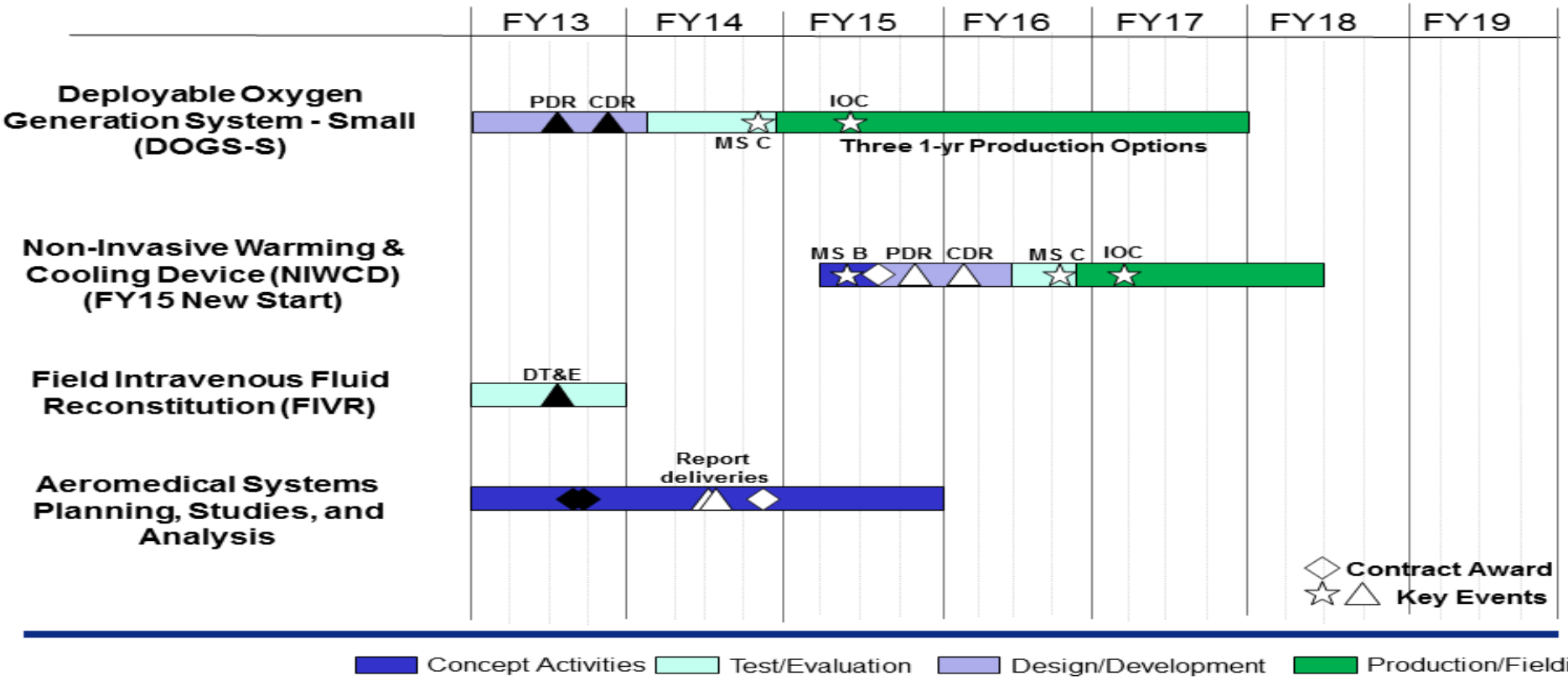

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Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force											Date: March 2014	
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0604706F / *Life Support 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	-	5.832	7.273	8.854	-	8.854	8.242	8.816	8.500	8.681	Continuing	Continuing
65412A: *Life Support Systems*	-	5.832	7.273	8.854	-	8.854	8.242	8.816	8.500	8.681	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 is a human-centered program providing RDT&E recapitalization of aircrew flight equipment and airman combat systems. Air Force acquisition teams lead the upgrade and fielding of new equipment/systems by assessing deficiencies in existing equipment, conducting business case analyses, evaluating existing technologies or developing new technologies, assessing commercially available products for combat use, and conducting required Safe-to-Fly (STF) tests and certifications. Program efforts include, but are not limited to, the following projects: directed energy protective equipment; flight helmets and visors; oxygen breathing systems for aircrew; radios and locator beacons; support equipment; nuclear flash blindness protection; night vision devices; noise reduction devices; anti-gravity (anti-G) suits; flame resistant, retardant and blast protective gear; aircraft seating; impact protection equipment; flotation devices; parachutes; ejection seats; and other life support systems required by the warfighter.

BA 5 - This program is in Budget Activity 5, Engineering and Manufacturing Development (EMD) because it has passed Milestone B approval and is conducting engineering and manufacturing development tasks aimed at meeting validated requirements prior to full-rate production.

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	9.720	7.273	11.213	-	11.213
Current President's Budget	5.832	7.273	8.854	-	8.854
Total Adjustments	-3.888	-	-2.359	-	-2.359
• Congressional General Reductions	-0.009	-			
• Congressional Directed Reductions	-3.000	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.157	-			
• Other Adjustments	-0.722	-	-2.359	-	-2.359

Change Summary Explanation

FY13 Reduction of $3M due to Congressional Directed Reduction for forward financing; -.722 for Sequetration.

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 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604706F / *Life Support Systems*

Reduction of $2.359M in FY15 due to higher Air Force Priorities.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Aircrew Flight Equipment (AFE) ***Description:*** Air Force Life Cycle Management Center's Aircrew Performance Branch is the single USAF focal point for Aircrew Flight Equipment (AFE) Safe-to-Fly (STF) testing and certification. In general, unplanned STF projects are an urgent response to real-time capabilities gaps identified by the warfighter which may be satisfied quickly by purchasing commercial-off-the-shelf (COTS) products. COTS products require a STF certification before use by the warfighter. Historically, approximately five urgent STF evaluations are made each year. ***FY 2013 Accomplishments:*** Completed STF testing and certification of: Airsave Survival Vest, Low Profile Parachute (LPP), Massif Cold Weather Ensemble, Aircrew Laser Eye Protection (ALEP) Block II, and compatibility of ALEP Block II with the Helmet Mounted Integrated Targeting system. Accomplished Steele Cooling Vest Follow-on STF planning and touch screen gloves STF planning. ***FY 2014 Plans:*** Perform STF testing and certification of COTS products. ***FY 2015 Plans:*** Perform STF testing and certification of COTS products.	0.130	0.120	0.130
Title: Cold Weather Aviation System (CWAS) ***Description:*** Cold Weather Aviation System (CWAS) is an Arctic weather aircrew ensemble program including garments, boots, and gloves. The ensemble employs a multi-layer approach protecting aircrews to -49 degrees Fahrenheit. ***FY 2013 Accomplishments:*** Updates made to the performance specifications followed by formal solicitation. ***FY 2014 Plans:*** Start integration testing of Government-Off-The-Shelf (GOTS) and/or Commercial-Off-The-Shelf (COTS) candidates. ***FY 2015 Plans:*** Publish a qualified product list.	0.001	0.990	1.020
Title: Integrated Aircrew Body Armor ***Description:*** The Air Force has no approved aircrew body armor. The Integrated Aircrew Body Armor (IABA) project plans to purchase existing government or commercial body armor and integrate with survival gear, restraint & recovery harness, and a life preserver unit. The selected body armor must meet Director of Operational Test and Evaluation (DOT&E) live fire requirements,	0.261	0.310	0.431

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 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604706F / *Life Support Systems*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
provide adequate soft/hard body armor coverage to the torso, demonstrate good overall use and maneuverability, and pass appropriate Safe-To-Fly (STF) tests. ***FY 2013 Accomplishments:*** Performed STF planning. Procured test assets. ***FY 2014 Plans:*** Conduct STF testing. Prepare test report for STF certification board. ***FY 2015 Plans:*** Brief and file STF certification; collaborate with US Army's Air Soldier body armor program to determine applicability for joint use with Air Force aircrews.			
Title: Integrated Aircrew Ensemble (IAE) ***Description:*** The Integrated Aircrew Ensemble (IAE) is a multi-layer battle ready system of protective clothing, survival equipment, and anti-G protection equipment worn by aircrew members. The ensemble can layer up to seven (7) components allowing for flexible combinations depending on aircraft type, mission, and threat. Each component design is unique but engineered as a single integrated ensemble to improve mobility by reducing bulk, reducing aircrew fatigue from thermal stress using new breathable materials, and increasing overall system performance. The ensemble components are: 1) outer flight layer, 2) Environmental Protection Layer (EPL) with gloves, 3) Chemical Biological Radiological Layer (CBRL) with glove inserts, 4) Life Preserver Unit (LPU), 5) Counter Chest Pressure Bladder (CCPB), 6) survival vest, and 7) G-suit. ***FY 2013 Accomplishments:*** Conducted Critical Design Review (CDR) for ejection seat variant of IAE. Conducted Test Readiness Review (TRR) and initiated Design Verification Testing (DVT). ***FY 2014 Plans:*** Continue DVT and begin Low Rate Initial Production (LRIP) of the IAE system. ***FY 2015 Plans:*** Complete testing. Begin production and fielding of IAE system.	4.762	5.613	6.253
Title: Beacon Replacement ***Description:*** Beacon Replacement is an effort to replace approximately 15,000 beacons installed in ejection seats and back-style parachutes world-wide. Suitable Commercial-off-the-Shelf (COTS) replacements are available. This replacement will optionally add two-way 'line-of-sight' voice communications, though the need for voice requires additional development. Of note, this effort	0.455	0.120	-

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 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604706F / *Life Support Systems*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
was titled "Voice in Beacon" in previous Air Force budget submissions and has been renamed to allow for replacement beacons that do not include voice communications. ***FY 2013 Accomplishments:*** Completed market research for COTS alternatives. ***FY 2014 Plans:*** Establish cost, schedule, and performance scope of project. Determine COTS sources and begin qualification testing. ***FY 2015 Plans:*** N/A			
Title: Aircrew Laser Eye Protection (ALEP) Block III ***Description:*** Aircrew Laser Eye Protection Block (ALEP) III is an upgrade to day-variant helmet visors to protect aircrews from laser threats. Laser shielding technology was recently developed and fielded as spectacles in ALEP Block II. Application of the laser shielding technology is viable for day-use whereas a night variant requires further development. ***FY 2013 Accomplishments:*** N/A ***FY 2014 Plans:*** Prepare a Business Case Analysis (BCA) and an Analysis of Alternatives (AoA). Establish cost, schedule, and performance scope of project. ***FY 2015 Plans:*** Award development contract and begin Engineering Manufacturing & Development phase.	-	0.120	1.020
Title: Ballistic Aircrew Helmet Acquisition (BAHA) Urgent Operational Need ***Description:*** This effort provides capability in support of an Air Forces Central Command (AFCENT) Urgent Operational Need (UON) for improved ballistic protection for aircrew members. The ballistic helmet will replace existing HGU-56/P helmets used for rotary aircrew. The design will factor impact protection, weight trade-offs and integration with sensors, visor-mounted displays and existing devices required for Combat Search and Rescue operations. ***FY 2013 Accomplishments:*** Complete test and evaluation; provide production recommendation to warfighter. ***FY 2014 Plans:***	0.223	-	-

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 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604706F / *Life Support Systems*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
N/A ***FY 2015 Plans:*** N/A			
Accomplishments/Planned Programs Subtotals	5.832	7.273	8.854

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:BA04: Line Item # 842990: *Items Less Than $5 Million*	6.724	4.973	7.035	-	7.035	7.121	7.234	7.380	7.529	Continuing	Continuing

Remarks

E. Acquisition Strategy

The majority of efforts funded in this project employ a streamlined acquisition approach. Whenever practical, Government-Off-The-Shelf/Commercial-Off-The-Shelf (GOTS/COTS) items are tested and evaluated as candidates for solutions to user needs. This normally involves characterization, verification, and qualification testing to ensure GOTS/COTS equipment is properly certified and adapted for military purposes. However, acquisition strategies may be carried out at the project level for traditional Engineering, Manufacturing and Development (EMD), e.g., Integrated Aircrew Ensemble (IAE) and Aircrew Laser Eye Protection (ALEP) Block III.

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 / 5	**R-1 Program Element (Number/Name)** PE 0604706F / *Life Support Systems*	**Project (Number/Name)** 65412A / *Life Support Systems*

Life Support Systems Schedule

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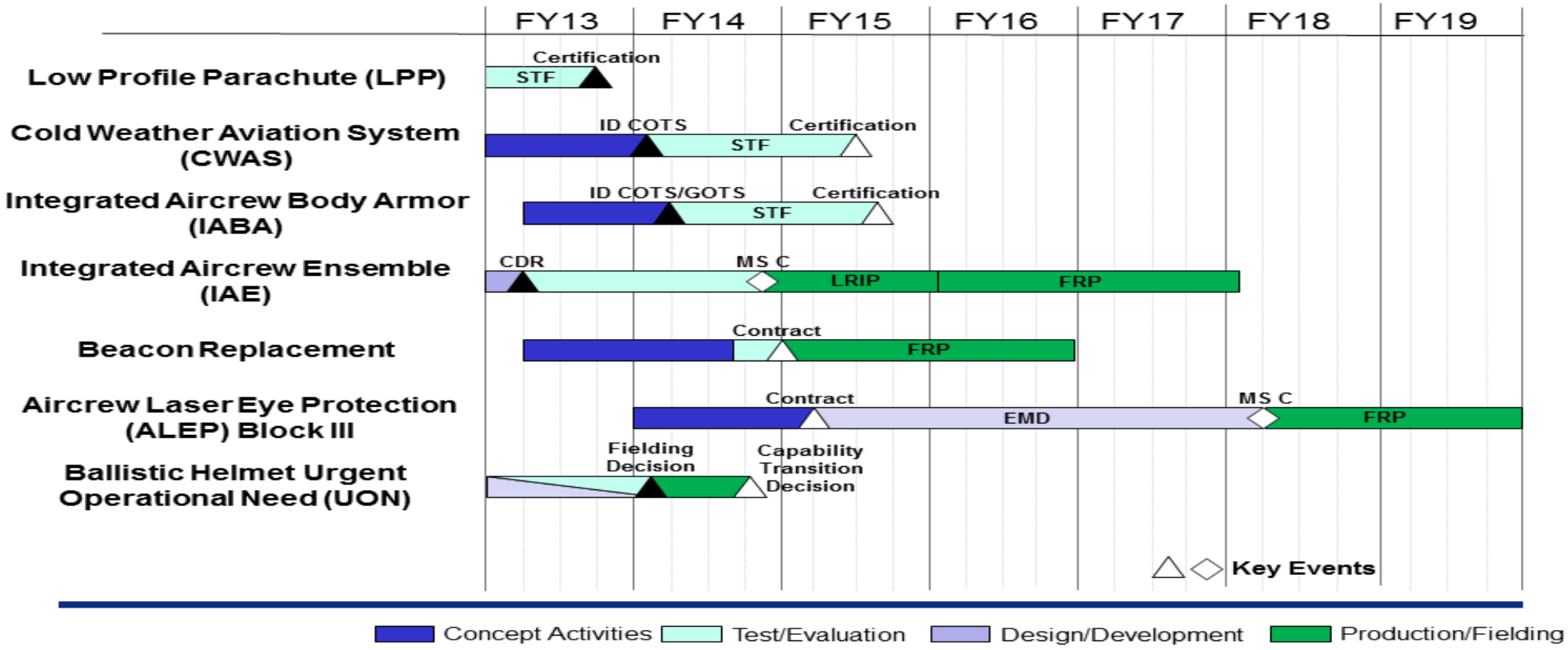

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force											Date: March 2014	
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0604735F / *Combat Training Ranges*							
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	-	9.209	25.300	10.129	-	10.129	19.811	19.110	19.483	19.854	Continuing	Continuing
652286: *Combat Training Range Equipment*	-	9.209	25.300	10.129	-	10.129	19.811	19.110	19.483	19.854	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 Combat Training Range (CTR) program provides equipment and support to Air Force units and combat training ranges for mission testing, training, and evaluation of aircrews, as well as the operational testing of weapon systems and tactics under simulated combat conditions. This program provides funding for the development and integration of electronic warfare training capabilities to include P5 Combat Training Systems (P5CTS), threat emitters, communication jammers, instrumentation equipment/systems, and evolutionary upgrades to facilitate standardization and integration across all platforms to include coalition and 5th Generation aircraft. The P5 Combat Training System, a collaborative development between USAF and USN, provides air combat training systems for the services at operational locations worldwide. Increments include: hardware and software upgrades; an encrypted software communications architecture compliant data link to facilitate interoperability in a security environment and training with 5th Generation aircraft; internal pod replacement subsystems; integration of new aircraft Operational Flight Programs. This program also includes the development of advanced threat emitters. The Joint Threat Emitter (JTE) continues the development of a comprehensive suite of threat signals for aircrew tactics and electronic combat training for simulated penetrations of hostile airspace. This program complements existing range threat simulators by emulating signals that simulate current and future air defense and threat radars. JTE awarded a follow-on production contract to improve the current baseline by removing obsolescence and proprietary software to enable full organic sustainment. The follow-on production contract includes the development of a non-proprietary software baseline and the procurement of that source code in addition to JTE systems, Mobile Command and Control Units (MC2U), Fixed Command and Control Units (FC2U), and additional spares. Consistent with an evolutionary acquisition strategy and documented ACC training requirements, development will continue with next generation threat systems. Future developments will continue to add additional capability to the warfighter's training ranges. The Advanced Radar Threat System (ARTS) program, formerly named JTE Increment 2, will develop, design, build and test threat system simulators based on advanced foreign fielded surface-to-air missile (SAM) radar threat systems. ARTS is designed to be used at Department of Defense (DoD) training ranges for aircrew training and tactics development to increase combat effectiveness and aircrew survivability by training aircrews to engage or defend against an advanced SAM threat before encountering it in actual combat. Various aircraft platforms may train against ARTS, but the most stringent requirements placed on ARTS design come from 5th generation aircraft capabilities. The ARTS-Variant 1 (ARTS-V1) is focused on strategic, long-range, re-locatable radar threat systems while ARTS-Variant 2 (ARTS-V2) is focused on tactical, mobile, short/medium-range radar threat systems. Since a similar ARTS-V1 capability is being developed through the Central Test and Evaluation Investment Program, ARTS-V2 development is being accelerated. It was originally to start development after ARTS-V1 was in procurement. This program also funds development of replacement components for Legacy Range Threat Systems (due to obsolescence) to extend the system's service life . Legacy Systems include the Multiple Threat Emitter System (MUTES), the Miniature Multiple Threat Emitter System (Mini-MUTES), the Modular Threat Emitter (MTE) system, the Tactical Radar Threat Generator (TRTG) system, the Band Simulator, the Common Electronic Attack Receiver (CEAR) and the Unmanned Modular Threat Emitter (UMTE) system. Additionally, this program funds ongoing analyses, studies, risk reduction efforts, and technology development to enhance range systems, such as combat training range equipment integration into 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 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604735F / *Combat Training Ranges*

Live Virtual Constructive architecture, communication and GPS jammers, weapon drop scoring systems and infrastructure networks. These enhancements add a critical dimension to exercises and optimize warfighter training.

This program is in Budget Activity 5 - Systems Development and Demonstration because it has passed Milestone B approval and is conducting engineering and manufacturing development tasks aimed at meeting validated requirements.

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	9.222	33.200	25.872	-	25.872
Current President's Budget	9.209	25.300	10.129	-	10.129
Total Adjustments	-0.013	-7.900	-15.743	-	-15.743
• Congressional General Reductions	-0.013	-			
• Congressional Directed Reductions	-	-7.900			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-	-	-15.743	-	-15.743

Change Summary Explanation

FY13 reduction of $13K for Sequestration
FY14 Congressional reduction of $7.9M for ARTS late contract award.
FY15 reduction for higher air force priorities.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: P5 Combat Training System (CTS)	0.300	8.660	8.183
Description: P5 CTS funding supports Air Combat Training Systems capabilities and includes the development, integration and testing of future software/hardware upgrades, aircraft/pod integration, and upgrades for range applications. Additionally, funding covers efforts to facilitate interoperability in a secure (encrypted) environment, training with 5th Generation aircraft, internal pod replacement subsystems, integration of new aircraft Operational Flight Programs, and the development of solutions to enable live, virtual, and constructive capabilities.			
FY 2013 Accomplishments: Initiated development/qualification of Alternate Source Line Replaceable Units.			
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 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604735F / *Combat Training Ranges*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
P5 CTS funding supports Range Instrumentation Systems to include the development, integration and testing of future software/ hardware upgrades, aircraft/pod integration, and upgrades for range applications. ***FY 2015 Plans:*** P5 CTS funding supports Air Combat Training Systems capabilities and includes the development, integration and testing of future software/hardware upgrades, aircraft/pod integration, and upgrades for range applications. Additionally, funding covers efforts to facilitate interoperability in a secure (encrypted) environment, training with 5th Generation aircraft, internal pod replacement subsystems, integration of new aircraft Operational Flight Programs.			
Title: Joint Threat Emitter (JTE) ***Description:*** The Joint Threat Emitter (JTE) is designed to train aircrews to survive in a combat environment against Surface-to-Air Missile (SAM) and Anti-Aircraft Artillery (AAA) threats. The JTE simulates SA-2, SA-3, SA-6, SA-13 and AAA threat signals which interact with the aircraft Radar Warning Receiver and Electronic Countermeasure system to provide realistic Electronic Warfare training environments for pilots and crewmembers. The JTE is intended to reduce range manpower and resource requirements by replacing legacy systems as they face increasing supportability issues. The JTE leverages Commercial-Off-The-Shelf (COTS) where possible. The JTE system consists of a Threat Emitter Unit (TEU) and either a mobile command and control unit (MC2U) or a Fixed Command and Control Unit (FC2U). ***FY 2013 Accomplishments:*** Began development of a new software baseline to eliminate proprietary issues and create an organic software sustainment capability. ***FY 2014 Plans:*** Continue development of a new software baseline to eliminate proprietary issues and to create an organic software sustainment capability. ***FY 2015 Plans:*** Development and testing will continue on a new software baseline to eliminate proprietary issues and to create an organic software sustainment capability. Additionally, studies will continue to identify system capability modifications to simulate new threat signals.	4.750	2.550	0.350
Title: Legacy Range Threat Systems ***Description:*** The Legacy Systems program program develops, integrates, tests, and builds a common component replacement for obsolete electronic attack receivers on radar threat simulators such as the Joint Threat Emitter and Unmanned Modular Threat Emitter (UMTE) instead of developing and sustaining unique replacements for those systems. Common Electronic Attack Receiver (CEAR) enables radar threat simulators to realistically react to electronic counter measures, expendable counter	1.813	4.370	0.350

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 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604735F / *Combat Training Ranges*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
measures, maneuvers, and terrain masking initiated by aircrew during electronic combat training for simulated penetrations of hostile airspace. CEAR also enables the recording of aircrew reactions for playback and debriefing. ***FY 2013 Accomplishments:*** CEAR funding supported engineering activities for development, integration and testing. ***FY 2014 Plans:*** CEAR funding supports continued engineering and manufacturing activities for development, integration, testing, and test articles. Development and testing will continue on the JTE and UMTE production test articles. Additionally, development, integration, and testing will expand the CEAR capability to MUTES and Mini-MUTES. ***FY 2015 Plans:*** CEAR funding supports continued engineering and manufacturing activities for development, integration, testing, and production test articles. Development and testing will continue on the MUTES and Mini-MUTES first articles and production test articles.			
Title: Advanced Radar Threat System (ARTS) Development ***Description:*** The Advanced Radar Threat System (ARTS) program will develop, design, build and test threat system simulators based on advanced foreign fielded surface-to-air missile (SAM) radar threat systems. ARTS is designed to be used at Department of Defense (DoD) training ranges for aircrew training and tactics development to increase combat effectiveness and aircrew survivability by training aircrews to engage or defend against an advanced SAM threat before encountering it in actual combat. Various aircraft platforms may train against ARTS, but the most stringent requirements placed on ARTS design come from fifth generation aircraft capabilities. The ARTS-Variant 1 (ARTS-V1) is focused on strategic, long-range, re-locatable radar threat systems while ARTS-Variant 2 (ARTS-V2) is focused on tactical, mobile, short/medium-range radar threat systems. Additionally, ongoing analyses, studies, and risk reduction efforts will focus on integrating ARTS and other systems into a Live Virtual Constructive architecture. ***FY 2013 Accomplishments:*** ARTS funding supported risk reduction and pre-solicitation activities for the development, integration, and testing of ARTS-V2. The Capabilities Development Document (CDD) was refined and Pre-Milestone B activities initiated for the ARTS-V2 system. Additionally, funding supported ongoing analyses and studies focused on integrating ARTS and other systems into a Live Virtual Constructive architecture. ***FY 2014 Plans:*** ARTS funding supports risk reduction and pre-solicitation activities for the development, integration, and testing of ARTS-V2. Risk reduction efforts include an extensive intelligence study and report that ensures the accurate development of a high fidelity threat and technical studies on electronically-scanned-array design approaches. A draft request for proposal (RFP) and associated	2.346	9.720	1.246

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force	Date: March 2014
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C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
documentation will be developed for release. Additionally, funding supports ongoing analyses and studies focused on integrating ARTS and other systems into a Live Virtual Constructive architecture. ***FY 2015 Plans:*** ARTS funding supports risk reduction, pre-solicitation, and source selection activities for the development, integration, and testing of ARTS-V2. Risk reduction efforts include the completion of an extensive intelligence study and report that ensures the accurate development of a high fidelity threat and technical studies on electronically-scanned-array design approaches. An RFP and associated documentation will be developed for release followed by a source selection. Additionally, funding supports ongoing analyses and studies focused on integrating ARTS and other systems into a Live Virtual Constructive architecture.			
Accomplishments/Planned Programs Subtotals	9.209	25.300	10.129

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 # 834190: *Combat Training Ranges*	27.557	15.939	23.580	-	23.580	17.402	14.970	16.955	17.259	Continuing	Continuing
• OPAF: BA05: Line Item # 861900: *Spares and Repair Parts*	0.779	3.102	0.900	-	0.900	1.370	0.834	0.673	0.685	Continuing	Continuing
• APAF: BA07: Line Item # 000075: *Other Production Charges*	-	20.772	-	-	-	-	-	2.334	22.611	Continuing	Continuing
• APAF: BA06: Line Item # 000999: *Initial Spares/Repair Parts*	1.526	1.181	1.489	-	1.489	2.277	2.026	1.836	1.870	Continuing	Continuing

Remarks

E. Acquisition Strategy

The acquisition strategy is competitive, with cost plus and fixed price contracts.

F. Performance Metrics

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

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0604735F / *Combat Training Ranges*	**Project (Number/Name)** 652286 / *Combat Training Range Equipment*

P5CTS Development Schedule

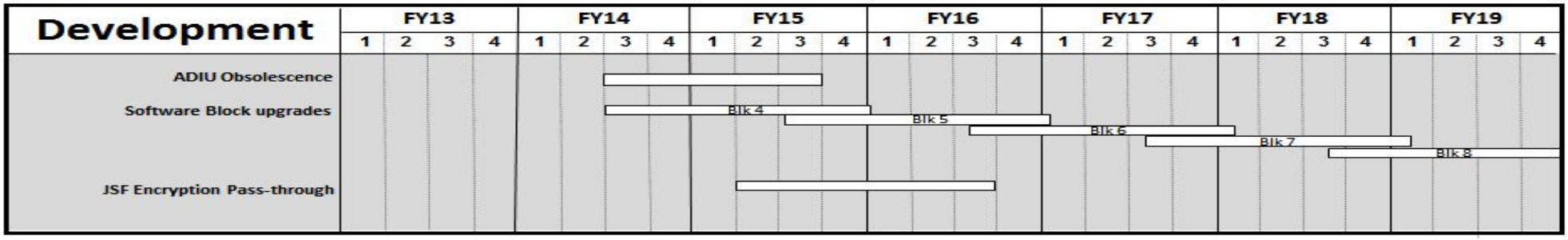

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0604735F / *Combat Training Ranges*	**Project (Number/Name)** 652286 / *Combat Training Range Equipment*

Combat Training Ranges

U.S. AIR FORCE

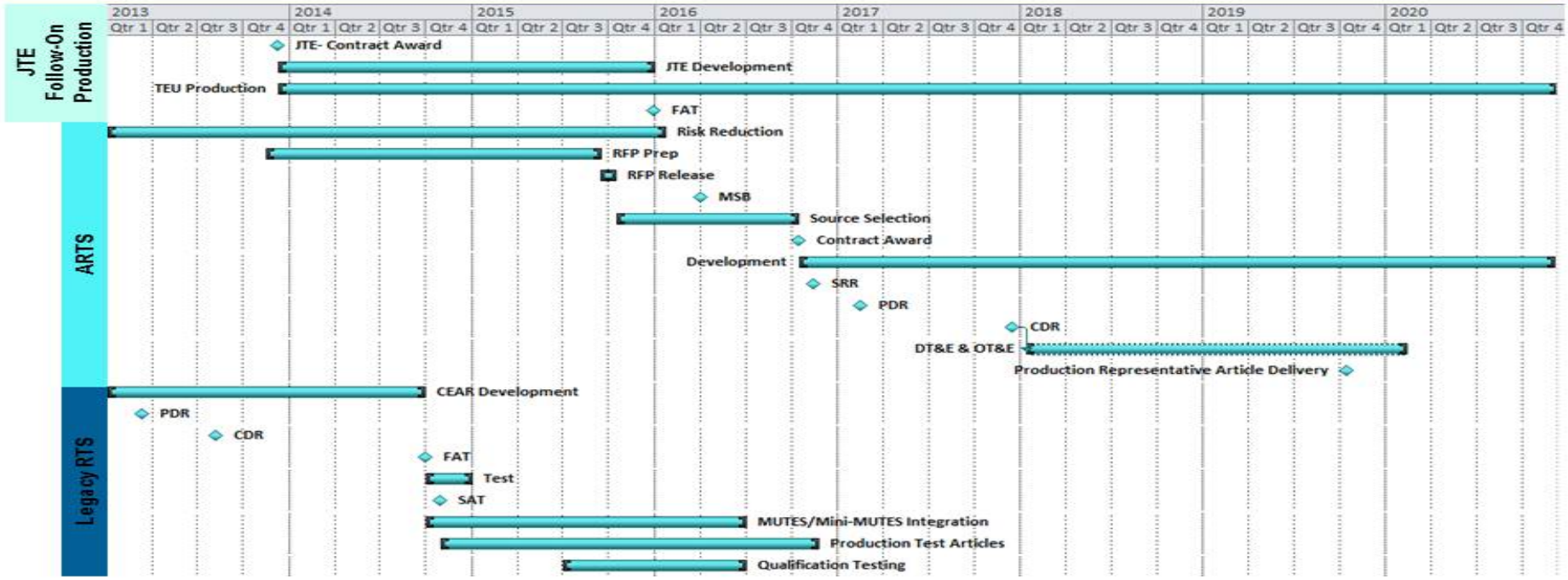

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Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force												Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0604750F / *Intelligence Equipment*							
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	-	0.736	-	-	-	-	-	-	-	-	-	0.736
652053: *National Air Intel Center*	-	0.736	-	-	-	-	-	-	-	-	-	0.736
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

Intelligence Equipment (IE) Program Element (PE) performs the engineering development of software, and/or automated information operations techniques to streamline the processing, integration, exploitation, display, and dissemination of strategic and tactical intelligence information. IE provides continuing development and upgrades of threat analysis capabilities to produce integrated, predictive air and space intelligence to enable military operations, force modernization decisions, and policymaking. IE accelerates and increases the accuracy of threat estimates and system descriptions to deployed operational forces. IE also provides clients with accurate, predictive, relevant, and timely intelligence support client processes, operational planning, and mission execution. IE develops new or upgraded analysis, modeling and simulation tools focused on intelligence production in support of all source AF operational and developmental functions. Each of the development projects within the IE program portfolio transition technologies to the operational communities through the incremental release of upgraded versions over a period of years as the development projects progress towards the final configuration. IE may reallocate existing resources to support out-of-cycle new/updated warfighter requirements. Requirements for this PE are gathered and prioritized by the Air Force Intelligence, Surveillance, and Reconnaissance Agency (AFISRA). Development of new/improved capabilities to meet the requirements is managed by Air Force Research Lab (AFRL)/Analytical Systems Branch (RIED).

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

This program is in Budget Activity 5, System Development and Demonstration (SDD) because the program develops and inserts new technologies into existing systems and models in order to keep existing systems current and affordable while ensuring system integration, interoperability, and utility.

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 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604750F / *Intelligence Equipment*

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	0.803	-	-	-	-
Current President's Budget	0.736	-	-	-	-
Total Adjustments	-0.067	-	-	-	-
• Congressional General Reductions	-0.001	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-0.066	-	-	-	-

Change Summary Explanation

In FY13, -$66K Sequestration reduction.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Electronic Warfare (EW) Flagging	0.358	-	-
Description: Continues enhancement of capability to automatically assess and "flag" threat systems that fall outside the detection capability of US DoD airborne self-protection systems (Radar Warning Receivers and Electronic Surveillance Measures). ***FY 2013 Accomplishments:*** Continued development of final spiral release of EW Flagging capability. ***FY 2014 Plans:*** N/A			
Title: Project Theo	0.020	-	-
Description: Continues capability to query and retrieve information across all available National Air & Space Intelligence Center (NASIC) Corporate Object Repositories (COR), metadata and their supported features; thereby, assisting the Intel Analyst in identifying intelligence gaps and allowing the analyst to nominate intel collection in those areas. ***FY 2013 Accomplishments:*** Delivered third spiral release and intiated development of final version (2.0) of Project Theo. ***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 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604750F / *Intelligence Equipment*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
N/A			
Title: High Performance Aero Vehicle Modeler (HP-AVM)	0.358	-	-
Description: Continues update of the HP-AVM tool, with a focus on modeling previously unknown airframes, that provides detailed engineering assessments of threat aircraft performance and characteristics. ***FY 2013 Accomplishments:*** Fielded final version (3) of HP-AVM capability. ***FY 2014 Plans:*** N/A			
Accomplishments/Planned Programs Subtotals	0.736	-	-

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: 0603260F: *Intelligence Advanced Development*	3.525	3.983	5.475	-	5.475	5.464	5.552	5.652	5.754	Continuing	Continuing
• RDTE: BA05: 0603260F: *Intelligence Advanced Development*	-	0.977	-	-	-	-	-	-	-	Continuing	Continuing

Remarks

E. Acquisition Strategy

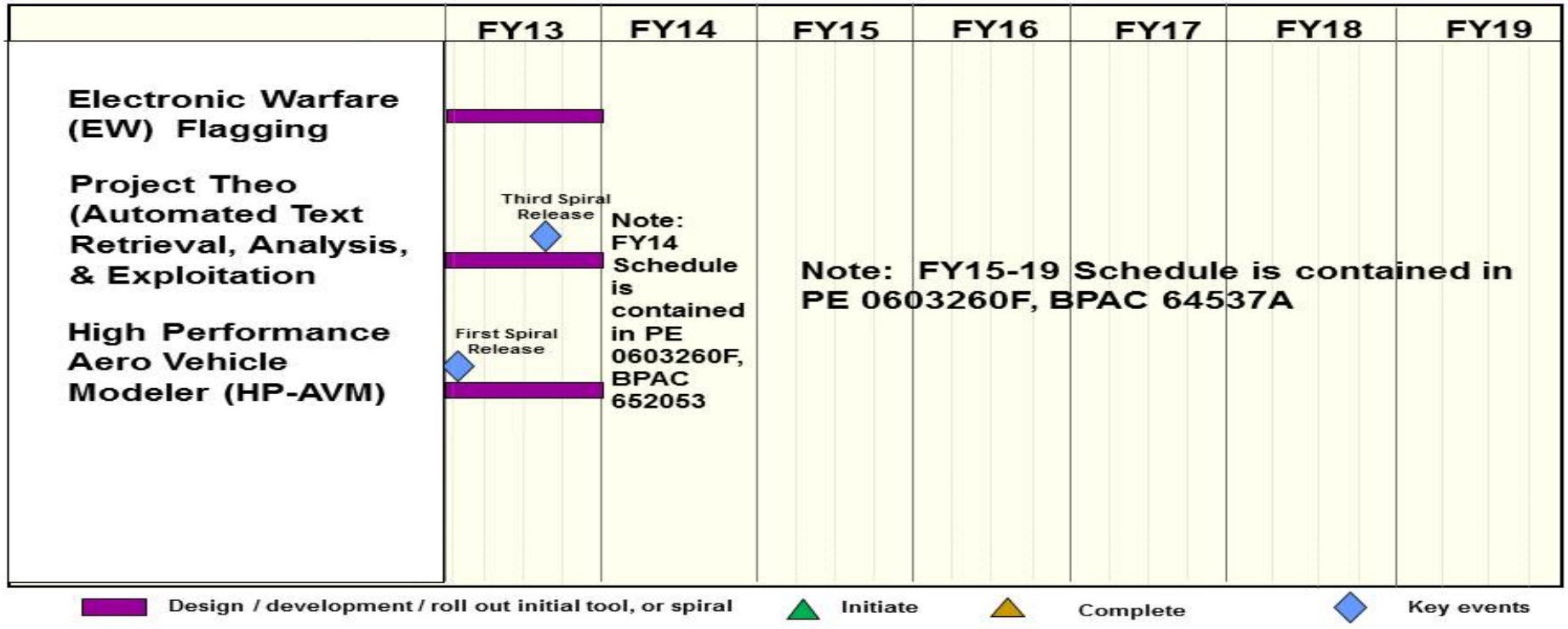
Requirements for new / upgraded intelligence analysis tools are gathered and prioritized by the Air Force Intelligence, Surveillance and Reconnaissance Agency (AFISRA). Development of capabilities to meet those requirements is managed by the AF Research Laboratory (Rome Research Site). Prototype products (usually software), once evaluated by the users, are fielded in incremental capability spirals. All major contracts within this project are awarded after 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 / 5	**R-1 Program Element (Number/Name)** PE 0604750F / *Intelligence Equipment*	**Project (Number/Name)** 652053 / *National Air Intel Center*

Intelligence Equipment (IE), PE 0604750F Project 652053 Schedule



FY15 PB R-Docs

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 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0604800F / *F-35 - EMD*							
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	18,788.057	1,129.879	628.454	563.037	-	563.037	547.253	327.100	115.413	5.250	-	22,104.443
653831: *Joint Strike Fighter*	18,788.057	1,115.712	612.254	530.444	-	530.444	517.596	327.100	115.413	5.250	-	22,011.826
653832: *JSF DEPLOYABILITY AND SUITABILITY ENHANCEMENT*	0.000	14.167	16.200	32.593	-	32.593	29.657	-	-	-	-	92.617
MDAP/MAIS Code: 198												

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

Note

$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. The total amount for this effort will be $568.013M in FY15 and $552.232M in FY16.

A. Mission Description and Budget Item Justification

The F-35 Joint Strike Fighter (JSF) Program will develop and field an affordable, highly common family of next generation strike aircraft for the United States Navy, Air Force, Marine Corps and allies. The three variants are the F-35A Conventional Takeoff and Landing (CTOL); F-35B Short Takeoff and Vertical Landing (STOVL); and the F-35C Aircraft Carrier suitable Variant (CV). The CTOL will be a stealthy multi-role aircraft, primary air-to-ground for the Air Force to replace the F-16 and A-10 and complement the F-22. The STOVL variant will be a multi-role strike fighter aircraft to replace the AV-8B and F/A-18A/C/D for the Marine Corps, replace the Sea Harrier and GR 7 for the United Kingdom, and replace the AV-8 currently employed by the Italian Navy. The CV will provide the DoN a multi-role, stealthy strike fighter aircraft to complement the F/A-18E/F.

The United Kingdom, other International Partner nations, and Foreign Military Sales customers are also participants in the JSF program. The program shown here reflects USN, USMC, USAF, and International Partner funding.

Funding at the accomplishment/planned program level is reported as the total of all services and partners as these activities support all aircraft variants.

The SDD budget funds a total quantity of 20 RDT&E test articles to include 6 ground test articles and 14 flight test articles for Navy and Air Force use.

FY07: 1 CTOL flight test article
FY08: 1 STOVL flight test article; 1 STOVL ground test article
FY09: 1 STOVL flight test article; 2 CTOL ground test articles
FY10: 6 flight test articles: 3 CTOL, 2 STOVL, 1 CV; 3 ground test articles: 1 STOVL, 2 CV
FY11: 4 flight test articles: 1 CTOL, 1 STOVL, 2 CV

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 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604800F / *F-35 - EMD*

FY13: 1 CV flight test article

BA5 - This program is in Budget Activity 5, System Development and Demonstration (SDD) because it has passed Milestone B approval and is conducting Engineering and Manufacturing Development (EMD) tasks aimed at meeting validated requirements prior to full-rate production.

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	1,210.306	816.335	654.432	-	654.432
Current President's Budget	1,129.879	628.454	563.037	-	563.037
Total Adjustments	-80.427	-187.881	-91.395	-	-91.395
• Congressional General Reductions	-1.555	-			
• Congressional Directed Reductions	-32.307	-187.881			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	75.000	-			
• SBIR/STTR Transfer	-23.039	-			
• Other Adjustments	-98.526	-	-91.395	-	-91.395

Change Summary Explanation

FY13 includes Congressional Marks for -$30M for Unjustified growth, -$2.307M for Block 4 ahead of need; -$98.526M for Sequestration; and +$75M adjustment from lower Air Force priorities.

FY14 includes Congressional Marks for -$150M Program decrease, -$20M Propulsion system cost growth, -$17.8M Deployablility and Suitability Enhancements delay.

FY15 adjustments for proper program alignment and funding for higher Air Force priorities.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 5	R-1 Program Element (Number/Name) PE 0604800F / *F-35 - EMD*	Project (Number/Name) 653831 / *Joint Strike Fighter*	

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
653831: *Joint Strike Fighter*	18,788.057	1,115.712	612.254	530.444	-	530.444	517.596	327.100	115.413	5.250	-	22,011.826
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

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

Note

Total cost including USN, USMC, International partner contributions and USAF funding are: FY13 $2,528.415M,FY14 $1,453.860M and FY15 $1514.181M. R-2 data reflects variant unique funding only.

R-2A table shown above reflect service funding only. Including funds inadvertently loaded into BA04, the FY15 total is $535.420M and the FY16 total is $522.575M.

R-2A (section B)/R-3 displays total combined program (i.e. not Service specific), including International partners.

F-35 EMD Includes:
USAF PE 0604800F BPAC 653831
USN PE 0604800N Project Unit 2261
USMC PE 0604800M Project Unit 2262

D&S Includes:
USAF PE 0604800F BPAC 653832
USN PE 0604800N Project Unit 3352
USMC PE 0604800M Project Unit 3350

F-35 FoD includes:
USAF: PE 0207142F BPAC 675346
USN: FY13 PE 0604800N BPAC 2261
USN: FY14 PE 0604800N BPAC 3353
USMC: FY13 PE 0604800M BPAC 2262
USMC: FY14 PE 0604800M BPAC 3351

A. Mission Description and Budget Item Justification

The F-35 JSF Program will develop and field an affordable, highly common family of next generation strike aircraft for the United States Navy, Air Force, Marine Corps and allies. The three variants are the F-35A Conventional Takeoff and Landing (CTOL); F-35B Short Takeoff and Vertical Landing (STOVL); and the F-35C Aircraft Carrier suitable Variant (CV). The CTOL will be a stealthy multi-role aircraft, primary air-to-ground for the Air Force to replace the F-16 and A-10 and complement the

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0604800F / *F-35 - EMD*	**Project (Number/Name)** 653831 / *Joint Strike Fighter*

F-22. The STOVL variant will be a multi-role strike fighter aircraft to replace the AV-8B and F/A-18A/C/D for the Marine Corps, replace the Sea Harrier and GR 7 for the United Kingdom, and replace the AV-8 currently employed by the Italian Navy. The CV will provide the DoN a multi-role, stealthy strike fighter aircraft to complement the F/A-18E/F.

The United Kingdom, other International Partner nations, and Foreign Military Sales customers are also participants in the JSF program. The program shown here reflects USN, USMC, USAF, and International Partner funding.

The top-line Program element reflects the unique variant for each Service. Funding at the accomplishment/planned program level is reported as the total of all services and partners as these activities support all aircraft variants.

The SDD budget funds a total quantity of 20 RDT&E test articles to include 6 ground test articles and 14 flight test articles for USN and USAF use.

FY07: 1 CTOL flight test article
FY08: 1 STOVL flight test article; 1 STOVL ground test article
FY09: 1 STOVL flight test article; 2 CTOL ground test articles
FY10: 6 flight test articles: 3 CTOL, 2 STOVL, 1 CV; 3 ground test articles: 1 STOVL, 2 CV
FY11: 4 flight test articles: 1 CTOL, 1 STOVL, 2 CV
FY13: 1 CV flight test article

BA5 - This program is in Budget Activity 5, System Development and Demonstration (SDD) because it has passed Milestone B approval and is conducting Engineering and Manufacturing Development (EMD) tasks aimed at meeting validated requirements prior to full-rate production.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: System Development and Demonstration (SDD) (F-35 JSF)	1,667.182	458.938	662.588
Description: SDD execution of the Air System (Lockheed Martin) including International Commonality Effort; includes airframe, vehicle and mission systems, autonomic logistics, systems engineering & test efforts.			
FY 2013 Accomplishments: Continued SDD execution of the Air System (Lockheed Martin), including International Commonality Effort which includes airframe, vehicle systems, mission systems, autonomic logistics, systems engineering, and integrated test efforts.			
FY 2014 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
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B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Continue SDD execution of the Air System with Lockheed Martin, including International Commonality Effort which includes airframe, vehicle systems, mission systems, autonomic logistics, systems engineering, and integrated test efforts. Activity aligned to IMS with planned completion of SDD in 2018. ***FY 2015 Plans:*** Continue SDD execution of the Air System with Lockheed Martin, including International Commonality Effort which includes airframe, vehicle systems, mission systems, autonomic logistics, systems engineering, and integrated test efforts. Activity aligned to IMS with planned completion of SDD in 2018. $4.976M of the funding for this effort was inadvertently loaded into BA04. If appropriated the Air Force plans to execute the funding in BA05.			
Title: F135 Propulsion System (F-35 JSF) ***Description:*** SDD execution of the F135 Propulsion System (Pratt & Whitney) including International Commonality Effort; includes testing, autonomic logistics, integration & performing technology maturation efforts. ***FY 2013 Accomplishments:*** Continued SDD execution of the F135 Propulsion System with Pratt & Whitney that includes engine testing, autonomic logistics, integration and performing technology maturation efforts. ***FY 2014 Plans:*** Continue SDD execution of the F135 Propulsion System with Pratt & Whitney that includes engine testing, autonomic logistics, integration and performing technology maturation efforts. ***FY 2015 Plans:*** Continue SDD execution of the F135 Propulsion System with Pratt & Whitney that includes engine testing, autonomic logistics, integration and performing technology maturation efforts.	340.219	359.749	229.175
Title: Systems Engineering (SE) (F-35 JSF) ***Description:*** SDD Systems Engineering (SE) including systems operations requirements analysis, program integration, requirements integration, and interoperability support. ***FY 2013 Accomplishments:*** Continued SDD Systems Engineering that includes systems operations requirements analysis, program integration, requirements integration, and interoperability support. ***FY 2014 Plans:***	50.495	36.395	29.901

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Continue SDD Systems Engineering that includes systems operations requirements analysis, program integration, requirements integration, and interoperability support. ***FY 2015 Plans:*** Continue SDD Systems Engineering that includes systems operations requirements analysis, program integration, requirements integration, and interoperability support.			
Title: Development Test & Evaluation (DT&E) (F-35 JSF) ***Description:*** Government DT&E/Operational Testing (OT) in support of first flight of test aircraft. Elements of DT&E include preparation for flight testing and weapons integration testing. ***FY 2013 Accomplishments:*** Continued government DT&E/OT in support of test aircraft. Continue flight sciences testing of CTOL, STOVL, and CV variants to expand the air vehicle envelope to support mission systems testing to include initial Block 2B. Elements of DT&E include preparation for flight testing, weapons integration testing, and component capabilities testing. ***FY 2014 Plans:*** Continued government DT&E/OT in support of test aircraft. Continue flight sciences testing of CTOL, STOVL, and CV variants to expand the air vehicle envelope to support mission systems testing to include initial Block 2B. Elements of DT&E include preparation for flight testing, weapons integration testing, and component capabilities testing. ***FY 2015 Plans:*** Continued government DT&E/OT. Continue flight sciences testing of CTOL, STOVL, and CV variants to expand the air vehicle envelope to support mission systems testing. Elements of DT&E include flight testing, weapons integration testing, and component capabilities testing.	360.658	464.985	477.990
Title: Development Support (F-35 JSF) ***Description:*** SDD Support efforts for airframe, air vehicle systems, mission systems, weapons integration, mission support, and autonomic logistics development activities. ***FY 2013 Accomplishments:*** Continued SDD support to deployable Autonomic Logistics Information Systems, decentralized maintenance capabilities low observable maintenance enhancements, security architecture updates, and integrated training simulators. ***FY 2014 Plans:***	109.861	133.793	109.550

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
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B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Continue SDD support efforts for airframe, air vehicle systems, mission systems, weapons integration, mission support, and autonomic logistics development activities. ***FY 2015 Plans:*** Continue SDD support efforts for Deployable Autonomic Logistics Information System, decentralized maintenance capabilities, Low Observable maintance enhancements, security architecture updates, redesign of obsolete items, and integrated training simulators.			
Accomplishments/Planned Programs Subtotals	2,528.415	1,453.860	1,509.204
Other Service Funding Adjustment	1,412.703	841.606	978.760
Air Force Subtotals	1,115.712	612.254	530.444

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
• RDTEN: BA05: PE 604800N: *JSF SDD (CV)*	624.872	424.253	485.263	-	485.263	537.152	402.492	18.485	1.083	-	19,848.894
• RDTEN: BA05: PE 604800M: *JSF SDD (STOVL)*	639.059	399.323	487.068	-	487.068	525.008	393.609	84.467	10.892	-	3,703.262
• RDTEN: BA05: PE 0604800N: *USRL*	17.477	-	-	-	-	-	-	-	-	-	144.769
• APAF: BA01: Line Item # ATA000: *JSF CTOL,PE 207142F, BP10*	2,532.184	2,889.602	3,553.046	-	3,553.046	5,138.558	5,262.325	5,943.415	5,770.781	148,305.400	190,999.096
• APN: BA01: Line Item # 0147: *JSF (CV), PE 204146N*	808.000	1,028.415	610.652	-	610.652	629.916	1,135.967	1,394.026	1,974.142	32,609.960	49,791.131
• APN: BA01: Line Item # 0147C: *JSF Advance Procurement (CV),PE 204146N*	30.699	79.016	29.400	-	29.400	73.800	123.000	196.768	246.000	3,686.760	5,729.873
• APAF: BA01:ATA000: *JSF CTOL Advance Procurement, PE 207142F, BP10 AP*	293.400	339.533	291.880	-	291.880	438.808	528.560	522.180	497.720	18,087.420	22,248.588
• APN: BA01: Line Item #0152: *JSF (STOVL), PE 204146M*	1,094.421	1,176.498	1,200.410	-	1,200.410	1,451.916	2,061.990	2,726.113	2,810.778	28,166.110	42,383.663
• APN: BA01: 0152C: *JSF Advance Procurement (STOVL),PE 204146M*	98.061	103.195	143.885	-	143.885	203.057	226.014	136.732	139.330	3,180.220	4,971.884

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
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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
• International Production: *JSF International Production*	148.772	18.030	6.430	-	6.430	2.600	8.080	3.040	-	Continuing	Continuing
• OPN: BA04:4265: *JSF Other Procurement, PE 204261N*	-	-	-	-	-	-	-	-	-	-	5.665
• OPN: BA03: 4267: *JSF Logistics Information Systems (ALIS), PE 204261N*	2.824	3.427	6.016	-	6.016	3.946	2.262	4.122	3.969	9.408	35.974
• APAF: BA06: Line Item # F03500: *JSF Initial Spares, PE 0207142F, BP16*	163.151	89.050	236.418	-	236.418	270.431	278.552	380.165	457.051	Continuing	Continuing
• APN: BA06: 0605: *Initial Spares (CV), PE 204146N*	26.089	42.060	28.200	-	28.200	28.200	136.134	101.997	201.771	Continuing	Continuing
• APN: BA06: 0605: *Initial Spares (STOVL), PE 204146M*	91.752	41.707	85.194	-	85.194	111.105	65.194	153.914	69.699	Continuing	Continuing
• MILCON: BA01: PE 207142F: *JSF Military Construction*	13.513	23.500	39.900	-	39.900	14.900	3.250	61.000	-	Continuing	Continuing
• USN MILCON: BA01: *USN JSF Military Construction*	117.600	209.000	320.500	-	320.500	151.700	48.100	-	169.700	660.990	2,319.500
• MILCON: BA01: PE 207597F: *JSF MIiltary Construction*	-	32.500	26.800	-	26.800	35.500	11.400	74.850	-	Continuing	Continuing
• RDT&E: BA07: PE 027142F: *JSF Follow-on Development (FoD), BPAC 675346*	-	3.000	28.051	-	28.051	117.812	244.464	313.398	336.942	Continuing	Continuing
• RDT&E: BA07: PE 0207142F: *Dual Capable Aircraft (DCA), BPAC 676011*	-	-	15.810	-	15.810	-	-	-	-	-	-
• International R&D: *International R&D (SDD/FoD)*	163.272	21.965	56.139	-	56.139	87.641	124.219	80.486	54.624	Continuing	Continuing
• OPAF: BA01: 821800: *Joint Strike Fighter, PE 0207142F*	0.338	1.432	4.463	-	4.463	3.858	2.333	2.387	2.415	Continuing	Continuing
• APN: BA05: BP0593: *Modifications (CV), PE 204146N*	-	29.950	20.502	-	20.502	37.336	47.953	51.409	53.388	Continuing	Continuing

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
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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: BA05: PE 0604800F: *JSF Deployability and Suitability Enhancements, BPAC 653832*	14.167	16.200	32.593	-	32.593	29.657	-	-	-	-	92.617
• RDTEN: BA05: PE 604800M: *F-35B Sustainment/ Capability Enhancements (STOVL), BPAC 3350*	-	14.904	11.980	-	11.980	11.952	-	-	-	-	-
• RDTEN: BA05: PE 604800N, BPAC 3352: *F-35C Sustainment/ Capability Enhancements (CV)*	-	14.992	16.997	-	16.997	16.977	-	-	-	-	-
• RDTEN:BA05: PE 604800M: *F-35B Follow-on Development (STOVL), BPAC 3351*	-	-	13.973	-	13.973	59.885	120.644	157.796	168.923	Continuing	Continuing
• RDTEN:BA05 PE0604800N: *CVF-35 Follow-on-Development (CV) RDTE FoD CDD C261*	-	1.500	-	-	-	-	-	-	-	-	-
• APN: BA05: BP0592: *Modifications (STOVL), PE 204146M*	-	111.158	285.968	-	285.968	278.596	173.231	178.035	181.759	Continuing	Continuing
• RDTEN:BA05: PE 0604800N: *F-35C Follow-on Development (CV), BPAC 3353*	-	-	14.196	-	14.196	59.116	123.467	157.922	170.015	Continuing	Continuing
• APAF: BA05: F03500: *JSF Modifications, PE 20742F, BP11*	80.715	126.777	187.646	-	187.646	221.826	250.178	254.903	262.733	Continuing	Continuing

Remarks

This is a joint program with no executive service. Service Acquisition Executive (SAE) authority alternates between the Department of the Navy and the Department of the Air Force and currently resides with the Navy. Program Element 0604800N/0604800M continues USN development efforts budgeted in 0603800N prior to FY2002. The United Kingdom and other International countries are participants in the SDD phase of JSF.

Note: The USAF/USN/USMC PROCUREMENT line include Aircraft Procurement and Advanced Procurement only. Initial Spares and Repair Parts for all Services are reflected in separate lines. International Partner Funding includes funds provided under the Italy and Netherlands Bilateral agreements.

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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

RELATED RDT&E: Funding prior to JSF SDD (FY94-FY01): USN PE 0603800N $1,950,617; USAF PE 0603800F $1,907,352; DARPA PE 0603800E $118,056; and International Partner contributions of $253.921 for a total of $4,229,896.

D. Acquisition Strategy

The SDD program consists of a cost-reimbursement contract awarded to Lockheed Martin Aeronautics Company to develop the F-35 Air System, consisting of three aircraft variants and its associated logistics support system, for the U.S. Services and international participants. Similarly, a cost-reimbursement contract was awarded to Pratt & Whitney to develop the F135 propulsion system. Ground and flight testing will be conducted during development to accomplish validation and verification, with the extensive use of modeling and simulation to offset the risk of this large, complex, and concurrent lifecycle program. A comprehensive logistics support environment, including an integrated training system for aircrew, maintenance, and support personnel, is also being developed.

On 25 April 2011, the Department of Defense terminated the development of the General Electric Rolls-Royce Fighter Engine Team F136 propulsion system.

The F-35 Program has made international involvement a key element of the acquisition strategy. This includes international partnership in the development, production, and sustainment phases of the lifecycle. Additional international participation includes Foreign Military Sales arrangements.

In Fiscal Year (FY) 2007, separate cost-type contracts were awarded to Lockheed Martin Aeronautics Company and Pratt & Whitney to begin low rate initial production for F-35 air vehicles, propulsion systems, and sustainment for the fielded systems. Transition to fixed-price-type contracts occurred with the fourth low rate lot. To provide logistics support for delivered aircraft, Performance-Based Logistics cost-type contracts will be awarded to Lockheed Martin Aeronautics Company and Pratt & Whitney.

At the completion of Low Rate Initial Production, a Defense Acquisition Board review, and Milestone Decision Authority approval, the F-35 Program will enter Full Rate Production. Fixed-price procurement contracts will be awarded for F-35 air vehicles and propulsion systems for the U.S. Services and international participants. Multiyear procurement authority for the F-35 Air System will be requested for Full Rate Production. Concurrently, multiple-year, fixed-price-type Performance Based Logistics contracts for sustainment will be executed to support multi-Service and multi-national requirements.

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
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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
Lockheed Martin - SDD	C/CPAF	Lockheed Martin : Ft. Worth, TX	29,342.589	1,665.258	Dec 2012	458.938	Dec 2013	662.588	Dec 2014	-		662.588	1,753.579	33,882.952	27,535.632
Lockheed Martin - IDIQ D0022	SS/ Various	Lockheed Martin : Ft. Worth, TX	26.477	1.327	Dec 2013	-		-		-		-	-	27.804	85.000
Lockheed Martin - IDIQ 0005	SS/ Various	Lockheed Martin : Ft. Worth, TX	0.903	0.597	Dec 2012	-		-		-		-	-	1.500	-
Lockheed Martin - IDIQ D0009	SS/ Various	Lockheed Martin : Ft. Worth, TX	16.759	-		-		-		-		-	-	16.759	68.500
Lockheed Martin - BOA	SS/ Various	Lockheed Martin : Ft. Worth, TX	3.511	-		-		-		-		-	-	3.511	30.000
Pratt & Whitney - SDD	SS/CPAF	Pratt &Whitney : Hartford, CT	7,184.247	340.219	Nov 2012	359.749	Dec 2013	229.175	Dec 2014	-		229.175	259.821	8,373.211	6,810.646
Pratt & Whitney - Close Out Contract C0132	SS/CPFF	Pratt &Whitney : Hartford, CT	1.364	-		-		-		-		-	-	1.364	1.364
Pratt & Whitney - CDP Close Out Contract C0050	SS/CPAF	Pratt &Whitney : Hartford, CT	2.211	-		-		-		-		-	-	2.211	2.211
Pratt & Whitney - BOA	SS/CPFF	Pratt &Whitney : Hartford, CT	35.983	-		-		-		-		-	-	35.983	35.983
Pratt & Whitney - IDIQ	SS/ Various	Pratt &Whitney : Hartford, CT	10.925	-		-		-		-		-	-	10.925	10.925
General Electric - SDD	SS/ Various	FET : Cincinnati, OH	2,160.573	-		-		-		-		-	-	2,160.573	2,415.492
General Electric - IDIQ D0009	SS/ Various	FET : Cincinnati, OH	0.264	-		-		-		-		-	-	0.264	0.264
General Electric - IDIQ D0074	SS/ Various	FET : Cincinnati, OH	4.175	-		-		-		-		-	-	4.175	4.175
General Electric - F136 Transition	SS/CPFF	FET : Cincinnati, OH	100.400	-		-		-		-		-	-	100.400	100.400
General Electric - BOA	SS/ Various	FET : Cincinnati, OH	5.548	-		-		-		-		-	-	5.548	5.548
General Electric - Phase IIIb	SS/CPAF	FET : Cincinnati, OH	382.753	-		-		-		-		-	-	382.753	382.750
Systems Engineering	Various	Various : Various,	339.051	39.434	Nov 2012	32.188	Nov 2013	25.671	Nov 2014	-		25.671	72.732	509.076	-

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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
		Subtotal	39,617.733	2,046.835		850.875		917.434		-		917.434	2,086.132	45,519.009	-

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
AFFTC/Eglin	Various	Various : Various,	104.588	7.702	Oct 2012	5.416	Nov 2013	8.613	Nov 2014	-		8.613	8.890	135.209	-
AFLCMC/AFRL	Various	AFLCMC/AFRL : Various,	63.734	4.507	Oct 2012	2.525	Nov 2013	1.548	Nov 2014	-		1.548	2.775	75.089	-
Bolling AFB	Various	Bolling AFB : Washington, DC	6.775	-		-		-		-		-	-	6.775	-
DMEA	Various	DMEA : Wright Patterson, AFB, OH	5.630	-		-		-		-		-	-	5.630	-
AFTOC/Fuel	Various	Various : Various,	149.426	17.375	Nov 2012	18.753	Nov 2013	17.215	Dec 2014	-		17.215	11.995	214.764	-
NADEP Jacksonville	Various	NADEP : Jacksonville, FL	9.525	-		-	Nov 2013	-		-		-	-	9.525	-
Miscellaneous	Various	Various : Various,	76.845	13.959	Nov 2012	37.488	Nov 2013	28.736	Nov 2014	-		28.736	40.063	197.091	-
NAWC China Lake	Various	NAWC WD : China Lake, CA	110.595	7.340	Nov 2012	20.710	Nov 2013	15.187	Nov 2014	-		15.187	21.398	175.230	-
NAWC TSD	Various	NAWC TSD : Orlando, FL	11.609	-		-		-		-		-	-	11.609	-
NAWC Patuxent River	Various	NAWC AD : Patuxent River, MD	318.273	35.749	Nov 2012	29.621	Nov 2013	29.368	Nov 2013	-		29.368	42.931	455.942	-
NSWC	Various	Various : Various,	3.813	-		-		-		-		-	-	3.813	-
SPAWAR	Various	Various : Various,	8.434	-		-		-		-		-	-	8.434	-
SBIR Technology Insertion Congressional Add	Various	Various : Various,	24.187	-		-		-		-		-	-	24.187	-
DFAS	Various	Various : Various,	0.000	-		-		-		-		-	-	-	-
		Subtotal	893.434	86.632		114.513		100.667		-		100.667	128.052	1,323.298	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Air Force		Date: March 2014
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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
NAWC Patuxent River	Various	NAWC AD : Patuxent River, MD	404.071	115.715	Nov 2012	153.350	Nov 2013	183.426	Nov 2014	-		183.426	172.360	1,028.922	-
NAWC China Lake	Various	NAWC WD : China Lake, CA	31.523	3.690	Nov 2012	3.820	Nov 2013	4.971	Nov 2014	-		4.971	14.913	58.917	-
Edwards AFB	Various	Edwards AFB : Edwards AFB, CA	407.325	77.419	Nov 2012	130.000	Nov 2013	100.775	Nov 2014	-		100.775	108.049	823.568	-
Other (including Classified PIDs)	Various	Various : Various,	55.605	63.637	Nov 2012	61.803	Nov 2013	69.754	Nov 2014	-		69.754	77.756	328.555	-
JITC	Various	JITC : Various,	0.000	-		-		-		-		-	-	-	-
WEPS/Eglin	Various	WEPS : Eglin AFB, FL	27.829	-		-		-		-		-	-	27.829	-
OT - AFOTEC/AFFTC	Various	OT AFOTEC/ AFFTC : Various,	107.802	12.152	Nov 2012	32.740	Nov 2013	89.876	Nov 2014	-		89.876	287.252	529.822	-
OT - JITC/OPTEV	Various	OT JITC/OPTEV : Various,	6.211	11.721	Oct 2012	-	Nov 2013	-		-		-	-	17.932	-
		Subtotal	1,040.366	284.334		381.713		448.802		-		448.802	660.330	2,815.545	-

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
Business Integration - Cost - ACT I	SS/CPFF	ACT I : Arlington, VA	8.604	2.334	Dec 2012	3.248	Dec 2013	3.362	Dec 2014	-		3.362	-	17.548	18.731
Security - Mantech	C/FP	Mantech : Arlington, VA	57.282	8.617	Dec 2012	11.600	Dec 2013	-		-		-	-	77.499	94.474
Autolog - SEIT - DRC	C/CPFF	DRC : Arlington, VA	2.573	-		-		-		-		-	-	2.573	-
Chief Engineer - First Principles	C/CPFF	First Principles : Arlington, VA	5.004	1.836	Nov 2012	1.928	Dec 2013	2.024	Dec 2014	-		2.024	2.024	12.816	11.852
AFLCMC Civilian Pay	Various	AFLCMC : Wright Patterson AFB, OH	14.654	24.092	Oct 2012	18.586	Oct 2013	24.225	Oct 2014	-		24.225	36.450	118.007	-
Operations - SAFTAS	C/CPAF	SAFTAS : Arlington, VA	122.263	8.000	Dec 2013	7.363	Dec 2013	-		-		-	-	137.626	192.329

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 5	R-1 Program Element (Number/Name) PE 0604800F / *F-35 - EMD*	Project (Number/Name) 653831 / *Joint Strike Fighter*	

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
Operations - Stanley	C/CPFF	Stanley : Arlington, VA	181.370	20.707	Dec 2012	24.604	Dec 2013	-		-		-	-	226.681	268.705
Operations- TBD	C/CPAF	TBD : Arlington, VA	0.000	-		-		-		-		-	-	-	-
GE F136 Congressional Studies	Various	Various : Various,	0.800	-		-		-		-		-	-	0.800	-
PMA	Various	Various : Various,	125.727	45.028	Nov 2012	39.430	Nov 2013	12.690	Nov 2014	-		12.690	39.279	262.154	262.154
		Subtotal	518.277	110.614		106.759		42.301		-		42.301	77.753	855.704	-

	Prior Years	FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Subtotals	42,069.810	2,528.415		1,453.860		1,509.204		-		1,509.204	2,952.267	50,513.556	-
Other Service Funding Adjustment	23,281.753	1,412.703		841.606		978.760		-		978.760	1,986.908	28,501.730	2,635.387
Project Cost Totals	18,788.057	1,115.712		612.254		530.444		-		530.444	2,952.267	50,513.556	-

Remarks

NOTE 1: Prior Years reflect $18,788.057M USAF/$17,355.294M USN/ 1,163.836M USMC/$4,762.623M International/Total $42,069.810M

FY 2013 reflects $1,115.712M USAF/$624.872M USN/$639.059M USMC/$148.772M International/Total $2,528.415M

FY 2014 reflects $612.254M USAF/$424.253M USN/$399.323M USMC/$18.030M International/Total $1,453.860M

FY 2015 reflects $535.420M USAF/$485.263M USN/$487.068M USMC/$6.430 International/Total $1,509.205M

NOTE 2:R-2A/R-3 displays total combined program (i.e. not Service specific), including International partners.

F-35 EMD Includes:
USAF PE 0604800F BPAC 653831
USN PE 0604800N Project Unit 2261
USMC PE 0604800M Project Unit 2262

D&S Includes:
USAF PE 0604800F BPAC 653832
USN PE 0604800N Project Unit 3352
USMC PE 0604800M Project Unit 3350

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 5	R-1 Program Element (Number/Name) PE 0604800F / *F-35 - EMD*	Project (Number/Name) 653831 / *Joint Strike Fighter*	

	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract

F-35 FoD includes:
USAF: PE 0207142F BPAC 675346
USN: FY13 PE 0604800N BPAC 2261
USN: FY14 PE 0604800N BPAC 3353
USMC: FY13 PE 0604800M BPAC 2262
USMC: FY14 PE 0604800M BPAC 3351

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0604800F / *F-35 - EMD*	**Project (Number/Name)** 653831 / *Joint Strike Fighter*

F-35 Program Top Level Schedule

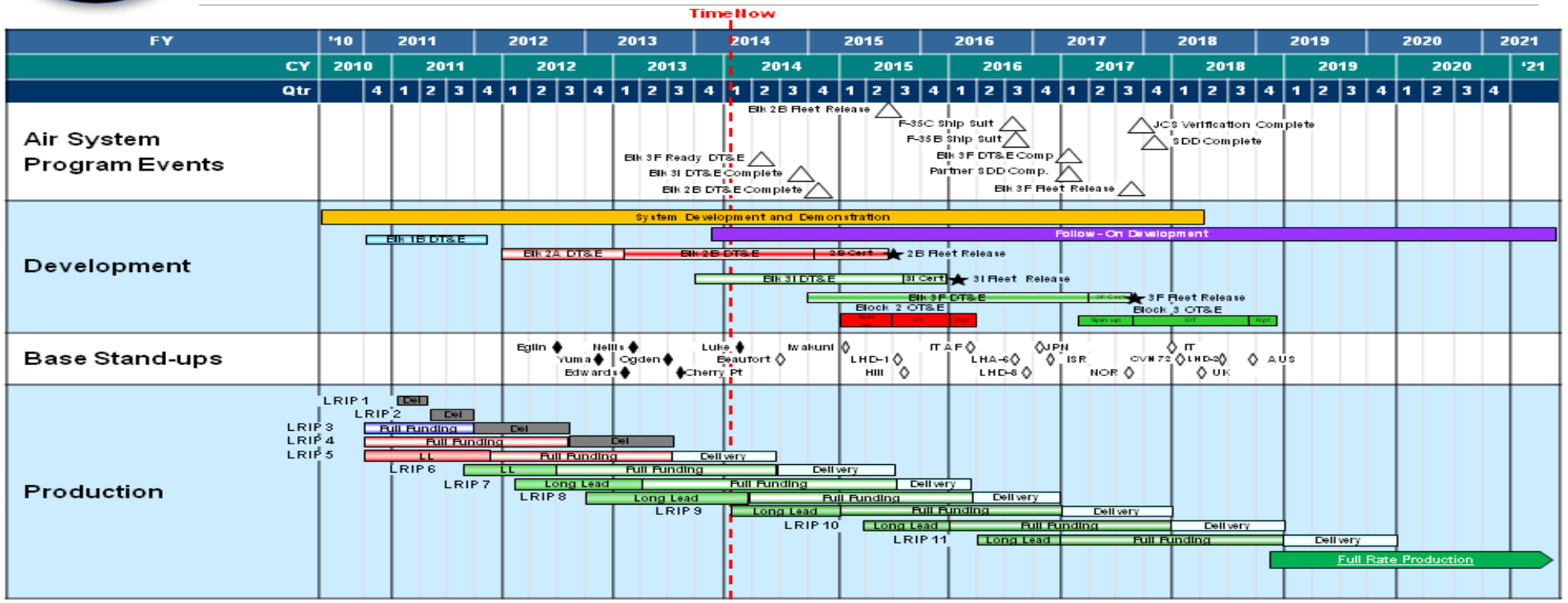

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Exhibit R-4A, RDT&E Schedule Details: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0604800F / *F-35 - EMD*	**Project (Number/Name)** 653831 / *Joint Strike Fighter*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Test & Evaluation: Block 2B DT&E/Cert	2	2013	3	2015
Test & Evaluation: Block 3I DT&E/Cert	1	2014	1	2016
Test & Evaluation: Block 3F DT&E/Cert	1	2015	4	2017
Test & Evaluation: Initial Operational Test and Evaluation (IOT&E)	2	2015	1	2019

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 5	R-1 Program Element (Number/Name) PE 0604800F / *F-35 - EMD*	Project (Number/Name) 653832 / *JSF DEPLOYABILITY AND SUITABILITY ENHANCEMENT*	

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
653832: *JSF DEPLOYABILITY AND SUITABILITY ENHANCEMENT*	-	14.167	16.200	32.593	-	32.593	29.657	-	-	-	-	92.617
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

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

Note

NOTE:
R-2A table shown above reflect service funding only.

R-2A(section B)/R-3 displays total combined program funding (i.e. not service specific), including International partners.

F-35 EMD Includes:
USAF PE 0604800F BPAC 653831
USN PE 0604800N Project Unit 2261
USMC PE 0604800M Project Unit 2262

D&S Includes:
USAF PE 0604800F BPAC 653832
USN PE 0604800N Project Unit 3352
USMC PE 0604800M Project Unit 3350

F-35 FoD includes:
USAF: PE 0207142F BPAC 675346
USN: FY13 PE 0604800N BPAC 2261
USN: FY14 PE 0604800N BPAC 3353
USMC: FY13 PE 0604800M BPAC 2262
USMC: FY14 PE 0604800M BPAC 3351

A. Mission Description and Budget Item Justification

Funds enhancements to the deployability and suitability of the air system such as low observable (LO) maintenance enhancements, security architecture updates,redesign of obsolete items and integrated training simulators. These enhancements will provide vital on-demand support to the war-fighter within a deployed

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0604800F / *F-35 - EMD*	**Project (Number/Name)** 653832 / *JSF DEPLOYABILITY AND SUITABILITY ENHANCEMENT*

environment and are not funded via the existing SDD program or tied to Block 4 Operational Fight Program (OFP) development. Funding will result in achieving targeted suitability, maintainability, and affordability returns employing the F-35 in deployed or austere locations.

-Funding at the accomplishment/planned program level is reported as the total of all services as these activities support all aircraft variants. The annual funding contribution between the USN and USMC is approximately equal.

BA5 - This program is in Budget Activity 5, System Development and Demonstration (SDD) because it has passed Milestone B approval and is conducting engineering and manufacturing development tasks aimed at meeting validated requirements prior to full-rate production.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Sustainment and Capability Enhancements (F-35 JSF)	-	31.622	42.236
Description: Apply disciplined systems engineering, refinement of requirements, develop and acquire suitability and maintainability of the air system such as decentralized maintenance capabilities, LO maintenance enhancements, security architecture updates,redesign of obsolete items and integrated training simulators. ***FY 2014 Plans:*** Conduct systems engineering, technology maturation, integration and test planning for Deployability and Suitability enhancements. ***FY 2015 Plans:*** Conduct systems engineering, technology maturation, integration and test planning for Deployability and Suitability enhancements.			
Title: Development Support (F-35 JSF)	14.167	11.846	14.745
Description: SDD support efforts for airframe, air vehicle systems, mission systems, weapons integration, mission support, and autonomic logistics development activities. ***FY 2013 Accomplishments:*** Continue SDD support efforts for airframe, air vehicle systems, mission systems, weapons integration, mission support, and autonomic logistics development activities. ***FY 2014 Plans:*** Continue development enhancement support for Deployable Autonomic Logisitics Information System, decentralized maintenance capabilities, Low Observable maintenance enhancements, security architecture updates,redesign of obsolete items and integrated training simulators. ***FY 2015 Plans:***			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0604800F / *F-35 - EMD*	**Project (Number/Name)** 653832 / *JSF DEPLOYABILITY AND SUITABILITY ENHANCEMENT*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Continue SDD support efforts for airframe, air vehicle systems, mission systems, weapons integration, mission support, and autonomic logistics development activities.			
Title: Development Test and Evaluation ***Description:*** Verification and testing for deployability and suitability enhancements. ***FY 2014 Plans:*** Initiate verification of test articles, evaluation strategy and metrics in preparation for testing of deployability and suitability enhancements. ***FY 2015 Plans:*** Complete verification of test articles, evaluation strategy and metrics in preparation for testing of deployability and suitability enhancements.	-	2.628	4.589
Accomplishments/Planned Programs Subtotals	14.167	46.096	61.570
Other Service Funding Adjustment	-	29.896	28.977
Air Force Subtotals	14.167	16.200	32.593

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
• RDTEN: BA05: PE 0604800N: *JSF SDD (CV)*	624.872	424.253	485.263	-	485.263	537.152	402.492	18.485	1,083.000	-	-
• RDTEN: BA05: PE 0604800M: *JSF SDD (STOVL)*	639.059	399.323	487.068	-	487.068	525.008	393.609	84.467	10.892	-	-
• RDTEN:BA05: PE 0604800N: *USRL, BPAC 3194*	17.477	-	-	-	-	-	-	-	-	-	144.769
• APAF: BA01: ATA000: *JSF CTOL,PE 0207142F, BP10*	2,532.184	2,889.602	3,553.046	-	3,553.046	5,138.558	5,262.325	5,943.415	5,770.781	148,305.400	190,999.096
• APAF: BA01: Line Item # ATA000: *JSF CTOL Advance Procurement, PE 0207142F, BP10 AP*	293.400	339.533	291.880	-	291.880	438.808	528.560	522.180	497.720	18,087.420	22,248.588
• APN: BA01: BP0147: *JSF (CV), PE 204146N*	808.000	1,028.415	610.652	-	610.652	629.916	1,135.967	1,394.026	1,974.142	32.609	49.791

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0604800F / *F-35 - EMD*	**Project (Number/Name)** 653832 / *JSF DEPLOYABILITY AND SUITABILITY ENHANCEMENT*	

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
• APN: BA01: BP0147C: *JSF Advance Procurement (CV), PE 204146N*	30.699	79.016	29.400	-	29.400	73.800	123.000	196.768	246.000	3,686.760	5,729.873
• APN: BA01: BP0152: *JSF (STOVL), PE 204146M*	1,094.421	1,176.498	1,200.410	-	1,200.410	1,451.916	2,061.990	2,726.113	2,810.778	28,166.110	42,383.663
• APN: BA01: BP0152C: *JSF Advance Procurement (STOVL),PE 204146M*	98.061	103.195	143.885	-	143.885	203.057	226.014	136.732	139.330	3,180.220	4,971.884
• International Production: *JSF International Production*	1,487.584	1,924.048	3,205.900	-	3,205.900	6,109.330	7,280.752	6,686.294	4,192.377	-	48,071.005
• OPN: BA04: BP4265: *JSF Other Procurement, PE 204261N*	-	-	-	-	-	-	-	-	-	-	5.665
• OPN: BA03: BP4267: *JSF Logistics Information Systems (ALIS), PE 204261N*	2.824	3.427	6.016	-	6.016	3.946	2.262	4.122	3.969	9.408	35.974
• APAF: BA06: ATA000: *JSF Initial Spares*	163.151	89.050	236.418	-	236.418	270.431	278.552	380.165	457.051	Continuing	Continuing
• APN: BA06:BP0605: *Initial Spares (CV), PE 204146N*	26.089	42.060	28.200	-	28.200	28.200	136.134	101.997	201.771	Continuing	Continuing
• RDTE: BA05: PE 0604800F: *JSF SDD, BPAC 653831*	1,115.712	612.254	535.420	-	535.420	522.575	327.100	115.413	5.250	-	-
• APN: BA06: BP0605: *Initial Spares (STOVL), PE 204146M*	91.752	41.707	85.194	-	85.194	111.105	65.194	153.914	69.699	Continuing	Continuing
• RDTEN: BA05: PE 604800M: *F-35B Follow-on Development (STOVL), BPAC 3351*	-	-	13.973	-	13.973	59.885	120.644	157.796	168.923	Continuing	Continuing
• RDTEB: BA05 PE:604800N: *F-35 RDTE FoD CDD (CV)*	-	1.500	-	-	-	-	-	-	-	-	-
• APN: BA05: BP0592: *Modifications (STOVL), PE 204146M*	-	111.158	285.968	-	285.968	278.596	173.231	178.035	181.759	Continuing	Continuing
• MILCON: BA01: PE 207142F: *JSF Military Construction*	13.513	23.500	39.900	-	39.900	14.900	3.250	61.000	-	Continuing	Continuing

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0604800F / *F-35 - EMD*	**Project (Number/Name)** 653832 / *JSF DEPLOYABILITY AND SUITABILITY ENHANCEMENT*	

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
• USN MILCON: BA01: *USN JSF MILCON*	117.600	209.000	320.500	-	320.500	151.700	48.100	-	169.700	660.900	2,319.500
• MILCON: BA01: PE 207597F: *JSF Military Construction*	-	32.500	26.800	-	26.800	35.500	11.400	74.850	-	Continuing	Continuing
• APAF: BA05: F03500: *JSF Modifications, PE 20742F, BP11*	80.715	126.777	187.646	-	187.646	221.826	250.178	254.903	262.733	Continuing	Continuing
• RDTE: BA07: PE 207142F: *JSF Follow-on Development (FoD), BPAC 675346*	-	3.000	28.051	-	28.051	117.812	244.464	313.398	336.942	Continuing	Continuing
• International R&D: *International R&D (SDD/FOD)*	148.772	18.030	6.430	-	6.430	2.600	8.080	3.040	-	Continuing	Continuing
• OPAF: BA01: 821800: *Joint Strike Fighter, PE 0207152F*	0.338	1.431	4.463	-	4.463	3.858	2.333	2.374	2.415	Continuing	Continuing
• RDTEN:BA05: PE 604800M: *F-35B Sustainment/ Capability Enhancements (STOVL), BPAC 3350*	-	14.904	11.980	-	11.980	-	-	-	-	-	-
• RDTEN: BA05: PE 604800N: *F-35C Sustainment/Capability Enhancements (CV), BPAC 3352*	-	14.992	16.997	-	16.997	-	-	-	-	-	48.966
• RDTEN:BA05: PE 604800N: *F-35C Follow-on Development (CV, BPAC 3353)*	-	-	14,196.000	-	14,196.000	59.116	123.467	157.922	170.015	Continuing	Continuing
• RDTE: BA07:PE 207142F: *Dual Capable Aircraft (DCA), BPAC 676011*	-	-	15.615	-	15.615	-	-	-	-	-	-
• APN: BA05: BP0593: *Modifications (CV), PE 204146N*	-	29.950	20.502	-	20.502	37.336	47.953	51.409	53.388	Continuing	Continuing

Remarks

This is a joint program with no executive service. Service Acquisition Executive (SAE) authority alternates between the Department of the Navy and the Department of the Air Force and currently resides with the Navy. Program Element 0604800N/0604800M continues USN development efforts budgeted in 0603800N prior to FY2002. The United Kingdom and other International countries are participants in the SDD phase of JSF.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0604800F / *F-35 - EMD*	**Project (Number/Name)** 653832 / *JSF DEPLOYABILITY AND SUITABILITY ENHANCEMENT*

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

Note: The USAF/USN/USMC PROCUREMENT line include Aircraft Procurement and Advanced Procurement only. Initial Spares and Repair Parts for all Services are reflected in separate lines. International Partner Funding includes funds provided under the Italy and Netherlands Bilateral agreements.

RELATED RDT&E: Funding prior to JSF SDD (FY94-FY01): USN PE 0603800N $1,950,617; USAF PE 0603800F $1,907,352; DARPA PE 0603800E $118,056; and International Partner contributions of $253.921 for a total of $4,229,896.

D. Acquisition Strategy

Implement JSF Joint Executive Steering Board (JESB)/Configuration Steering Board (CSB) approved enhancements to existing capabilities through existing contracts using the engineering change proposal process. When appropriate, new cost type contracts may be established.

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 / 5	R-1 Program Element (Number/Name) PE 0604800F / *F-35 - EMD*	Project (Number/Name) 653832 / *JSF DEPLOYABILITY AND SUITABILITY ENHANCEMENT*	

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
Prime LM Deployability & Suitability Enhancements	SS/CPAF	LM : Ft Worth, TX	0.000	-		31.622	Mar 2014	42.236	Mar 2015	-		42.236	29.000	102.858	184.234
		Subtotal	0.000	-		31.622		42.236		-		42.236	29.000	102.858	184.234

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
Development Support	TBD	Various : Various,	0.000	14.167	Oct 2013	10.846	Mar 2014	13.745	Mar 2015	-		13.745	-	38.758	-
		Subtotal	0.000	14.167		10.846		13.745		-		13.745	-	38.758	-

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
Developmental Test & Evaluation	WR	Various : Various,	0.000	-		2.628	Jun 2014	4.589	Jun 2015	-		4.589	-	7.217	-
		Subtotal	0.000	-		2.628		4.589		-		4.589	-	7.217	-

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 Support	Various	Various : Various,	0.000	-		1.000	Dec 2013	1.000	Dec 2014	-		1.000	0.657	2.657	-
		Subtotal	0.000	-		1.000		1.000		-		1.000	0.657	2.657	-

	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
Cost Category Subtotals	0.000	14.167		46.096		61.570		-		61.570	29.657	151.490	-
Other Service Funding Adjustment	0.000	-		29.896		28.977		-		28.977	-	58.873	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 5	R-1 Program Element (Number/Name) PE 0604800F / *F-35 - EMD*	Project (Number/Name) 653832 / *JSF DEPLOYABILITY AND SUITABILITY ENHANCEMENT*	

	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	14.167		16.200		32.593		-		32.593	29.657	92.617	-

Remarks

NOTE: R-2A/R-3 displays combined program funding for JSF Engineering Manufacturing and Development(EMD) and JSF Deployability and Suitability Enhancements (D&S).

F-35 EMD Includes:
USAF PE 0604800F BPAC 653831
USN PE 0604800N Project Unit 2261
USMC PE 0604800M Project Unit 2262

D&S Includes:
USAF PE 0604800F BPAC 653832
USN PE 0604800N Project Unit 3352
USMC PE 0604800M Project Unit 3350

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0604800F / *F-35 - EMD*	**Project (Number/Name)** 653832 / *JSF DEPLOYABILITY AND SUITABILITY ENHANCEMENT*

F-35 Program Top Level Schedule

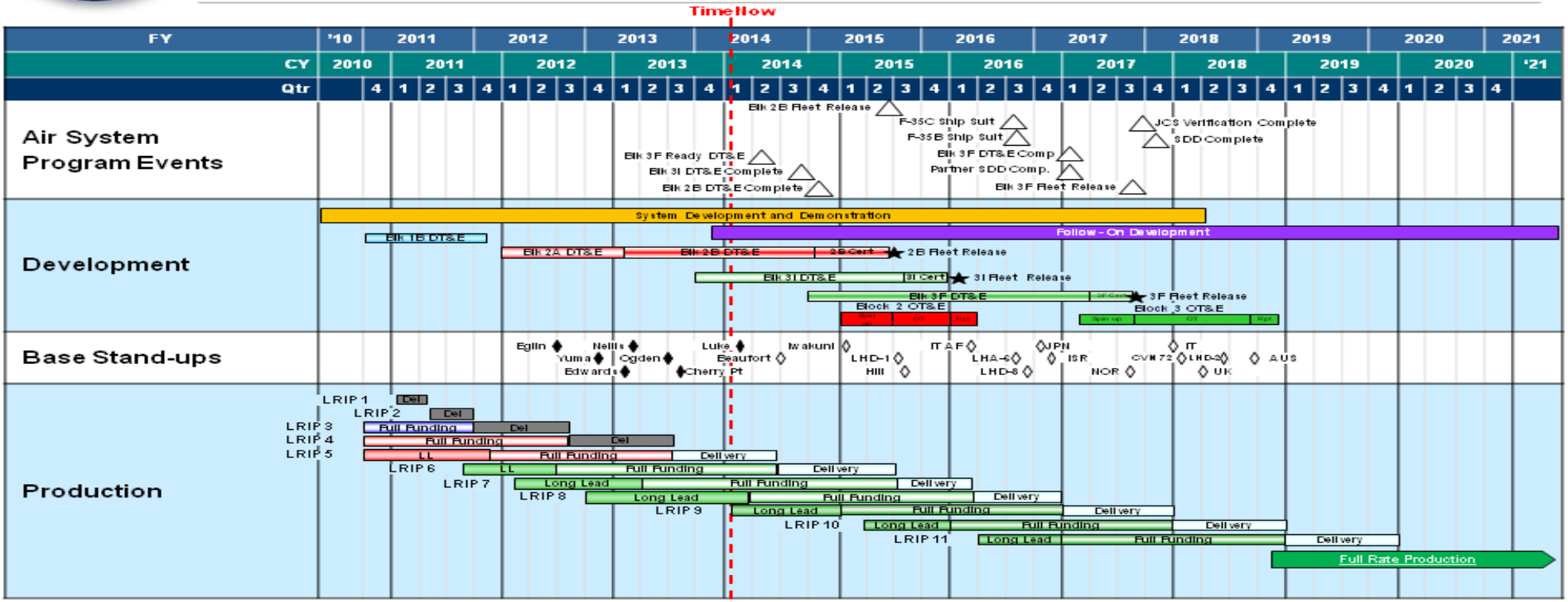

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Exhibit R-4A, RDT&E Schedule Details: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0604800F / *F-35 - EMD*	**Project (Number/Name)** 653832 / *JSF DEPLOYABILITY AND SUITABILITY ENHANCEMENT*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Contract Award	3	2013	3	2014
Deployment and Suitability Enhancement Efforts	3	2014	4	2016

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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 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0604851F / *Intercontinental Ballistic Missile - EMD*							
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	-	120.375	112.760	-	-	-	0.001	-	-	-	Continuing	Continuing
655037: *Support Equipment*	-	84.784	81.744	-	-	-	0.001	-	-	-	Continuing	Continuing
655081: *ICBM Crypto*	-	28.481	31.016	-	-	-	-	-	-	-	Continuing	Continuing
657010: *Operational Equipment*	-	7.110	-	-	-	-	-	-	-	-	Continuing	Continuing

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

Note

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.

A. Mission Description and Budget Item Justification

Intercontinental Ballistic Missile (ICBM) Engineering and Manufacturing Development (EMD) efforts will ensure the extension of the operational life of the Minuteman III ICBM weapon system through 2030.

The Support Equipment program designs, develops, and tests replacement of obsolete/non-serviceable weapon system support and flight test equipment. The efforts include design, development, and testing of support equipment such as Electrical-Electronic Equipment Test Sets (EEETS), Reentry Field Support Equipment (RFSE), Code System Media (CSM), Payload Transporter Replacement (PTR), Higher Authority Command/Rapid Message Processing Element (HAC/RMPE) Message Generator, Strategic Targeting Application Computer System (STACS), and Transporter Erector Replacement Program (TERP). In FY15, efforts listed above in PE 0604851F, Intercontinental Ballistic Missile - EMD, Project 655037, Support Equipment will be included in PE 0101213F, Minuteman Squadrons, Project 672985, MM Support Equip. Also in FY15, PTR funding was eliminated pending revalidation of the requirement through an ICBM Transportation Security Study due July 2014. PTR development will continue in FY14.

Efforts also include the design, development, and testing of replacement flight test equipment necessary to conduct Force Development Evaluations (FDEs) and ICBM Fuze Modernization flight tests such as the Instrumentation Wafer Replacement Program (IWRP) and the Signal Conditioner Monitor (SCM) replacement program. FDEs are required by USSTRATCOM and the Department of Energy to determine continuing reliability and effectiveness of the ICBM weapon system. Beginning in FY 2015, IWRP and SCM efforts previously included in PE 0604851F, Intercontinental Ballistic Missile - EMD, Project 655037, Support Equipment will be included in PE 0101213F, Minuteman Squadrons, Project 672984, MM III Baseline Support as one combined program, the MM III Instrumentation Wafer Replacement Program (MMIWRP).

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 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604851F / *Intercontinental Ballistic Missile - EMD*

Intercontinental Ballistic Missile (ICBM) Cryptography Upgrade Increment II (ICU II) executes USSTRATCOM, Air Force Global Strike Command (AFGSC), and Nuclear Weapon Safety Center (NWSC) requirements by implementing the KS-60 capabilities of remote key/code change and irreversible transformation as mandated in the approved Capabilities Development Document (CDD) dated 4 January 2005 and addresses Nuclear Weapon System Safety Group Operational Safety Review (NWSSG OSR) requirements 98-2, 00-1 and 02-2. It also incorporates continuous signal lockout capabilities to prevent the widespread loss of status monitoring. These features will greatly increase security during code changes by reducing the frequency of open sites 75 days annually and will reduce associated resource costs for 450 launch facilities (LF) and 45 launch control centers (LCC). In FY 2015, ICU II effort previously included in PE 0604851, Intercontinental Ballistic Missile - EMD, Project 655081, ICBM Crypto will be included in PE 0101213F, Minuteman Squadrons, Project 672986, MM Crypto Mods.

The Operational Equipment program designs, develops, and tests replacement of weapon system equipment. The effort includes the Solid Rocket Motor (SRM) Modernization effort to define operational requirements, investigate available technologies and prepare an acquisition strategy for SRM development. This effort, coupled with the Propulsion Application Program under PE 0603851F, ICBM Demonstration/Validation, will support development of requirements and implementation timeline for a follow-on SRM program. In FY 2015, new efforts related to the Operational Equipment will start under PE 0101213F, Minuteman Squadrons, Project 672987, MM Ops Equip.

This program is Budget Activity 5, System Development and Demonstration (SDD) because it has passed Milestone B approval and is conducting engineering and manufacturing development tasks aimed at meeting validated requirements prior to full-rate production.

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	135.437	145.442	88.651	-	88.651
Current President's Budget	120.375	112.760	-	-	-
Total Adjustments	-15.062	-32.682	-88.651	-	-88.651
• Congressional General Reductions	-0.178	-27.682			
• Congressional Directed Reductions	-	-5.000			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-3.732	-			
• Other Adjustments	-11.152	-	-88.651	-	-88.651

Change Summary Explanation

FY 2013 funding reflects a decrease of $11.152M due to sequestration and a decrease of $0.178M due to Congressional reductions.

FY 2014 reflects a decrease of $32.682M due to Congressional reductions.

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 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604851F / *Intercontinental Ballistic Missile - EMD*

FY 2015 reflects PTR funding elimination in the amount of $17.180M and a reduction in TERP in the amount of $12.963M. Also, funding reflects a transfer of funding from PE 0604851F to PE 0101213F in the amount of $58.508M.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 5	R-1 Program Element (Number/Name) PE 0604851F / *Intercontinental Ballistic Missile - EMD*	Project (Number/Name) 655037 / *Support Equipment*	

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
655037: *Support Equipment*	-	84.784	81.744	-	-	-	0.001	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

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

Note

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.

A. Mission Description and Budget Item Justification

The Support Equipment program designs, develops, and tests replacement of obsolete/non-serviceable weapon system support and flight test equipment. The efforts include design, development, and testing of support equipment such as Electrical-Electronic Equipment Test Sets (EEETS), Reentry Field Support Equipment (RFSE), Code System Media (CSM), Payload Transporter Replacement (PTR), Higher Authority Command/Rapid Message Processing Element (HAC/RMPE) Message Generator, Strategic Targeting Application Computer System (STACS), and Transporter Erector Replacement Program (TERP). In FY15, efforts listed above in PE 0604851F, Intercontinental Ballistic Missile - EMD, Project 655037, Support Equipment will be included in PE 0101213F, Minuteman Squadrons, Project 672985, MM Support Equip. Also in FY15, PTR funding was eliminated pending revalidation of the requirement through an ICBM Transportation Security Study due July 2014. PTR development will continue in FY14.

Efforts also include the design, development, and testing of replacement flight test equipment necessary to conduct Force Development Evaluations (FDEs) and ICBM Fuze Modernization flight tests such as the Instrumentation Wafer Replacement Program (IWRP) and the Signal Conditioner Monitor (SCM) replacement program. FDEs are required by USSTRATCOM and the Department of Energy to determine continuing reliability and effectiveness of the ICBM weapon system. Beginning in FY 2015, IWRP and SCM efforts previously included in PE 0604851F, Intercontinental Ballistic Missile - EMD, Project 655037, Support Equipment will be included in PE 0101213F, Minuteman Squadrons, Project 672984, MM III Baseline Support as one combined program, the MM III Instrumentation Wafer Replacement Program (MMIWRP).

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Electrical-Electronic Equipment Test Set (EEETS)	4.750	-	-
Description: Design and develop the EEETS used for production and pre-launch checkout of Mod 7 Instrumentation Wafer required to conduct flight tests and Force Development Evaluations. The Mod 7 Instrumentation Wafer provides transmission of missile telemetry and reciept of command destruct messages during flight. The program will replace the current unsupportable test set which consists of a non-standard processor, proprietary software, and requires Digital-to-Analog Converter cards no longer available (no suitable substitute).			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0604851F / *Intercontinental Ballistic Missile - EMD*	**Project (Number/Name)** 655037 / *Support Equipment*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
FY 2013 Accomplishments: Completed design, development, fabrication and testing of EEETS. Installed, tested, audited and verified units at flight test and contractor repair facilities. EEETS effort is expected to complete in FY14.			
Title: Reentry Field Support Equipment (RFSE) ***Description:*** Design and develop the RFSE to replace the current reentry system (RS) test set. RFSE will increase the mean time between failure, eliminate unneeded Mk12 functions, and add new Mk21 functions. It will provide capability to meet Department of Energy mandated Limited Life Component warhead swaps and to test electrical continuity during buildup of Minuteman III reentry systems. ***FY 2013 Accomplishments:*** Continued design, development, fabrication and testing of RFSE units. Continued Independent Verification and Validation (IV&V) activities. ***FY 2014 Plans:*** Continue design, development, fabrication and testing of RFSE units. Continue IV&V activities. Conduct Test Readiness Review (TRR) and configuration audits. ***FY 2015 Plans:*** Reflected in PE 0101213F, Minuteman Squadrons, Project 672985, MM Support Equip.	44.923	38.990	-
Title: Code System Media (CSM) ***Description:*** The CSM program supports the replacement of obsolete tape cartridges with more modern and available magnetic media. Segment #1, responsible for providing software to accept National Security Agency (NSA) codes, Operations Plan (OPLAN) changes and software updates on compact disk (CD), has been completed. Segment #2 will provide software and hardware necessary to import all other data on CD and produce Wing Codes Processing System products on CD. Segment #2 will also replace the Cartridge Transfer Unit (CTU) with the Data Transfer Unit (DTU). CSM effectively supports the replacement of aging media required to transport and handle mission essential codes and data throughout the ICBM weapon system. The shelf life of the current stock of DC300 tape cartridges and 9-track tapes expires in 2015. CSM delivers the capability to load codes/software on Minuteman III ICBMs through 2030 and is critical to code change activities. ***FY 2013 Accomplishments:*** Continued design, development, and testing of CSM software. Conducted Segment #2 TRR. Continued Nuclear Surety Cross Check Analysis (NSCCA) activities. Continued design, development and testing of the DTU. ***FY 2014 Plans:***	11.129	11.034	-

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0604851F / *Intercontinental Ballistic Missile - EMD*	**Project (Number/Name)** 655037 / *Support Equipment*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Continue design, development, fabrication and testing of CSM software. Conduct Segment #2 configuration audits. Receive deployment authorization for Segment #2. Continue NSCCA activities. Continue design, development, and testing of DTU. Conduct PDR and CDR for DTU. ***FY 2015 Plans:*** Reflected in PE 0101213F, Minuteman Squadrons, Project 672985, MM Support Equip.			
Title: Payload Transporter Replacement (PTR) ***Description:*** Designs and develops the capabilities necessary to replace the current Payload Transporter (PT) tractor and trailer, mitigating emerging threat technologies and methods. The PT emplaces, extracts, and transports the Minuteman III Reentry System (RS), Propulsion System Rocket Engine (PSRE), and Missile Guidance Set (MGS). The new PT design increases safety and security during transport activities and improves maintenance operations. In FY15, PTR funding was eliminated pending revalidation of the requirement through an ICBM Transportation Security Study due July 2014. PTR development will continue in FY14. ***FY 2013 Accomplishments:*** Continued design, development, fabrication and testing of PTR. Conducted a successful System Functional Review (SFR) and Preliminary Design Review (PDR). ***FY 2014 Plans:*** Continue design, development, fabrication and testing of PTR. Conduct a successful Critical Design Review (CDR). ***FY 2015 Plans:*** In FY15, PTR funding was eliminated pending revalidation of the requirement through an ICBM Transportation Security Study due July 2014.	9.022	10.000	-
Title: Higher Authority Command/Rapid Message Processing Element (HAC/RMPE) Message Generator ***Description:*** Designs and develops the replacement for the Higher Authority Command/Rapid Message Processing Element (HAC/RMPE) Message Generator due to obsolescence and unsupportability for repair. The Message Generator is required to test and maintain the HAC/RMPE capability to receive, process and handle command and emergency action messages for Minuteman III command and control. This program will replace the test support equipment with a modern, sustainable common platform and standard interfaces. ***FY 2013 Accomplishments:***	2.700	1.000	-

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0604851F / *Intercontinental Ballistic Missile - EMD*	**Project (Number/Name)** 655037 / *Support Equipment*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Continued design, development, fabrication and testing of HAC/RMPE Message Generator. Conducted a successful CDR. Completed developmental testing. ***FY 2014 Plans:*** Complete design, development, fabrication and testing of HAC/RMPE Message Generator. Conduct a Test Readiness Review (TRR), Formal Qualification Test (FQT), and a Functional Configuration Audit (FCA). HAC/RMPE Message Generator effort is expected to complete in FY14.			
Title: Strategic Targeting Applications Computer System (STACS) ***Description:*** Design and develop a replacement for the STACS hardware, software and tape cartridge media which are becoming obsolete and unsupportable. STACS will provide new targeting computer equipment and software, and CD media for data import and export. STACS enables USSTRATCOM required OPLAN changes and updates to ICBM missile wings for execution. ***FY 2013 Accomplishments:*** Continued design and development activities. Conducted a successful Systems Requirements Review (SRR) and Technical Interchange Meetings (TIMs). Conducted a successful PDR. ***FY 2014 Plans:*** Continue design and development activities. Conduct a successful CDR and TRR. ***FY 2015 Plans:*** Reflected in PE 0101213F, Minuteman Squadrons, Project 672985, MM Support Equip.	4.300	4.300	-
Title: Transporter Erector Replacement Program (TERP) ***Description:*** Design and develop the capabilities necessary to replace the current transporter erector (TE). The TE is used to emplace, extract and transport Minuteman III boosters to and from the launch facilities. TERP will update existing drawings, specifications and technical orders to eliminate parts obsolescence and address intended usage through 2030 and will qualify the new system prior to production. ***FY 2013 Accomplishments:*** Began design, development, fabrication and testing of replacement TE. Approved Milestone B. Awarded the Engineering and Manufacturing Development (EMD) contract. ***FY 2014 Plans:***	7.960	14.081	-

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0604851F / *Intercontinental Ballistic Missile - EMD*	**Project (Number/Name)** 655037 / *Support Equipment*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Continue design, development, fabrication and testing of replacement TE. Conduct a successful PDR and CDR and begin first article build. ***FY 2015 Plans:*** Reflected in PE 0101213F, Minuteman Squadrons, Project 672985, MM Support Equip.			
Title: Instrumentation Wafer Replacement Program (IWRP) ***Description:*** Design and develop replacement for the Mod 7 Instrumentation Wafer. The instrumentation wafer transmits missile performance telemetry and position data and receives command destruct messages during missile flight tests and evaluations. The IWRP is needed to mitigate the risk of postponing Minuteman III test launches due to parts obsolescence, asset depletion, 30th Space Wing Range Safety requirement deficiencies, and multiple failures of the Mod 7 Instrumentation Wafer System. ***FY 2014 Plans:*** Begin design, development, fabrication and test of the replacement wafer, determine specific Commercial Off-the-Shelf components and begin review of all Range Safety requirements. ***FY 2015 Plans:*** Reflected in PE 0101213F, Minuteman Squadrons, Project 672984, MM III Baseline Support.	-	1.339	-
Title: Signal Conditioner Monitor (SCM) ***Description:*** Design and develop replacements for the Signal Conditioner Monitor (SCM), Missile Discrete Monitor (MDM) and associated cabling required to capture RS performance data during Force Development Evaluation (FDE) and developmental flight tests. The SCMG provides telemetry data on the RS and monitors RS discrete signals for post flight analysis. ***FY 2014 Plans:*** Begin design, development, fabrication and test of SCMG replacement components. ***FY 2015 Plans:*** Reflected in PE 0101213F, Minuteman Squadrons, Project 672984, MM III Baseline Support.	-	1.000	-
Accomplishments/Planned Programs Subtotals	84.784	81.744	-

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: 0101213F: *Minuteman Squadrons*	-	-	139.109	-	139.109	173.067	206.749	235.276	232.633	Continuing	Continuing

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0604851F / *Intercontinental Ballistic Missile - EMD*	**Project (Number/Name)** 655037 / *Support Equipment*

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 # 00099L: *Missile Replacement Equipment - Ballistic*	25.094	38.385	80.187	-	80.187	84.156	47.261	42.543	43.038	Continuing	Continuing

Remarks

Project 6055037, Support Equipment, is related to only a portion of RDT&E and MPAF funding in Other Program Funding Summary.

D. Acquisition Strategy

Support and test equipment replacement efforts are reviewed to determine the best method for execution including vendor qualification and procurement with no development required, develop and/or modification with organic depot capabilities or development with industry. Industry development efforts started before FY13 are predominately executed through the ICBM Prime Integration Contract (IPIC) using Cost Plus Incentive Fee (CPIF) contract addendums. Industry development efforts starting in FY13 will be executed through contracts available under the Future ICBM Acquisition and Sustainment Contstruct (FISAC) or competitive source selections. NSCCA and IV&V efforts are contracted separately under a Cost Plus Award Fee (CPAF) 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 / 5	**R-1 Program Element (Number/Name)** PE 0604851F / *Intercontinental Ballistic Missile - EMD*	**Project (Number/Name)** 655037 / *Support Equipment*

Support Equipment

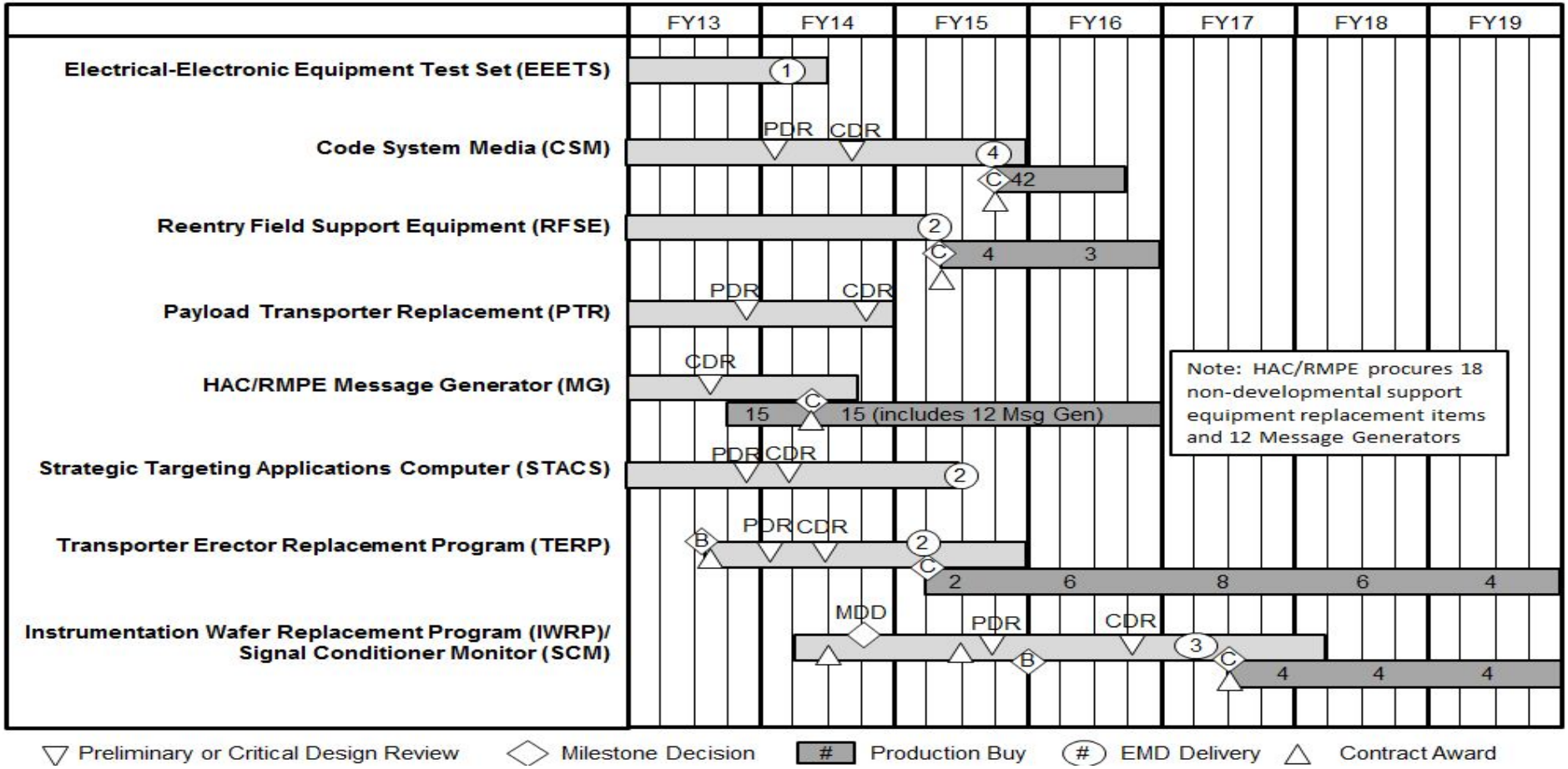

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 5	R-1 Program Element (Number/Name) PE 0604851F / *Intercontinental Ballistic Missile - EMD*	Project (Number/Name) 655081 / *ICBM Crypto*	

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
655081: *ICBM Crypto*	-	28.481	31.016	-	-	-	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

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

Note

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.

A. Mission Description and Budget Item Justification

Intercontinental Ballistic Missile (ICBM) Cryptography Upgrade Increment II (ICU II) executes USSTRATCOM, Air Force Global Strike Command (AFGSC), and Nuclear Weapon Safety Center (NWSC) requirements by implementing the KS-60 capabilities of remote key/code change and irreversible transformation as mandated in the approved Capabilities Development Document (CDD) dated 4 January 2005 and addresses Nuclear Weapon System Safety Group Operational Safety Review (NWSSG OSR) requirements 98-2, 00-1 and 02-2. It also incorporates continuous signal lockout capabilities to prevent the widespread loss of status monitoring. These features will greatly increase security during code changes by reducing the frequency of open sites 75 days annually and will reduce associated resource costs for 450 launch facilities (LF) and 45 launch control centers (LCC).

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: ICBM Crypto Upgrade Increment II (ICU II)	28.481	31.016	-
Description: ICBM Cryptography Upgrade II completes design and development, implements KS-60 remote key/code change, irreversible transformation capabilities, and prevents continuous signal lockout.			
FY 2013 Accomplishments: Continued A4 Drawer hardware development. Conducted a successful A4 Drawer Preliminary Design Review (PDR). Continued development of Operational Ground Program (OGP), Console Operations Program (COP), Wing Code Processing System (WCPS) Minuteman Applications Program (WMAP) and Stategic Air Command Code Processing System (SCPS) Application Program (SAP) software development. Conducted software PDRs and Critical Design Reviews (CDRs). Continued development of trainer modifications. Continued Nuclear Surety Cross Check Analysis/Performance Analysis and Technical Evlaution (NSCCA/ PATE) activities for nuclear surety and safety.			
FY 2014 Plans: Continue A4 Drawer development and conduct Critical Design Review (CDR) and Test Readiness Review (TRR). Begin qualification testing. Continue OGP, COP, WMAP, and SAP software development. Conduct hardware and software			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0604851F / *Intercontinental Ballistic Missile - EMD*	**Project (Number/Name)** 655081 / *ICBM Crypto*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Developmental Test and Evaluation. Continue development of trainer modifications. Complete NSCCA/PATE activities for nuclear surety and safety. ***FY 2015 Plans:*** Reflected in PE 0101213F, Minuteman Squadrons, Project 672986, MM Crypto Mods.			
Accomplishments/Planned Programs Subtotals	28.481	31.016	-

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: BA 07: PE 0101213F: *Mintuteman Squadrons*	-	-	139.109	-	139.109	173.067	206.749	235.276	232.633	Continuing	Continuing
• MPAF: BA 05: Line Item # M30MLG: *Minuteman III Modifications*	48.404	2.586	16.707	-	16.707	51.959	102.872	59.390	61.084	Continuing	Continuing
• MPAF: BA 04: Line Item # 000999: *Initial Spares/Repair Parts*	1.208	-	12.938	-	12.938	-	0.397	7.998	0.199	Continuing	Continuing

Remarks

Project 6055081, ICBM Crypto, is related to only a portion of RDT&E and MPAF funding in Other Program Funding Summary.

D. Acquisition Strategy

The ICBM Cryptography Upgrade (ICU) II Program utilizes the ICBM Prime Integration Contract (IPIC) services of Northrop Grumman (NG), which were competitively awarded, for the design and development of the ICU II capability. The contract type of the ICU II Engineering and Manufacturing Development (EMD) Contract is Cost Plus Incentive Fee. Also, ICU II EMD uses a separate contract for Nuclear Surety Cross Check Analysis/Performance Analysis and Technical Evaluation (NSCCA/PATE) Independent Validation & Verification (IV&V). The contract type is Cost Plus Fixed Fee, awarded to NG Technical Services. This contract is driven by critical nuclear surety requirements to perform an independent assessment of all modifications to nuclear-certified software.

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 / 5	**R-1 Program Element (Number/Name)** PE 0604851F / *Intercontinental Ballistic Missile - EMD*	**Project (Number/Name)** 655081 / *ICBM Crypto*

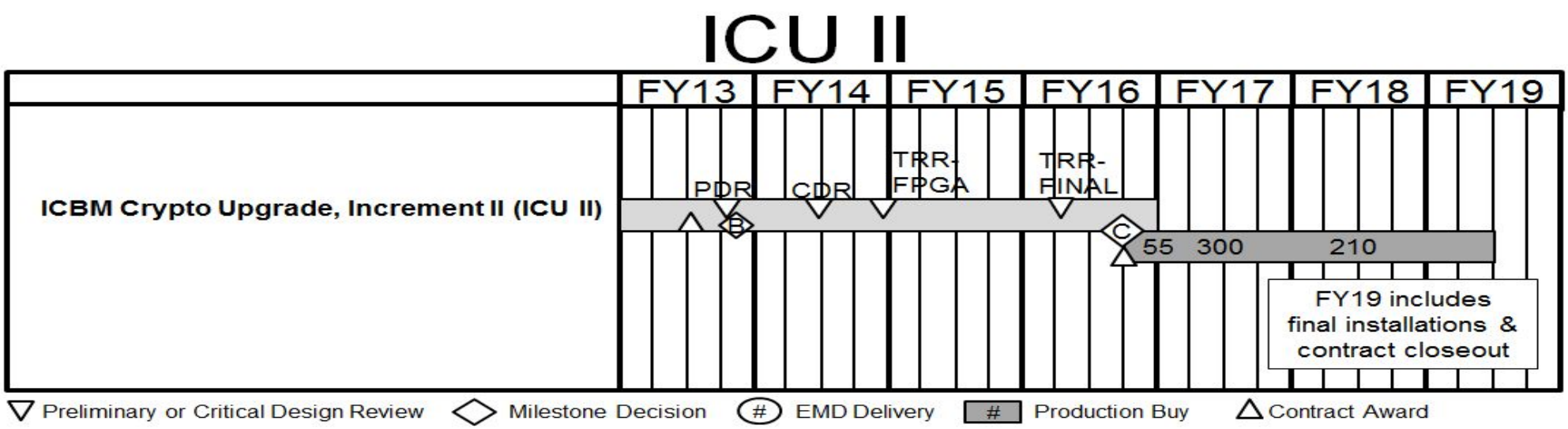

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 5	R-1 Program Element (Number/Name) PE 0604851F / *Intercontinental Ballistic Missile - EMD*	Project (Number/Name) 657010 / *Operational Equipment*	

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
657010: *Operational Equipment*	-	7.110	-	-	-	-	-	-	-	-	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 Operational Equipment program designs, develops, and tests replacement of weapon system equipment. The effort includes the Solid Rocket Motor (SRM) Modernization which will define operational requirements, investigate available technologies and prepare an acquisition strategy for SRM development. This effort, coupled with Propulsion Application Program under PE 0603851F, ICBM Demonstration/Validation, and MM Operational Equipment under PE 0101213F, Minuteman Squadrons, will support development of requirements and implementation timeline for a follow-on SRM program.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Solid Rocket Motor (SRM) Modernization	7.110	-	-
Description: Effort will focus on reducing the total ownership cost of the Minuteman III weapon system by utilizing technologies developed in the Intercontinental Ballistic Missile Propulsion Applications Program to modernize the Minuteman III booster stack to address maintenance and obsolescence issues realized in the legacy system. ***FY 2013 Accomplishments:*** Accomplished studies to investigate the application of new technologies into the Minuteman III booster stack. Evaluated current Minuteman III solid rocket motor requirements and update as required based on legacy system issues and availability of mature technology that will reduce total ownership costs.			
Accomplishments/Planned Programs Subtotals	7.110	-	-

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: BA04: PE 0603851F: *ICBM - Dem/Val*	63.153	72.696	30.885	-	30.885	18.029	16.237	9.916	9.889	Continuing	Continuing
• RDTE: BA07: PE 0101213F: *Minuteman Squadrons*	-	-	139.109	-	139.109	173.067	206.749	235.276	232.633	Continuing	Continuing

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0604851F / *Intercontinental Ballistic Missile - EMD*	**Project (Number/Name)** 657010 / *Operational Equipment*

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

Project 657010, Operational Equipment, is related to only a portion of PE 0603851F, ICBM - Dem/Val and PE 0101213F, Minuteman Squadrons in Other Program Funding Summary.

D. Acquisition Strategy

SRM Modernization will conduct pre-acquisition efforts in conjunction with ongoing ICBM Demonstration/Validation Propulsion Application Program efforts maturing SRM technologies. As these efforts are conducted and results from SRM aging and surveillance activities and Ground Based Strategic Deterrent (GBSD) Analysis of Alternatives become available, a follow-on SRM Modernization strategy will be established.

FY13 SRM Modernization funding will be disbursed using two contract vehicles. The first contract will utilize Hill AFB's Design Engineering Support Program (DESP III). This will be a competitive source selection, Indefinite Delivery, Indefinite Quantity (ID/IQ), Cost Plus Fixed Fee (CPFF) contract. The second effort will use the existing Space and Missile Systems Center (SMC) GSA contract which is a Firm Fixed Price (FFP) 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 / 5	**R-1 Program Element (Number/Name)** PE 0604851F / *Intercontinental Ballistic Missile - EMD*	**Project (Number/Name)** 657010 / *Operational Equipment*

Operational Equipment

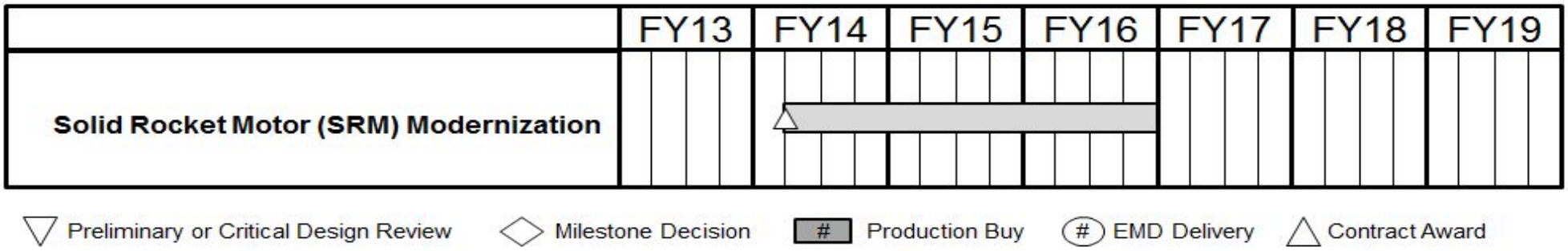

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force												Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0604853F / *Evolved Expendable Launch Vehicle Program (SPACE) - EMD*							
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	1,583.113	29.949	24.938	-	-	-	-	-	-	-	-	1,638.000
650004: *Evolved Expendable Launch Vehicle*	1,583.113	29.949	24.938	-	-	-	-	-	-	-	-	1,638.000
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		
MDAP/MAIS Code: 176												

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

Note

In FY 2014, 650004, Evolved Expendable Launch Vehicle, was completed.

A. Mission Description and Budget Item Justification

Evolved Expendable Launch Vehicle (EELV) is a Major Defense Acquisition Program (MDAP) Acquisition Category (ACAT) 1D program that procures launch services to deliver National Security Space (NSS) space vehicles (SVs) on orbit.

The program is completing research and developmental items including new entrant certification and studies, current RL10 and common upper stage development and integration; secondary payload adaptor standard service, and special studies (to include but not limited to upper stage manufacturability, alternative manufacturing process, and affordable upper stage engine studies, and other related support activities).

This program is in Budget Activity 5, System Development and Demonstration (SDD) because it has passed Milestone B approval and is conducting engineering and manufacturing development tasks aimed at meeting validated requirements prior to full-rate production.

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 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604853F / *Evolved Expendable Launch Vehicle Program (SPACE) - EMD*

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	7.980	27.963	35.000	-	35.000
Current President's Budget	29.949	24.938	-	-	-
Total Adjustments	21.969	-3.025	-35.000	-	-35.000
• Congressional General Reductions	-0.044	-0.025			
• Congressional Directed Reductions	-	-3.000			
• Congressional Rescissions	-	-			
• Congressional Adds	25.000	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.219	-			
• Other Adjustments	-2.768	-	-35.000	-	-35.000

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2013	FY 2014
Project: 650004: *Evolved Expendable Launch Vehicle*		
Congressional Add: *RL10 upgrade*	22.188	-
Congressional Add Subtotals for Project: 650004	22.188	-
Congressional Add Totals for all Projects	22.188	-

Change Summary Explanation

FY13: -$2.768M sequester reduction shown in other adjustments.
FY14: -$3M congressional directed reduction to hold support costs to fiscal year 2013 level.
FY15: GPS III Dual Launch capability development cancelled.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: EELV Pre-planned product improvement (P3I) and Special Studies	7.761	4.938	-
Description: Funded EELV product improvements, replacement components, system enhancements, and special studies to allow EELV to meet National Launch Forecast requirements through 2030.			
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 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604853F / *Evolved Expendable Launch Vehicle Program (SPACE) - EMD*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Continued development of secondary payload standard service and GPS metric tracking system to include last flight certification. Continued P3I efforts, to include, but not limited to, development of replacement components, common upper stage engine, and conducted special studies. ***FY 2014 Plans:*** Continue P3I efforts to include, but not limited to, the advancement of secondary payload standard service. Conduct special studies to include, but not limited to, upper stage manufacturability and alternative manufacturing process. ***FY 2015 Plans:*** N/A			
Title: P3I - Dual Launch Capability Development ***Description:*** The specific P3I effort for GPS III dual launch capability development and subsequent qualification to launch 2 GPS satellites on a single launch vehicle. This effort is the launch vehicle unique development and modification effort. ***FY 2014 Plans:*** Conduct dual launch development activities to include key components to include communication hardware, launch vehicle infrastructure, and adaptor equipment. ***FY 2015 Plans:*** N/A	-	20.000	-
Accomplishments/Planned Programs Subtotals	7.761	24.938	-

	FY 2013	FY 2014
Congressional Add: RL10 upgrade ***FY 2013 Accomplishments:*** Complete development and qualification of RL10C upper stage engine conversion program. ***FY 2014 Plans:*** Complete upper stage engine integration.	22.188	-
Congressional Adds Subtotals	22.188	-

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 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604853F / *Evolved Expendable Launch Vehicle Program (SPACE) - EMD*

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 # 23: *Evolved Expendable Launch Veh (Space)*	802.399	807.991	630.903	-	630.903	686.011	849.988	849.771	1,306.251	12,889.935	28,208.292
• MPAF: BA05: Line Item #22: *Evolved Expendable Launch Veh (Infrast.)*	631.551	559.413	750.143	-	750.143	739.424	777.579	763.395	515.875	11,235.814	16,012.464

Remarks

E. Acquisition Strategy

The Air Force structured EELV with a new cost savings acquisition strategy that stabilizes the industrial base through a quantity and rate commitment to the current provider, provides predictability to maintain mission success, and enables on ramps for other launch vehicle companies referred to as New Entrants. The Air Force, National Reconnaissance Office (NRO), and the National Aeronautics and Space Administration (NASA) agreed to a coordinated strategy for certification of New Entrants to launch payloads in support of NSS requirements. If competition is not viable at the time of need, missions will be awarded to the incumbent.

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 / 5	R-1 Program Element (Number/Name) PE 0604853F / *Evolved Expendable Launch Vehicle Program (SPACE) - EMD*	Project (Number/Name) 650004 / *Evolved Expendable Launch Vehicle*	

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
Delta IV development	C/FFP	Boeing : Huntington Beach, CA	710.182	-		-		-		-		-	-	710.182	-
Atlas V development	C/FFP	Lockheed Martin : Denver, CO	583.511	-		-		-		-		-	-	583.511	-
United Launch Alliance (ULA) Development	SS/CPIF	United Launch Services : Denver, CO	146.829	27.988	Oct 2012	22.967	Oct 2013	-		-		-	-	197.784	TBD
		Subtotal	1,440.522	27.988		22.967		-		-		-	-	1,491.477	-

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
SPO Range Mission Spt	Various	Space and Missile Center : Los Angeles AFB, CA	43.617	-		-		-		-		-	-	43.617	-
FFRDC Mission Assurance	SS/CPAF	Aerospace : El Segundo, CA	75.812	0.800	Oct 2012	0.780	Oct 2013	-		-		-	-	77.392	-
Special studies	Various	Various : ,	0.421	1.145	Mar 2013	1.151	Oct 2013	-		-		-	-	2.717	-
		Subtotal	119.850	1.945		1.931		-		-		-	-	123.726	-

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	-	-		-		-		-		-	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 5	R-1 Program Element (Number/Name) PE 0604853F / *Evolved Expendable Launch Vehicle Program (SPACE) - EMD*	Project (Number/Name) 650004 / *Evolved Expendable Launch Vehicle*	

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
Other Cntr Spt (PMA)	Various	Various : Various,	22.741	0.016	Oct 2012	0.040	Oct 2013	-		-		-	-	22.797	-
		Subtotal	22.741	0.016		0.040		-		-		-	-	22.797	-

	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	1,583.113	29.949		24.938		-		-		-	-	1,638.000	-

Remarks

N/A

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0604853F / *Evolved Expendable Launch Vehicle Program (SPACE) - EMD*	**Project (Number/Name)** 650004 / *Evolved Expendable Launch Vehicle*

EELV FY15 PB Schedule

U.S. AIR FORCE

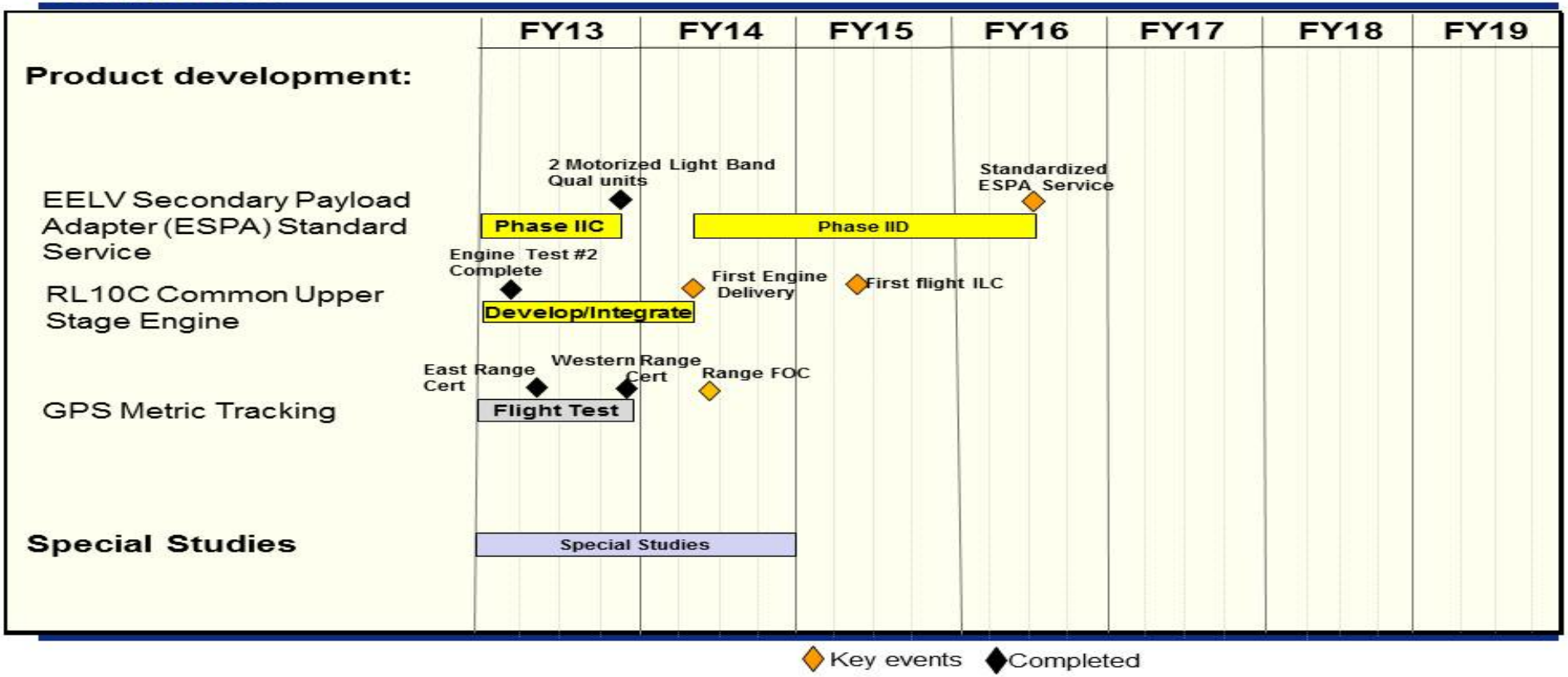

Exhibit R-4A, RDT&E Schedule Details: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0604853F / *Evolved Expendable Launch Vehicle Program (SPACE) - EMD*	**Project (Number/Name)** 650004 / *Evolved Expendable Launch Vehicle*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
EPSA Phase IIC	1	2013	4	2013
ESPA Phase IID	2	2014	3	2016
RL10C Engine Test #2	1	2013	2	2013
RL10C First Engine Delivery	4	2013	2	2014
GPS MT Certification Flights	1	2013	4	2013
GPS MT Eastern and Western Range Full Operational Capability	2	2013	2	2014
Special Studies (SS) Upper Stage Engine Risk Reduction	2	2013	4	2014

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 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0604932F / *Long Range Standoff Weapon*							
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	1.836	5.000	4.938	-	4.938	9.886	19.802	40.656	144.947	Continuing	Continuing
657011: *LONG RANGE STAND-OFF*	0.000	1.836	5.000	4.938	-	4.938	9.886	19.802	40.656	144.947	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		
MDAP/MAIS Code: 489												

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

Note

In FY15, the LRSO program was delayed three years for higher Air Force priorities.

A. Mission Description and Budget Item Justification

The Long Range Stand Off (LRSO) effort will develop a weapon system to replace the Air Force's Air Launched Cruise Missile (ALCM), operational since 1986. The LRSO weapon system will be capable of penetrating and surviving advanced Integrated Air Defense Systems (IADS) from significant stand off range to prosecute strategic targets in support of the Air Force's global attack capability and strategic deterrence core function. LRSO FY14 and FY15 funding supports program office standup, Milestone A activities, preparation for the Request For Proposal (RFP) release, and source selection activities.

This program is in Budget Activity 5, System Development and Demonstration (SDD), because it is conducting engineering and manufacturing development tasks aimed at meeting validated requirements prior to full-rate production.

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	2.004	5.000	40.500	-	40.500
Current President's Budget	1.836	5.000	4.938	-	4.938
Total Adjustments	-0.168	-	-35.562	-	-35.562
• Congressional General Reductions	-0.003	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-0.165	-	-35.562	-	-35.562

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 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604932F / *Long Range Standoff Weapon*

Change Summary Explanation

FY13: Other Adjustments, -$.165 due to Sequestration.

FY15: Other Adjustments, -$35.562M due to LRSO program delay for higher Air Force priorities.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Materiel Solution Analysis (MSA)(LRSO)	1.836	5.000	4.938
Description: Conduct LRSO pre-Milestone A activities. ***FY 2013 Accomplishments:*** Completed LRSO Analysis of Alternatives (AoA). Activities conducted include concept refinement, technology analyses, modeling and simulation support, engineering studies, program cost and schedule estimation, acquisition strategy refinement, risk reduction efforts, initial requirements definition, Milestone A (MS A) preparation to include development of MSA exit/Technology Maturation & Risk Reduction (TMRR) entrance documentation. System engineering & business management support to distributed program office (Air Force Nuclear Weapons Center (AFNWC) and Air Force Life Cycle Management Center(AFLCMC) Armament Directorate (AFLCMC/EB)). ***FY 2014 Plans:*** Continue LRSO MS A preparation. Activities include: Pre-TMRR activities with industry (concept refinement and technology analyses), modeling and simulation support, engineering studies, program cost and schedule estimation, acquisition strategy refinement, risk reduction efforts, initial requirements definition, develop MSA exit/Technology Maturation and Risk Reduction entrance documentation. ***FY 2015 Plans:*** Continue LRSO MS A preparation. Activities include: concept refinement, technology analyses, modeling and simulation support, engineering studies, program cost and schedule estimation, acquisition strategy refinement, risk reduction efforts, initial requirements definition, develop MS A exit/TMMR entrance documentation.			
Accomplishments/Planned Programs Subtotals	1.836	5.000	4.938

D. Other Program Funding Summary ($ in Millions)

N/A

Remarks

E. Acquisition Strategy

LRSO acquisition/contract strategy continues to be refined to support a Milestone A Defense Acquisition Board (DAB).

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 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604932F / *Long Range Standoff Weapon*

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 / 5	R-1 Program Element (Number/Name) PE 0604932F / *Long Range Standoff Weapon*	Project (Number/Name) 657011 / *LONG RANGE STAND-OFF*	

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
		Subtotal	-	-		-		-		-		-	-	-	-

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
Material Solution Analysis Support	Various	Various : ,	0.000	1.526	Jan 2013	0.250	Jan 2014	0.250	Jan 2015	-		0.250	Continuing	Continuing	TBD
		Subtotal	0.000	1.526		0.250		0.250		-		0.250	-	-	-

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 Managment Administration	Various	Various : ,	0.000	0.310	Oct 2012	4.750	Oct 2013	4.688	Oct 2014	-		4.688	Continuing	Continuing	TBD
		Subtotal	0.000	0.310		4.750		4.688		-		4.688	-	-	-

	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	1.836		5.000		4.938		-		4.938	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0604932F / *Long Range Standoff Weapon*	**Project (Number/Name)** 657011 / *LONG RANGE STAND-OFF*

Long Range Stand-Off

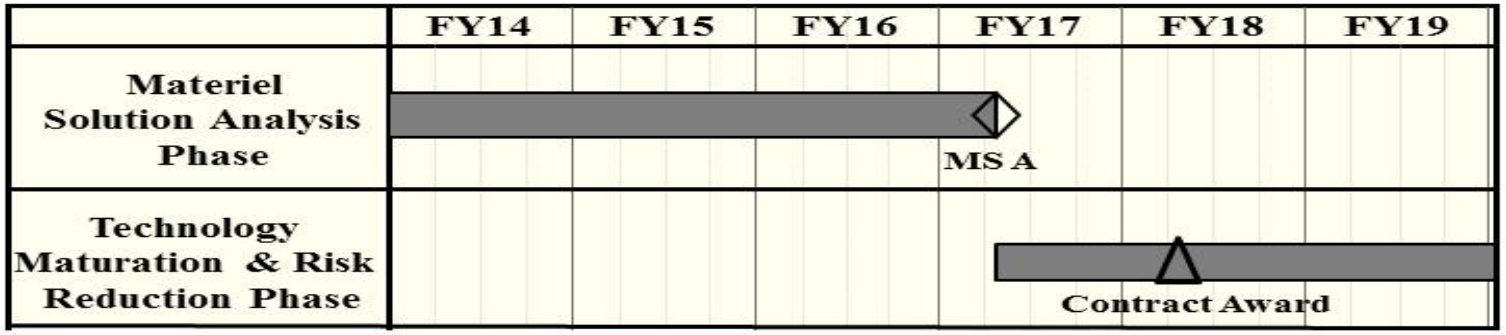

Exhibit R-4A, RDT&E Schedule Details: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0604932F / *Long Range Standoff Weapon*	**Project (Number/Name)** 657011 / *LONG RANGE STAND-OFF*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Materiel Solution Analysis Phase	1	2013	2	2017
Milestone A Decision	2	2017	2	2017
Technology Maturation and Risk Reduction Phase	2	2017	4	2019
Technology Maturation and Risk Reduction Contract Award	2	2018	2	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 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0604933F / *ICBM Fuze 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**
Total Program Element	49.457	65.370	118.411	59.826	-	59.826	88.473	124.882	196.040	223.436	266.905	1,192.800
655082: *ICBM FUZE SUPPORT*	49.457	65.370	118.411	59.826	-	59.826	88.473	124.882	196.040	223.436	266.905	1,192.800
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 ICBM Fuze program replaces the Mk21 (W87) fuze. The Mk21 replacement project scope includes the design and development of a form, fit, function replacement fuze associated with the legacy W87 warhead. The legacy Mk21 fuze is three times past its design life and ongoing Mk21 refurbishment does not meet Nuclear Weapon Stockpile Plan requirements.

The United States Air Force (USAF) will develop the Mk21 fuze in cooperation with the National Nuclear Security Administration (NNSA), US Navy (USN) and United Kingdom. The ICBM Fuze program will leverage technologies, parts, components and development/production capabilities resulting from extensive fuze work performed by the USN and NNSA. The ICBM Fuze program will also develop associated Minuteman III weapon system modifications, support equipment, data, flight test hardware, and training. It will also conduct required system testing (including ground and flight tests) and fielding efforts. The program coordinates USAF Mk21 Fuze replacement development efforts to synchronize USAF arming and fuzing and Department of Energy (DOE) warhead requirements. When prudent, the ICBM Fuze Modernization program will conduct trade studies and initiate conceptual designs to address operational system issues and meet future requirements.

As a cooperative USAF, USN and NNSA weapon sustainment acquisition, the USAF will implement joint Department of Defense (DoD)-DOE Nuclear Weapons Life Cycle Activities. The ICBM Fuze Modernization program will be tailored to use joint DoD-DOE phase 6.X processes for routine nuclear stockpile activities to align with USN and NNSA operations.

In FY15, the ICBM Fuze Modernization program was rebaselined due to fiscal constraints. The Mk21 (W87) Fuze Replacement design and development efforts were extended to shift the First Production Unit (FPU) delivery from FY19 to FY22. In addition, previous plans to integrate and test the Mk21 fuze replacement with the NNSA W78/88-1 Life Extension Program (LEP) warhead have been deferred beyond the Future Years Defense Plan (FYDP).

This program is in Budget Activity 5, System Development and Demonstration (SDD) because it has passed Milestone B equivalent approval and is conducting engineering and manufacturing development tasks aimed at meeting validated requirements prior to full-rate production.

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 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604933F / *ICBM Fuze Modernization*

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	73.512	129.411	214.836	-	214.836
Current President's Budget	65.370	118.411	59.826	-	59.826
Total Adjustments	-8.142	-11.000	-155.010	-	-155.010
• Congressional General Reductions	-0.098	-11.000			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-2.005	-			
• Other Adjustments	-6.039	-	-155.010	-	-155.010

Change Summary Explanation

FY 2013 funding reflects a decrease of $0.098M due to Congressional reductions, $2.005M due to SBIR transfer, and a decrease of $6.039M due to sequestration.

FY 2014 funding reflects a decrease of $11.000M due to Congressional reductions.

FY 2015 funding reflects a decrease of $155.010 due to program restructure delaying Mk21 replacement fuze FPU to FY22 consistent with related NNSA and USN efforts, and deferring the NNSA W78/88-1 LEP warhead beyond the FYDP.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Fuze Design and Development	42.588	83.189	48.694
Description: Design and develop the Mk21 fuze required to support the W87 warhead on the MM III weapon system. Coordinate design and development efforts with MM III weapon system integrator and support flight testing.			
FY 2013 Accomplishments: Continued conceptual design development of common parts, components, and technology for Mk21 fuze application and planned for design reuse applicable to the fuze for the W78/88-1 Life Extension Program. Analyzed and assessed customer requirements for the Mk21 replacement fuze. Conducted trades of nuclear surety themes as directed by National Security Presidential Directives (NSPD)-28. Provided development components, hardware and software for assessment. Developed and produced ground test integration test beds. Supported integration and flight test planning.			
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 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604933F / *ICBM Fuze Modernization*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Mature development of common parts, components, and technology for application to Mk21 replacement fuze. Implement nuclear surety themes informed by trades as directed by NSPD-28. Support integration and flight test planning. Conduct trade studies and initiate conceptual designs to address operational system issues and meet future requirements. ***FY 2015 Plans:*** Continue to mature development of common parts, components, and technology for application to Mk21 replacement fuze. Continue component conceptual design development of common and unique parts. Continue to perform the required systems engineering tasks associated with fuze design, development, test, and the required documentation. Implement nuclear surety themes informed by trades as directed by NSPD-28. Support integration and flight test planning. Conduct trade studies and initiate conceptual designs to address operational system issues and meet future requirements.			
Title: Weapon System Integration ***Description:*** Design and develop MM III weapon system modifications to support Mk21 fuze and warhead designs. Integrate Mk21 fuze and warhead designs and the MM III weapon system. Validate designs through ground test and integration test beds. Plan and conduct necessary ground and flight testing. Coordinate design, development and flight test efforts with fuze developer. ***FY 2013 Accomplishments:*** Finalized conceptual designs for MM III weapon system hardware and software modifications to support Mk21 replacement fuze and application of this fuze to the W78/88-1 LEP program. Assessed MM III weapon system modification requirements to support the Mk21 replacement fuze and W78/88-1 LEP warhead. Coordinated activities in preparation for integration and future flight testing of fuzes and related weapon system modifications. ***FY 2014 Plans:*** Continue developing MM III weapon system hardware and software modifications to support Mk21 replacement fuze designs. Create a flight test plan for fuze related developmental hardware including extended range tests. ***FY 2015 Plans:*** Continue to provide Systems Engineering, Integration, and Management expertise in support of USAF and Sandia National Lab (SNL) development of the Mk21 replacement fuze.	14.481	20.638	9.011
Title: Systems Engineering ***Description:*** Provide Systems Engineering/Technical Assistance (SETA), support and training to the ICBM Fuze Modernization program in performing development, integration, sustaining engineering, and program management. ***FY 2013 Accomplishments:***	3.458	4.087	2.121

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 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604933F / *ICBM Fuze Modernization*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Provided engineering analyses and support services to ICBM Fuze Modernization program working groups, including systems engineering and integration, requirements, test and evaluation, and planning and assessment support. ***FY 2014 Plans:*** Provide engineering analyses and support services to ICBM Fuze Modernization program working groups, including systems engineering and integration, requirements, test and evaluation, and planning and assessment support. ***FY 2015 Plans:*** Provide engineering analyses and support services to ICBM Fuze Modernization program working groups, including systems engineering and integration, requirements, test and evaluation, and planning and assessment support.			
Title: Lead Project Office (AFNWC) ***Description:*** Coordinate USAF ICBM Fuze Modernization program efforts with NNSA W78/88-1 LEP developmental efforts. Synchronize USAF arming and fuzing and DOE warhead requirements. Study and assess weapon system cost, schedule and performance impacts. ***FY 2013 Accomplishments:*** Continued to evaluate performance requirements, physical characteristics, logistical and operational concepts and physical environments. Continued to develop common Military Characteristics and Stockpile-to-Target Sequence requirements. Continued to develop and validate modeling and simulation and support developmental planning. Continued to develop engineering design models and examined nuclear surety themes as directed by NSPD-28. Conducted Mk21 Conceptual Design Review and Integrated Baseline Review. Prepared for W78/88-1 LEP Customer Requirements Review. ***FY 2014 Plans:*** Continue to evaluate performance requirements, physical characteristics, logistical and operational concepts and physical environments. Continue to develop common Military Characteristics and Stockpile-to-Target Sequence requirements. Continue to develop and validate modeling and simulation and support developmental planning. Continue to develop engineering design models and examine nuclear surety themes as directed by NSPD-28. Support Mk21 Conceptual Design Review and Sandia Baseline Review. The Sandia Baseline Review will serve as the tailored 6.X process for an Integrated Baseline Review. Conduct W78/88-1 LEP Customer Requirements Review. ***FY 2015 Plans:*** This effort has been discontinued as a result of the deferral of the W78/88-1 LEP effort beyond the FYDP.	4.843	10.497	-
Accomplishments/Planned Programs Subtotals	65.370	118.411	59.826

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 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604933F / *ICBM Fuze Modernization*

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 # M30MLG: *Minuteman III Modifications*	-	-	4.700	-	4.700	6.800	4.300	6.900	13.847	695.353	731.900

Remarks

Other Program Funding Summary reflects equipment buys in FY15-19 will address Diminishing Manufacturing Sources and Material Shortages (DMSMS) that will enable the ICBM Fuze Modernization program to continue leveraging from the Navy's design, development and production activities.

E. Acquisition Strategy

The Mk21 fuze will be modernized in a collaborative effort with the US Navy Mk5 fuze reducing total program cost and development time by leveraging potential compatibility and commonality of ICBM and Submarine Launched Ballistic Missile warheads and fuze components. The US Navy Mk5 fuze will be developed first, followed by Mk21. The US Navy Mk5 fuze entered Phase 6.3 Development Engineering in Aug 2012. USAF Mk21 fuze entered Phase 6.3 in Aug 2013. Both Services participate in all design and development efforts to ensure use of adaptable components, subassemblies and technology. Both services will use NNSA/SNL to perform fuze design and development. The USAF will separately compete and contract for MM III unique missile modification and fuze integration efforts utilizing a combination of the Integration Support Contract (ISC) for SETA and the Reentry System/Reentry Vehicle Integration Contract for weapons system integration. Both services will use Kansas City Production Plant (KCPP) to perform production and sustainment.

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 / 5	R-1 Program Element (Number/Name) PE 0604933F / *ICBM Fuze Modernization*	Project (Number/Name) 655082 / *ICBM FUZE SUPPORT*	

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
Preliminary Design Development	MIPR	Sandia National Labs : Albuquerque, NM	23.660	38.112	Nov 2012	56.583	Nov 2013	29.855	Nov 2014	-		29.855	-	148.210	TBD
EMD	Various	Various : ,	0.000	2.006	Dec 2012	24.250	Dec 2013	16.076	Nov 2014	-		16.076	691.767	734.099	TBD
Weapon System Integration - ICBM Prime	C/CPAF	Northrop Grumman : Clearfield, UT	1.250	13.641	Nov 2012	18.054	Nov 2013	-		-		-	-	32.945	-
Weapon System Integration - RS/RV SSC	C/TBD	TBD : ,	0.000	-		2.000	Sep 2014	8.500	Nov 2014	-		8.500	111.274	121.774	TBD
		Subtotal	24.910	53.759		100.887		54.431		-		54.431	803.041	1,037.028	-

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
Integration Support - BAH	C/FP	Booz Allen Hamilton : Salt Lake City, UT	16.803	3.257	Nov 2012	-		-		-		-	-	20.060	TBD
Integration Support - BAE	C/CPAF	BAE : Clearfield, UT	0.000	-		3.971	Nov 2013	2.000	Nov 2014	-		2.000	17.969	23.940	TBD
		Subtotal	16.803	3.257		3.971		2.000		-		2.000	17.969	44.000	-

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
Lead Project Office Support	MIPR	NNSA : Albuquerque, NM	1.870	4.407	Nov 2012	9.460	Nov 2013	-		-		-	-	15.737	-
Finite Element Model Validation	C/CPFF	Little Mountain : , UT	0.620	0.155	Nov 2012	0.740	Nov 2013	-		-		-	-	1.515	-
		Subtotal	2.490	4.562		10.200		-		-		-	-	17.252	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 5	R-1 Program Element (Number/Name) PE 0604933F / *ICBM Fuze Modernization*	Project (Number/Name) 655082 / *ICBM FUZE 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
Cost and Financial Management	C/FFP	Tecolote : Salt Lake City, UT	1.000	0.350	Nov 2012	0.350	Nov 2013	0.395	Nov 2014	-		0.395	11.809	13.904	TBD
Program Management Administration	Various	Various : Various, UT	4.254	3.442	Dec 2012	3.003	Nov 2013	3.000	Nov 2014	-		3.000	66.917	80.616	TBD
		Subtotal	5.254	3.792		3.353		3.395		-		3.395	78.726	94.520	-

	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	49.457	65.370		118.411		59.826		-		59.826	899.736	1,192.800	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0604933F / *ICBM Fuze Modernization*	**Project (Number/Name)** 655082 / *ICBM FUZE SUPPORT*

ICBM Fuze Modernization

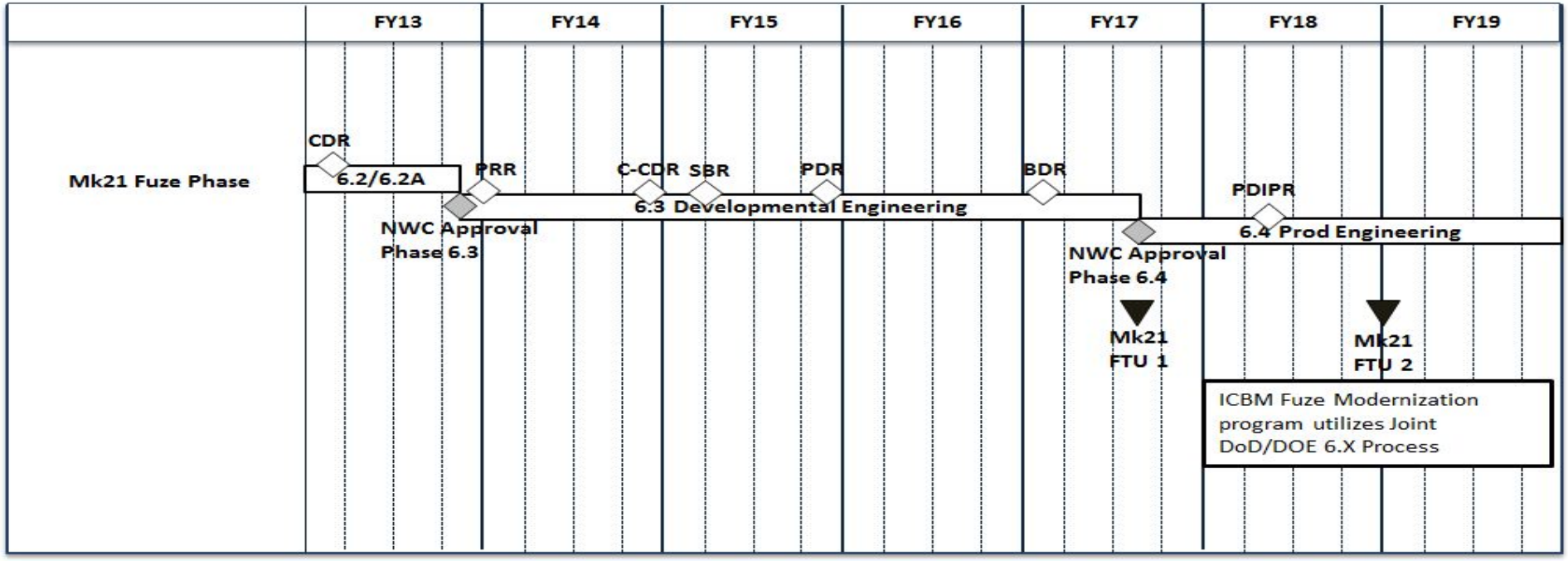

Exhibit R-4A, RDT&E Schedule Details: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0604933F / *ICBM Fuze Modernization*	**Project (Number/Name)** 655082 / *ICBM FUZE SUPPORT*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Conceptual Design Review	1	2013	1	2013
Nuclear Weapons Council 6.3 Entry Approval	4	2013	4	2013
Developmental Engineering	4	2013	3	2017
Performance Requirements Review	1	2014	1	2014
Component Conceptual Design Review	4	2014	4	2014
Sandia Baseline Review	2	2015	2	2015
Prototype Design Review	4	2015	4	2015
Baseline Design Review	1	2017	1	2017
Nuclear Weapons Council 6.4 Entry Approval	3	2017	3	2017
Production Engineering	3	2017	4	2019
Flight Test Unit 1	3	2017	3	2017
Preliminary DoD Independent Peer Review	2	2018	2	2018
Flight Test Unit 2	1	2019	1	2019

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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 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0605030F / *Joint Tactical Network Center (JTNC)*							
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	-	-	-	0.078	-	0.078	22.091	22.035	22.465	22.893	Continuing	Continuing
655068: *Joint Tactical Radio System (JTRS)*	-	-	-	0.078	-	0.078	22.091	22.035	22.465	22.893	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

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

Note

In FY2015, 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.

A. Mission Description and Budget Item Justification

Funding prior to FY15 was located in PE 0604280F. The JTRS development program is a joint program managed through the Navy's PEO for Joint Tactical Networks (PEO JTN). The JTN was formed upon the descoping of the Joint Tactical Radio System development program (PE 0604280F). JTN will provide interoperable, secure Joint Tactical Networking applications capable of operating in a variety of radio solutions to maintain and sustain an affordable, government-controlled open architecture, in support of Combatant Commanders', Services' and Coalition mission network requirements. JTN is responsible for the continuous development, delivery, and maintenance of networking waveforms and modified legacy radio waveforms that are Software Communications Architecture (SCA) compliant. SCA compliant waveforms enable interoperability and support Net-Centric operational warfare at sea, in the air and on the ground. Networking waveforms extend the Global Information Grid (GIG) to the first tactical mile and to the warfighter.

The JTN team is responsible for (1) the overall management and oversight of the Waveforms contained in the JTN repository; (2) development, validation, and evolution of a common JTN SCA; (3) development and evolution of waveform software applications for tactical radios; (4) development of software cryptographic algorithms and equipment applications (Information Assurance); (5) development and evolution of the JTN networking and network management software components, Joint Enterprise Network Manager (JENM); (6) testing and certification of JTN waveforms, network services, and network management; and, (7) full lifecycle support of waveforms and networking applications in order to maintain a robust industry base of radio vendors.

The individual services provide 1/3 each of funding to support activities of the JTN.

This program is in Budget Activity 5, System Development and Demonstration (SDD), currently it has passed Milestone B approval and is conducting engineering and manufacturing development tasks aimed at meeting validated requirements prior to full-rate production.

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 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0605030F / *Joint Tactical Network Center (JTNC)*

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	-	-	20.088	-	20.088
Current President's Budget	-	-	0.078	-	0.078
Total Adjustments	-	-	-20.010	-	-20.010
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-	-	-20.010	-	-20.010

Change Summary Explanation

The JTRS development program is a joint program managed through the JTRS JPEO. Each of the joint services, including the Air Force, transfers its funding to the Navy's budget under Joint Tactical Radio System Program (PE 0604280N, BA 5). This annual transfer of funds to the Navy PE is the cause of the seemingly drastic change from current to future fiscal years. The reduction in funding in RDT&E prediction is based upon the anticipated maturation of program development.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: JTRS	-	-	0.078
Description: Funding prior to FY15 was located in PE 0604280F. FY15 funding provided by the Air Force ($78K) will be used to support activities of the Joint Tactical Networking Center (JTNC). ***FY 2013 Accomplishments:*** Funding prior to FY15 located in PE 0604280F ***FY 2014 Plans:*** Funding prior to FY15 located in PE 0604280F ***FY 2015 Plans:*** Funding prior to FY15 was located in PE 0604280F. FY15 funding provided by the Air Force ($78K) will be used to support activities of the Joint Tactical Networking Center (JTNC).			
Accomplishments/Planned Programs Subtotals	-	-	0.078

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 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0605030F / *Joint Tactical Network Center (JTNC)*

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: *Advanced Communications Systems - JTRS*	53.664	11.563	-	-	-	39.781	27.571	27.986	26.427	Continuing	Continuing
• APAF: BP11:OTHACF: *Advanced Communications Systems - JTRS*	11.624	3.290	4.502	-	4.502	-	-	-	-	-	-

Remarks

E. Acquisition Strategy

The JTRS Budget Item Justification is located in the Navy's FY 2015 President's Budget under Joint Tactical Radio System Program (PE 0605030N, BA 5). The JTRS development program is a joint program managed through the Navy's PEO for Joint Tactical Networks (PEO JTN). The JTN was formed upon the descoping of the Joint Tactical Radio System development program (PE 0604280F).

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.

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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 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0605213F / *F-22 Modernization Increment 3.2B*							
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	110.432	115.000	173.647	-	173.647	141.575	73.042	1.411	1.438	24.751	641.296
654785: *F-22 INCREMENT 3.2B*	0.000	110.432	115.000	173.647	-	173.647	141.575	73.042	1.411	1.438	24.751	641.296
Quantity of RDT&E Articles	9.000	-	-	-	-	-	-	-	-	-		
MDAP/MAIS Code: 474												

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

Note

Totals include funding for PRCP Program Number, 474 F-22 Increment 3.2B.

In FY13, a separate Program Element (0605213F) was created for Increment 3.2B FY13 milestone B and beyond efforts, to provide Congress and Office of Secretary of Defense (OSD) greater technical and funding visibility into the program. All increment 3.2B efforts and associated funding prior to FY13 are included in the F-22A Squadrons (0207138F) budget documentation.

A. Mission Description and Budget Item Justification

Increment 3.2B will integrate the newest air-to-air intercept missiles (i.e., AIM-9X and AIM-120D), further improve the Electronic Protection (EP) capability over Increment 3.2A, and enhance the F-22s geolocation capability from the Increment 3.1 baseline with the addition of the Geolocation 2 candidate. Increment 3.2B will include the Enhanced Stores Management System (ESMS), as well as, Common Weapon Engagement Zone (Common WEZ), an Intra-Flight Datalink (IFDL) improvement to increase IFDL bandwidth and enable cooperative functions required to realize Increment 3.2B candidates.

In addition to the aforementioned hardware modifications and integration requirements, Increment 3.2B will develop, certify and integrate a new platform operational flight program to ensure the system interoperability and performance of all increment-level developments.

The development program includes development, studies, and analysis to enhance the air vehicle and training system to improve/enhance F-22 weapons, communications, Electronic Warfare, and Intelligence Surveillance Reconnaissance (ISR) capabilities.

BA5 - This program is in Budget Activity 5, System Development and Demonstration (SDD) because it has passed Milestone B approval and is conducting engineering and manufacturing development tasks aimed at meeting validated requirements prior to full-rate production.

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 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0605213F / *F-22 Modernization Increment 3.2B*

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	140.100	131.100	137.700	-	137.700
Current President's Budget	110.432	115.000	173.647	-	173.647
Total Adjustments	-29.668	-16.100	35.947	-	35.947
• Congressional General Reductions	-0.185	-			
• Congressional Directed Reductions	-	-16.100			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-14.000	-			
• SBIR/STTR Transfer	-3.973	-			
• Other Adjustments	-11.510	-	35.947	-	35.947

Change Summary Explanation

FY13: $29.668M reduction due to: $11.510M sequestration higher priorities, $3.973 SBIR, $14.0M ATR reprogramming, and $0.185M CGR reduction.

FY14: $16.1M reduction due to: $13.1M execution delays and $3.0M program decrease.

FY15: $35.947M add due to: $44.800M realignment from F-22A Squadrons program (PE 0207138F) to Increment 3.2B (PE 0605213F) to support full funding of Increment 3.2B program and $6.686M underexecution re-spread from FY15 across FY16 and FY17, and $2.167M reduction due to non pay inflation

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Increment 3.2B	107.377	102.177	109.097

Description: The F-22 Increment 3.2B Modernization Program consists of the studies, analysis, demonstrations, and hardware/ software development necessary to provide Increment 3.2B capabilities including Intra-Flight Data Link Improvements, Electronic Protection, AIM-9X and AIM-120D integration with Common Weapon Engagement Zone, Geolocate 2.0 and Stores Management System Common Split Bus. The Enhanced Stores Management System (ESMS) program is a hardware development program required to integrate any new weapons on the F-22 beyond Increment 3.1.

Mission Support of the F-22 Program Office: travel, computer costs, and other miscellaneous contract support.

FY 2013 Accomplishments:

(U) In FY 2013: A Preliminary Technical Review (PTR) was held February 2013, culminating the completion of the preliminary design work. Upon receiving authority to enter into Milestone B, Increment 3.2B began initial work in the Development, Code, and

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 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0605213F / *F-22 Modernization Increment 3.2B*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Integration and Test Phase. The Integrated Baseline Review (IBR) for the Inc 3.2B Engineering and Manufacturing Development (EMD) contract was completed. (U) In FY 2013: Provided Management and infrastructure activities in support of the F-22 Program Office. ***FY 2014 Plans:*** (U) In FY2014: Increment 3.2B will finalize system design and continue Development, Code, Integration and Flight Test. (U) In FY 2014: Provided Management and infrastructure activities in support of the F-22 Program Office. ***FY 2015 Plans:*** (U) In FY2015: Increment 3.2B will continue work in the Development, Code, and Integration and Test Phase. (U) In FY 2015: Provided Management and infrastructure activities in support of the F-22 Program Office.			
Title: Combined Test Force (CTF) ***Description:*** (U) The F-22 Combined Test Force (CTF), located at Edwards Air Force Base, conducts testing to assess performance and military utility of Increment 3.2B. The CTF uses operationally relevant ground and flight test scenarios to identify Increment 3.2B performance deficiencies. This funds Inc 3.2B unique test costs. ***FY 2013 Accomplishments:*** (U) In FY2013: The CTF accomplished early Increment 3.2B test planning. CTF began testing of AIM-9X separations for a full AIM-9X integration in Increment 3.2B. ***FY 2014 Plans:*** (U) In FY2014: The CTF will accomplish detailed test planning of Increment 3.2B. CTF initiate Increment 3.2B Flight Test. ***FY 2015 Plans:*** (U) In FY2015: The CTF will continue developmental flight test in preparation for Low Rate Initial Production (LRIP) decision (MS C).	1.160	3.800	29.500
Title: Lab Test & Operations ***Description:*** Increment 3.2B Lab Test & Operations will plan and conduct software build, integration & testing in the F-22 system integration at the laboratories: the Agile Integration Lab (AIL); the Raptor Integration Lab (RaIL); the Air Combat Simulation (ACS) Lab; the Vehicle Management System (VMS) Vehicle Integration Facility (VIF); and the Vehicle System Simulator (VSS).	1.895	9.023	35.050

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 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0605213F / *F-22 Modernization Increment 3.2B*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
FY 2013 Accomplishments: (U) In FY2013: Increment 3.2B Lab Test & Operations planned and conducted software build, integration & testing in the F-22 system integration at the laboratories: the Agile Integration Lab (AIL); the Raptor Integration Lab (RaIL); the Air Combat Simulation (ACS) Lab; the Vehicle Management System (VMS) Vehicle Integration Facility (VIF); and the Vehicle System Simulator (VSS). ***FY 2014 Plans:*** (U) In FY2014: Increment 3.2B Lab Test & Operations will continue to plan and conduct software build, integration & testing in the F-22 system integration at the laboratories: the Agile Integration Lab (AIL); the Raptor Integration Lab (RaIL); the Air Combat Simulation (ACS) Lab; the Vehicle Management System (VMS) Vehicle Integration Facility (VIF); and the Vehicle System Simulator (VSS). ***FY 2015 Plans:*** (U) In FY2015: Increment 3.2B Lab Test & Operations will continue to plan and conduct software build, integration & testing in the F-22 system integration at the laboratories: the Agile Integration Lab (AIL); the Raptor Integration Lab (RaIL); the Air Combat Simulation (ACS) Lab; the Vehicle Management System (VMS) Vehicle Integration Facility (VIF); and the Vehicle System Simulator (VSS).			
Accomplishments/Planned Programs Subtotals	110.432	115.000	173.647

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: BA07: PE 0207138F: *F-22A Squadrons, RDT&E**	326.012	274.407	156.962	-	156.962	275.230	370.252	398.208	418.720	Continuing	Continuing
• APAF: BA05: Line Item # F2232B: *F-22 Increment 3.2B, PE 0207138F***	-	-	28.500	-	28.500	70.184	79.930	146.246	13.322	20.586	358.768
• APAF: BA05: Line Item # F02200: *F-22A Squadrons, PE 0207138F****	316.515	358.268	301.426	-	301.426	188.794	264.277	206.349	224.861	Continuing	Continuing
• APAF: BA05: PE 0207138F: *F-22 Increment 3.2B, Initial Spares*	-	-	-	-	-	3.768	3.969	7.448	-	-	15.185
• RDT&E: BA07: PE 0207163F: *AIM-120D, AMRAAM T&E, RDT&E*****	18.590	20.830	23.940	-	23.940	5.820	-	-	-	-	69.580

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 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0605213F / *F-22 Modernization Increment 3.2B*

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

NOTES:

*F-22A Squadrons, RDT&E/PE 0207138F includes F-22A Squadrons modernization and development. Both PEs 0207138F and 0605213F share lab and infrastructure support costs across the F-22 enterprise.

**F-22 Increment 3.2B, APAF/PE 0207138F, F2232B includes BP11 (Aircraft Modifications) for Increment 3.2B only.

***F-22A Squadrons, APAF/PE 0207138F, F02200 includes BPs 11 (Aircraft Modifications), 13 (Post-Production Support), 16 (Initial Spares), and 19 (Depot Activation) for F-22 Squadrons only.

****AIM-120D, AMRAAM RDT&E/PE 0207163F, fundidng provides for the AIM-120 development as a part of the F-22 Increment 3.2B effort.

E. Acquisition Strategy

The Raptor Enhancement Development & Integration (REDI) contract is an Indefinite Delivery/Indefinite Quantity Ordering contract that maximizes flexibility to start, stop, accelerate and decelerate projects as required. The REDI contract was established to be more responsive to evolving war fighter requirements. The REDI contract allows the issuance of orders for the highest priority war fighter capabilities in operationally meaningful capability increments, requirements analysis, contractor cost estimates and studies, development and demonstration of capability enhancements, and unanticipated future war fighter requirements. Each increment is broken into phases to initiate requirements analysis, the design phase and the development, integration and verification phase of a specific incremental development effort. The REDI II contract is a follow-on Indefinite Delivery/Indefinite Quantity contract to the initial REDI contract. REDI II provides maximum flexibility to manage various modernization projects. The REDI II contract allows for the issuance of orders for efforts associated with the planning, analysis, design, development, qualification, test and documentation of F-22 weapon system performance enhancements, life-cycle improvements, Operational Flight Program (OFP) upgrades, and associated efforts essential to accomplishing the F-22 mission.

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 / 5	R-1 Program Element (Number/Name) PE 0605213F / *F-22 Modernization Increment 3.2B*	Project (Number/Name) 654785 / *F-22 INCREMENT 3.2B*	

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
Increment 3.2B	Various	Various : Various,	0.000	107.377	Oct 2012	102.177	Nov 2013	109.097	Oct 2014	-		109.097	152.207	470.858	-
		Subtotal	0.000	107.377		102.177		109.097		-		109.097	152.207	470.858	-

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
Combined Test Force	Various	Various : Various,	0.000	1.160	Oct 2012	3.800	Nov 2013	29.500	Oct 2014	-		29.500	48.600	83.060	-
Laboratory Test Operations	SS/ Various	Lockheed Martin : Fort Worth, TX	0.000	1.895	Jan 2013	9.023	Jan 2014	35.050	Oct 2014	-		35.050	41.410	87.378	-
		Subtotal	0.000	3.055		12.823		64.550		-		64.550	90.010	170.438	-

Remarks

FY12 and prior year costs for Increment 3.2B are shown under PE 0207138F. FY13 and later are shown under PE 0605213F. The Combined Test Force and Laboratory Test & Operations costs appear to increase significantly FY2013-2015 due Increment 3.2B test costs. The corresponding decrease in test costs are captured in PE 0207138F documentation.

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	-	-		-		-		-		-	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 5	R-1 Program Element (Number/Name) PE 0605213F / *F-22 Modernization Increment 3.2B*	Project (Number/Name) 654785 / *F-22 INCREMENT 3.2B*	

	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	110.432		115.000		173.647		-		173.647	242.217	641.296	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0605213F / *F-22 Modernization Increment 3.2B*	**Project (Number/Name)** 654785 / *F-22 INCREMENT 3.2B*

F-22 Increment 3.2B Program Schedule Summary

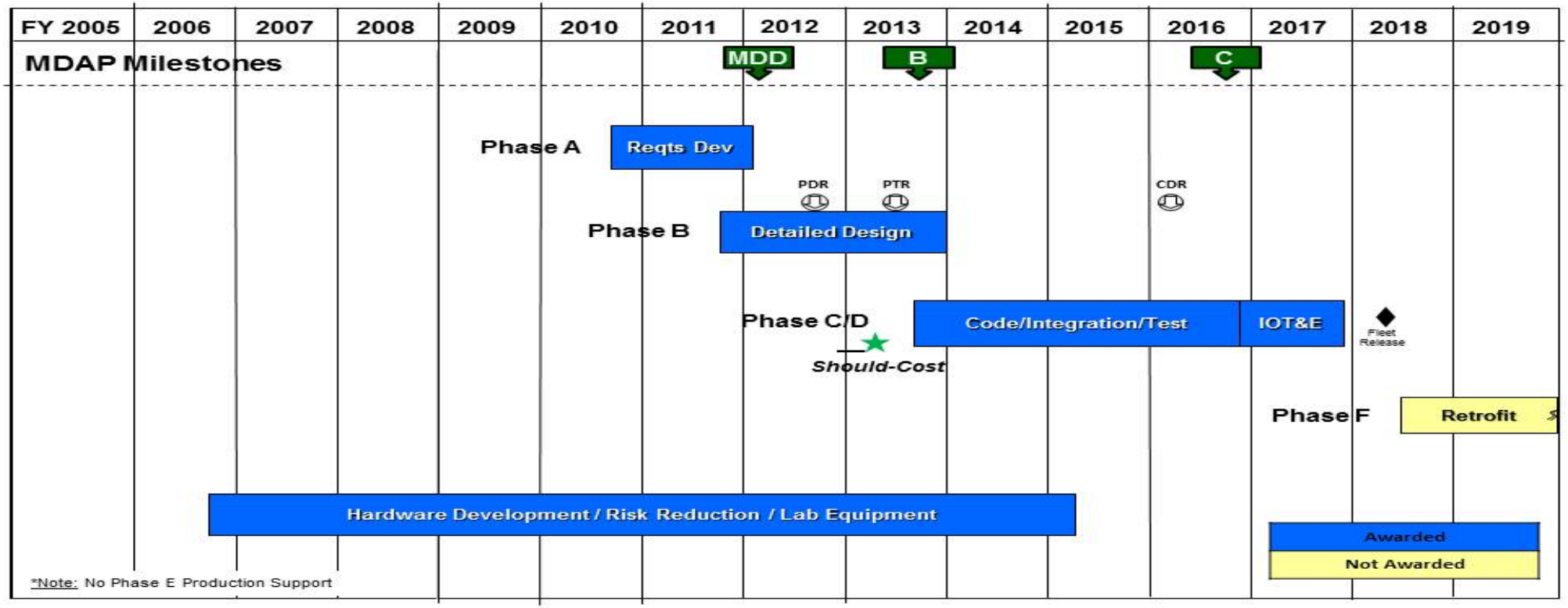

Exhibit R-4A, RDT&E Schedule Details: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0605213F / *F-22 Modernization Increment 3.2B*	**Project (Number/Name)** 654785 / *F-22 INCREMENT 3.2B*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Increment 3.2B HW Develoment/Risk Reduction/Lab Equipment**	1	2013	2	2015
Preliminary Technical Review (PTR)	2	2013	2	2013
Increment 3.2B Milestone B	3	2013	3	2013
Increment 3.2B Code, Integration, and Test	3	2013	4	2016
Increment 3.2B Critical Design Review (CDR)	1	2016	1	2016
Increment 3.2B Milestone C	4	2016	4	2016
Increment 3.2B Initial Operational Test & Evaluation (IOT&E)	3	2016	3	2017
Increment 3.2B Fleet Release	2	2018	2	2018
Increment 3.2B Retrofit***	2	2018	4	2019

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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 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0605214F / *Ground Attack Weapons Fuze 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	-	-	-	5.332	-	5.332	3.622	0.954	-	-	-	9.908
655313: *Hard Target Void Sensing Fuze*	-	-	-	5.332	-	5.332	3.622	0.954	-	-	-	9.908
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

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

Note

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).

A. Mission Description and Budget Item Justification

This program was created to include the whole spectrum of general purpose and specialized fuze development, resulting in commodity fuzes for use with air-to-ground weapons.

The Hard Target Void Sensing Fuze (HTVSF) is an advanced system designed to provide fuzing and void sensing functions for legacy penetrator weapons to destroy hardened targets protected by multiple layers of soil and/or reinforced concrete. The HTVSF will also provide in-flight cockpit programmability, safing and arming, multi-function (time delay and void sensing) and multi-delay arming. Program Element funding currently supports the Engineering, Manufacturing, and Development (EMD) effort for HTVSF.

This program is in Budget Activity 5, System Development and Demonstration (SDD) because it has passed Milestone B approval and is conducting engineering and manufacturing development tasks aimed at meeting validated requirements prior to full rate production.

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 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0605214F / *Ground Attack Weapons Fuze Development*

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	-	-	5.332	-	5.332
Total Adjustments	-	-	5.332	-	5.332
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-	-	5.332	-	5.332

Change Summary Explanation

In FY 2015, 655313, Hard Target Void Sensing Fuze, efforts were transferred from PE 0604635F, Ground Attack Weapons Fuze Development, 655312, 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).

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: HTVSF Test Support	-	-	5.332
Description: BLU-109/BLU-113 follow-on testing, post-MS C development. ***FY 2013 Accomplishments:*** Not applicable ***FY 2014 Plans:*** Not Applicable ***FY 2015 Plans:*** BLU-109/BLU-113 follow-on testing, post-MS C development.			
Accomplishments/Planned Programs Subtotals	-	-	5.332

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 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0605214F / *Ground Attack Weapons Fuze Development*

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: PE 0604635F: *Ground Attack Weapons Fuze Development*	8.657	17.764	-	-	-	-	-	-	-	-	-
• PAAF: BA01: Line Item # 356120: *Fuzes*	-	19.280	38.500	-	38.500	39.512	41.616	41.616	-	-	-

Remarks

- PAAF dollars in War Reserve Materiel (WRM; Fuzes) fund initial procurement of 475/475/1250/1400/1400 units for FY14 - FY18.
- Navy PE 050120 to fund 50/225/225 units FY14-FY16.

E. Acquisition Strategy

EMD Awarded to Alliant TechSystems Operations LLC
Estimated Contract completion date: 24 May 2014
Fixed Price Incentive Firm
Estimated Contract Length - 37 months

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 / 5	**R-1 Program Element (Number/Name)** PE 0605214F / *Ground Attack Weapons Fuze Development*	**Project (Number/Name)** 655313 / *Hard Target Void Sensing Fuze*

HTVSF Schedule

War-Winning Capabilities…On Time, On Cost

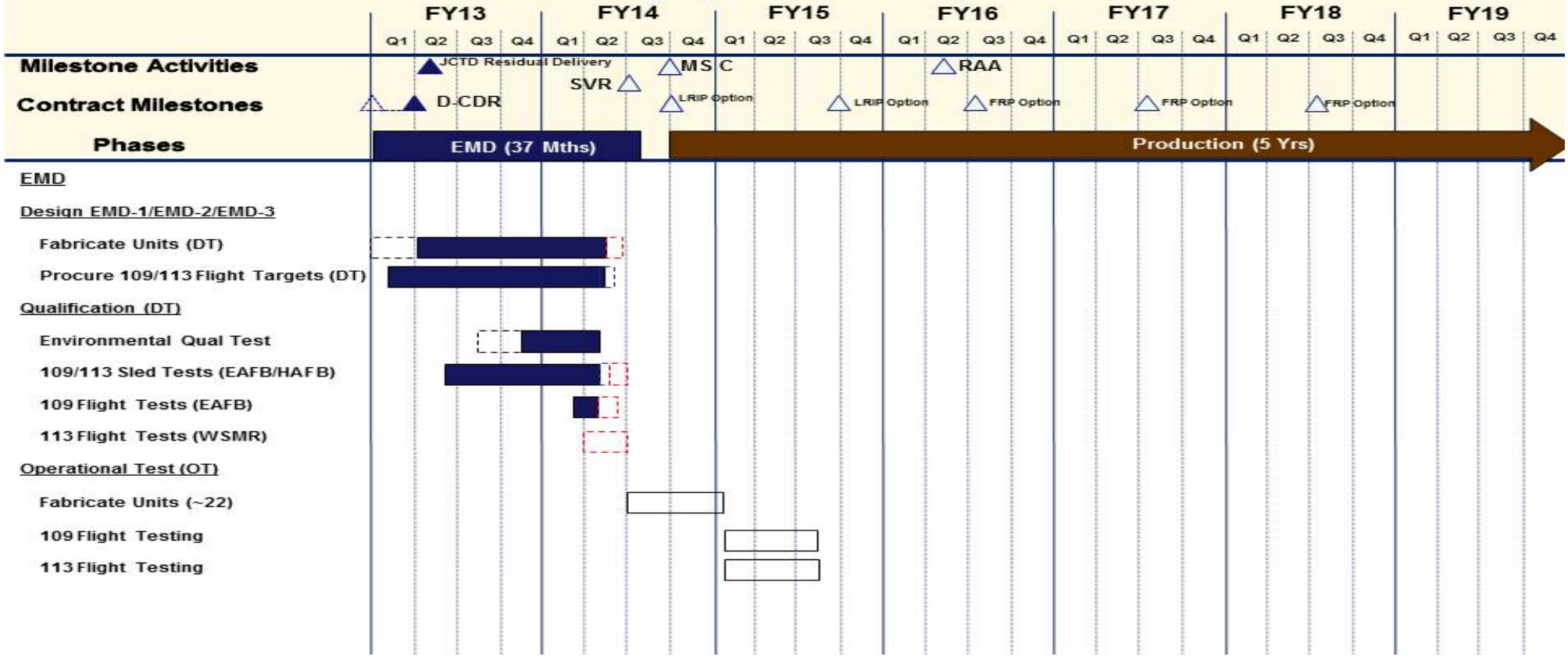

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force												Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0605221F / *KC-46*							
COST ($ 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	1,680.736	1,550.289	1,558.590	776.937	-	776.937	606.368	316.827	21.557	4.401	-	6,515.705
655271: *KC-46 RDT&E*	1,680.736	1,550.289	1,558.590	776.937	-	776.937	606.368	316.827	21.557	4.401	-	6,515.705
Quantity of RDT&E Articles	4.000	-	-	-	-	-	-	-	-	-		
MDAP/MAIS Code: 387												

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

A. Mission Description and Budget Item Justification

Replacement of the legacy KC-135 fleet will take place in three stages, known as the KC-X (now the KC-46), KC-Y, and the KC-Z. The initial KC-46 increment will replace roughly a third of the current capability with the purchase of 179 aircraft. The Air Force completed an Analysis of Alternatives (AoA) in Apr 2006 to determine the most appropriate strategy to recapitalize the aging fleet of KC-135 aerial refueling aircraft. Based on this analysis, the Air Force concluded that a strategy of full and open competition to select a commercial derivative replacement tanker aircraft would result in a best value tanker contract. To initiate the first phase of the KC-135 replacement, the KC-46 program released a final Request for Proposal (RFP) on 24 Feb 2010, and entered source selection on 9 Jul 2010. The KC-46 program held a Milestone B Defense Acquisition Board (DAB) on 23 Feb 2011, received approval to enter Engineering and Manufacturing Development (EMD) from OUSD(AT&L) on 24 Feb 2011, and awarded the KC-46 EMD contract to Boeing on 24 Feb 2011 to develop and procure 179 KC-46 aircraft.

The KC-46 will provide the capability to fuel joint and coalition receivers via a boom or drogue system on every mission and will also augment the airlift fleet with cargo, passenger and aeromedical evacuation capabilities. The KC-46 will be able to operate in day/night and adverse weather conditions to enable deployment, employment, sustainment and redeployment of U.S. joint, allied, and coalition forces. The KC-46 will have communication, navigation and surveillance equipment for world-wide operations; will have the capability to perform missions in chemical and biological environments; will have the ability to operate in up to medium threat environments with self-defense/protection (both active and passive) capabilities; and will have necessary battle space awareness to mitigate survivability threats.

The KC-46 development effort will also procure the necessary ground and flight test assets to support development/operational test. The program plans to procure four RDT&E aircraft for integration and demonstration of capability that will ultimately be operationally fielded after a successful operational test phase. In addition, aircrew and maintenance training systems will be developed and procured using KC-46 funding. The Aircrew Training System (ATS) entered source selection on 31 May 2012 and a contract was awarded on 1 May 2013 to FlightSafety Services Corp. The ATS contract will provide aircrew training devices, to include Weapon System Trainers (WST), Boom Operator Trainers (BOT), Fuselage Trainers (FuT) and Part-Task Trainers (PTT) at each Main Operating Base (MOB) and the Formal Training Unit (FTU). The aircrew training system will also support Distributed Mission Operations (DMO), provide aircrew instruction, develop courseware, provide logistics support, acquire Technical Data Packages (TDP) to support future competition efforts, and manage training device concurrency with the aircraft. The Maintenance Training System (MTS) is scheduled to enter source selection in FY 2014. Initial training and sustainment efforts will be provided via Interim Contractor Support (ICS). KC-46 funding will also support a follow-on sustainment planning Business Case Analysis (BCA), various studies/analyses and KC-Y/KC-Z planning activities.

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 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0605221F / *KC-46*

This program is in Budget Activity 05, System Development and Demonstration (SDD) because it has passed Milestone B approval and is conducting engineering and manufacturing development tasks aimed at meeting validated requirements prior to full-rate production.

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	1,815.588	1,558.590	911.630	-	911.630
Current President's Budget	1,550.289	1,558.590	776.937	-	776.937
Total Adjustments	-265.299	-	-134.693	-	-134.693
• Congressional General Reductions	-2.293	-			
• Congressional Directed Reductions	-77.100	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-43.000	-			
• Other Adjustments	-142.906	-	-134.693	-	-134.693

Change Summary Explanation

FY2013: Reduction of $265.299M RDT&E due to: sequestration reduction (-$142.906M), congressional directed reduction (-$77.100M) due to excess funding, Small Business Innovation Research (SBIR) reduction ($43.000M) and congressional general reduction (-$2.293M)

FY2015: Reduction of $134.693M RDT&E due to higher Air Force priorities (-$89.722M), Aircrew Training System (ATS) contract savings (-$35.278M) and across-the-board OSD deflation (-$9.693M).

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: KC-46 Aircraft Product Development	1,501.978	1,468.996	643.157
Description: To begin re-capitalizing the aging KC-135 fleet, EMD activities will be conducted to include the following types of activities: Develop a commercial 767-2C aircraft upon which the KC-46 is based; develop the KC-46 military capability and integrate it into the aircraft; build 4 EMD aircraft; procure live fire assets; procure any required Government Furnished Equipment; procure simulator and maintenance data; develop technical manuals and Type 1 training; conduct development and operational testing.			
FY 2013 Accomplishments: Completed aircraft detailed design and began aircraft manufacturing and certification/qualification testing.			
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 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0605221F / *KC-46*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Continue aircraft manufacturing and certification/qualification testing. ***FY 2015 Plans:*** Continue aircraft manufacturing and certification/qualification testing.			
Title: KC-46 Trainer Product Development - Aircrew Training System ***Description:*** To begin re-capitalizing the aging KC-135 fleet, Trainer Development activities will be conducted to include the following types of activities: Develop an Aircrew Training System ***FY 2013 Accomplishments:*** Awarded KC-46 Aircrew Training System EMD contract. ***FY 2014 Plans:*** Continue activities associated with Aircrew Training System development. ***FY 2015 Plans:*** Continue activities associated with Aircrew Training System development.	15.500	35.459	29.436
Title: KC-46 Trainer Product Development - Maintenance Training System ***Description:*** To begin re-capitalizing the aging KC-135 fleet, Trainer Development activities will be conducted to include the following types of activities: Develop a Maintenance Training System. ***FY 2013 Accomplishments:*** N/A ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** Award KC-46 Maintenance Training System Engineering and Manufacturing Development contract.	-	-	41.115
Title: KC-46 Support ***Description:*** Studies and Analysis and mission planning support activities associated with the development, integration and demonstration of the KC-46 capability. In addition, planning activities for future efficiency initiatives, business case analyses, KC-Y & KC-Z planning, and misc. program office support & planning. Also includes requirements such as travel, office supplies, training courses, and service contracts. ***FY 2013 Accomplishments:***	15.445	28.645	23.838

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 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0605221F / *KC-46*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Continued KC-46 program support activities (AFLCMC) ***FY 2014 Plans:*** Continue program support activities (AFLCMC) ***FY 2015 Plans:*** Continue program support activities (AFLCMC)			
Title: KC-46 Test & Evaluation ***Description:*** To begin re-capitalizing the aging KC-135 fleet, Test & Evaluation activities will be conducted to include the following types of activities: Development Test & Evaluation support, Operational Test & Evaluation, Receiver Qualification, Live Fire Test & Evaluation, Federal Aviation Administration (FAA) support, and other test planning and organizational support. ***FY 2013 Accomplishments:*** Continued KC-46 Test & Evaluation planning and Live Fire Testing ***FY 2014 Plans:*** Continue KC-46 Test & Evaluation planning and Live Fire Testing, conduct 767-2C First Flight, and begin Development Test & Evaluation ***FY 2015 Plans:*** Continue KC-46 Developmental Test & Evaluation, Live Fire Testing and other Test & Evaluation planning activities; and conduct Operational Assessment #2 and KC-46 First Flight	17.366	25.490	39.391
Accomplishments/Planned Programs Subtotals	1,550.289	1,558.590	776.937

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: BA02: Line Item #: *KC046A*	-	-	1,582.685	-	1,582.685	2,426.792	3,772.120	3,691.434	3,316.663	24,803.978	39,593.671

Remarks

E. Acquisition Strategy

The KC-46 program acquisition strategy is to procure an existing commercial, Federal Aviation Administration (FAA) certified aircraft modified to meet USAF requirements. The KC-46 program released a final Request for Proposal (RFP) on 24 Feb 2010, and entered source selection on 9 Jul 2010. The KC-46 program held a Milestone B Defense Acquisition Board (DAB) on 23 Feb 2011, received approval to enter Engineering and Manufacturing Development (EMD) from OUSD(AT&L) on 24 Feb 2011, and awarded the KC-46 contract to Boeing on 24 Feb 2011 to develop and procure 179 KC-46 aircraft. The KC-46 contract procurement was conducted

via a full and open competition per Federal Acquisition Regulation (FAR) Part 15, and resulted in a FY 2011 EMD Fixed Price Incentive Firm (FPIF) contract. The EMD phase will develop, build, and test four KC-46 aircraft, and will qualify receiver aircraft.

Production will begin in FY 2015 with the first of two Low-Rate Initial Production (LRIP) lots (Firm Fixed Priced (FFP)) and then Full-Rate Production (FRP) options (FFP with Not to Exceed (NTE) + Economic Price Adjustment (EPA)). The LRIP and FRP options will be exercised following a successful Milestone C decision for the LRIP decision, and a successful completion of Initial Operational Test and Evaluation (IOT&E) for the FRP decision.

The Aircrew Training System (ATS) acquisition strategy is to provide aircrew training devices and associated support structure to each Main Operating Base (MOB) and the Formal Training Unit (FTU). The ATS entered source selection on 31 May 2012 and a contract was awarded on 1 May 2013 to FlightSafety Services Corp. The ATS contract procurement was conducted via a full and open competition per Federal Acquisition Regulation (FAR) Part 15, and resulted in a FY 2013 EMD FPIF contract. The EMD phase will develop and procure aircrew training devices delivered to the MOB #1 and the FTU. All supported with courseware, Training System Support Center, technical data package and support equipment to ensure system availability and concurrency with the aircraft. Production devices will commence in FY 2015 as FFP options. The government plans to compete the development, deployment, and sustainment of a Maintenance Training System separately.

Based on the market research and a cost effectiveness analysis, the engines will be procured as contractor furnished equipment (CFE) for EMD. Following EMD, the government will assess the potential of breaking out the engines as a separate procurement based on an updated market analysis.

The KC-46 program is responsible for the development, testing, and production of a drogue-equipped, wing-mounted refueling system to meet Capability Development Document (CDD) thresholds and objectives, for simultaneous refueling of two probe-equipped receivers. The system can be installed or removed from the KC-46 as mission needs dictate.

The long-term support concept for the KC-46 is organic two-level maintenance (2LM): organization level (O-level) and depot level (D-level). For the purposes of this program, all maintenance other than O-level shall be referred to as D-level. The product support strategy will initially employ Interim Contractor Support before transitioning to a 100% organically managed mantenance and supply support capability. Performance Based Logistics (PBL) solutions will be evaluated during EMD as viable approaches to facilitate the transition.

This acquisition strategy requires sufficient aircraft to be designed, tested, and delivered to meet a Required Assets Available (RAA) date of 78 months after contract award. RAA is defined as 18 aircraft meeting final production configuration with all required training and support in place. Initial Operational Capability (IOC) will be attained when the Commander, Air Mobility Command (AMC/CC) determines the unit is operationally war ready. AMC has not yet determined an IOC date. Full Operational Capability (FOC) is expected approximately 24 months after IOC.

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 / 5	R-1 Program Element (Number/Name) PE 0605221F / *KC-46*	Project (Number/Name) 655271 / *KC-46 RDT&E*	

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
KC-46 aircraft non-recurring development, integration, and testing, 4 RDT&E tanker aircraft and support	C/FPIF	The Boeing Company : Seattle, WA	1,610.699	1,501.978	Oct 2012	1,468.996	Oct 2013	643.157	Oct 2014	-		643.157	671.196	5,896.026	4,393.857
Aircrew Training System	C/FPIF	FlightSafety Services Corp. : Centennial, CO	1.000	15.500	May 2013	35.459	Nov 2013	29.436	Oct 2014	-		29.436	35.691	117.086	78.370
Develop a Maintenance Training System	C/FPIF	TBD : TBD,	0.000	-		-		41.115	May 2015	-		41.115	152.424	193.539	-
		Subtotal	1,611.699	1,517.478		1,504.455		713.708		-		713.708	859.311	6,206.651	-

Remarks

The KC-46 EMD contract was awarded 24 Feb 2011. The contract ceiling price of $4.9B is the government's maximum financial liability on the prime contract. The "Total Cost" value represents the Milestone B Service Cost Position (SCP), which accounts for the ceiling price of the contract plus the financial risk of potential design changes for the KC-46 Aircraft.

The MTS contract award is the estimated date.

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
Studies and Analysis associated with the development, integration, and demonstration of KC-46 capability & future planning	Various	Various : Various,	11.234	5.282	Oct 2012	16.824	Oct 2013	10.599	Oct 2014	-		10.599	19.608	63.547	-
		Subtotal	11.234	5.282		16.824		10.599		-		10.599	19.608	63.547	-

Remarks

These contracts are on an as needed basis, with various contract types and performing activities.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 5	R-1 Program Element (Number/Name) PE 0605221F / *KC-46*	Project (Number/Name) 655271 / *KC-46 RDT&E*	

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
Testing and Planning support of development & operational test, FAA & military certification, and aircraft qualification activities	Various	Various : Various,	17.403	17.366	Oct 2012	25.490	Oct 2013	39.391	Oct 2014	-		39.391	58.727	158.377	-
		Subtotal	17.403	17.366		25.490		39.391		-		39.391	58.727	158.377	-

Remarks

Testing and planning activities are performed by government organizations, with some Advisory & Assistance Services (A&AS) 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
Program Management Administration - KC-46 A&AS Support	C/FFP	PESystems Inc. : Dayton, OH	21.454	6.754	Feb 2013	6.967	Feb 2014	6.553	Feb 2015	-		6.553	6.493	48.221	-
Program Management Administration - Trainer A&AS Support	C/FFP	National Technologies Assoc. Inc. : Dayton, OH	0.000	1.665	Dec 2012	1.945	Dec 2013	1.387	Dec 2014	-		1.387	1.472	6.469	-
Program Management Administration - Other	Various	KC-46 Program Office : Dayton, W-P AFB, OH	18.946	1.744	Oct 2012	2.909	Oct 2013	5.299	Oct 2014	-		5.299	3.542	32.440	-
		Subtotal	40.400	10.163		11.821		13.239		-		13.239	11.507	87.130	-

Remarks

2 A&AS contracts over $1M. Other PMA funding includes but is not limited to: A&AS contracts less than $1M, travel, supplies and training.

	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	1,680.736	1,550.289		1,558.590		776.937		-		776.937	949.153	6,515.705	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0605221F / *KC-46*	**Project (Number/Name)** 655271 / *KC-46 RDT&E*

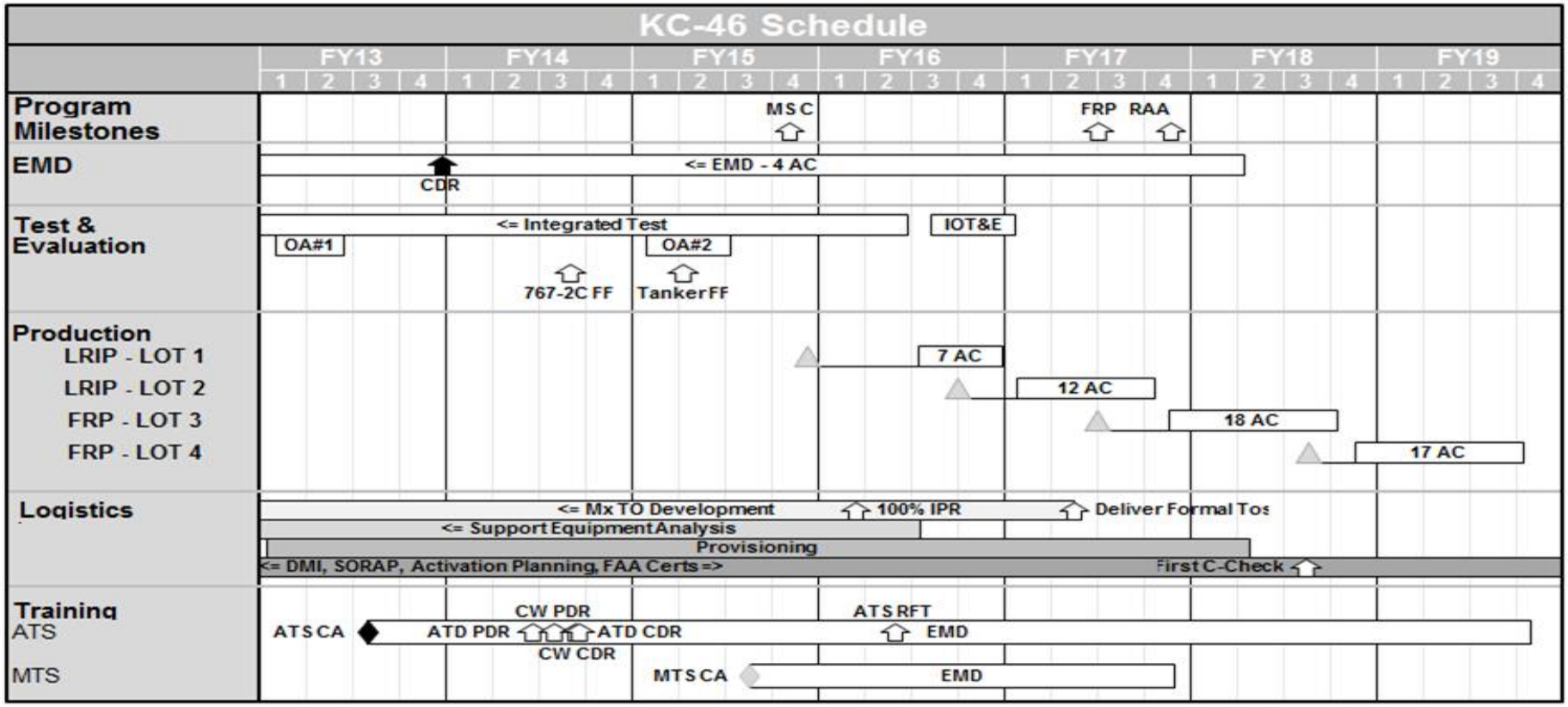

Exhibit R-4A, RDT&E Schedule Details: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0605221F / *KC-46*	**Project (Number/Name)** 655271 / *KC-46 RDT&E*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
EMD: KC-46 Aircraft	1	2013	2	2018
Critical Design Review	4	2013	4	2013
Test & Evaluation	1	2013	1	2017
Operational Assessment #1	1	2013	2	2013
767-2C First Flight	3	2014	3	2014
Tanker First Flight	2	2015	2	2015
Operational Assessment #2	1	2015	3	2015
Initial Operational Test & Evaluation	3	2016	1	2017
Low Rate Initial Production - Lot 1	4	2015	4	2016
Low Rate Initial Production - Lot 2	3	2016	4	2017
Full Rate Production - Lot 3	3	2017	4	2018
Full Rate Production - Lot 4	3	2018	4	2019
Maintenance Tech Order Development	1	2013	2	2017
100% In Process Review	1	2016	1	2016
Deliver Formal Tech Orders	2	2017	2	2017
Support Equipment Analysis	1	2013	3	2016
Provisioning	1	2013	2	2018
Depot Maintenance Inter-servicing (DMI), Source of Repair Assignment Process (SORAP), Activation Planning & FAA Certifications	1	2013	4	2019
First C-Check	3	2018	3	2018
Aircrew Training System Development & Updates	3	2013	4	2019
Maintenance Training System Development & Updates	3	2015	4	2017

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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 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0605223F / *Advanced Pilot 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	0.000	-	-	8.201	-	8.201	11.920	71.685	166.595	408.618	581.113	1,248.132
655340: *Advanced Trainer Replacement T-X*	0.000	-	-	8.201	-	8.201	11.920	60.349	136.251	286.452	401.979	905.152
655361: *Stores-Aircraft Interface*	0.000	-	-	-	-	-	-	11.336	30.344	122.166	179.134	342.980
MDAP/MAIS Code: 436												

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

Note

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.

In FY2017, Project 655361, Stores-Aircraft Interface, includes a new start effort.

A. Mission Description and Budget Item Justification

The Advanced Trainer Replacement, T-X, will replace Air Education and Training Command's (AETC) T-38C aircraft and associated Ground Based Training System (GBTS) currently used in the fighter/bomber advanced Specialized Undergraduate Pilot Training (SUPT) track as well as in the Introduction to Fighter Fundamentals (IFF) program. The T-38C was first introduced in 1961 and now average 45 years. T-X will close training gaps which the T-38 cannot fully address and have grown with the introduction of the 4th and 5th generation fighter aircraft.

The Stores-Aircraft Interface project provides funding for the Companion Trainer Aircraft which is intended to develop a variant of the Advanced Pilot Training (APT) T-X aircraft to serve as a "Red Air" adversary or aggressor capability for 5th generation fighter aircraft. A version of the T-X equipped with radar/data-link and hard-points for weapons and jammer carriage is envisioned for this role.

This program is in Budget Activity 5, System Development and Demonstration (SDD) because Milestone B approval is anticipated to conduct engineering and manufacturing development tasks aimed at meeting validated requirements prior to full-rate production.

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 5: *System Development & Demonstration (SDD)*			R-1 Program Element (Number/Name) PE 0605223F / *Advanced Pilot Training*		
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	-	-	8.201	-	8.201
Total Adjustments	-	-	8.201	-	8.201
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-	-	8.201	-	8.201

Change Summary Explanation

For FY 2015, activity transferred from PE 0604233F.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 5	R-1 Program Element (Number/Name) PE 0605223F / *Advanced Pilot Training*	Project (Number/Name) 655340 / *Advanced Trainer Replacement T-X*	

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
655340: *Advanced Trainer Replacement T-X*	-	-	-	8.201	-	8.201	11.920	60.349	136.251	286.452	401.979	905.152
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	6.000	-		

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

Note

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.

A. Mission Description and Budget Item Justification

The Advanced Trainer Replacement, T-X, will replace AETC's T-38C aircraft and associated Ground Based Training System (GBTS) currently used in the fighter/ bomber advanced Specialized Undergraduate Pilot Training (SUPT) track as well as in the Introduction to Fighter Fundamentals (IFF) program. Program is developing an acquisition strategy and related documentation to initiate an acquisition program with release of a request for proposal in early FY2017.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Advanced Pilot Training (APT) Family of Systems (FoS)	-	-	8.201
Description: Studies, analysis, acquisition documentation and market research activities to reduce risk in support of technology, engineering and manufacturing development. Includes APT PMA costs such as travel, Other Govt Costs (OGC) and Advisory and Assistance Services (A&AS) anticipating a Milestone B approval. ***FY 2013 Accomplishments:*** N/A ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** Studies, analysis, acquisition documentation and market research activities to reduce risk in support of technology, engineering and manufacturing development. Includes APT PMA costs such as travel, Other Govt Costs (OGC) and Advisory and Assistance Services (A&AS) anticipating a Milestone B approval.			
Accomplishments/Planned Programs Subtotals	-	-	8.201

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0605223F / *Advanced Pilot Training*	**Project (Number/Name)** 655340 / *Advanced Trainer Replacement T-X*

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: BA05: PE 0604233F: *Advanced Trainer Replacement T-X*	0.648	1.049	-	-	-	-	-	-	-	-	4.548

Remarks

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.

D. Acquisition Strategy

A full and open competitive source selection is anticipated with a specific acquisition strategy under 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-3, RDT&E Project Cost Analysis: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 5	R-1 Program Element (Number/Name) PE 0605223F / *Advanced Pilot Training*	Project (Number/Name) 655340 / *Advanced Trainer Replacement T-X*	

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
Training (APT) Family of Systems (FoS) - Studies and Analyses	Various	TBD : TBD,	0.000	-		-		1.000	Feb 2015	-		1.000	Continuing	Continuing	-
Training (APT) Family of Systems (FoS) A&AS	Various	TDB : TDB,	0.000	-		-		7.000	Mar 2015	-		7.000	Continuing	Continuing	-
Advanced Pilot Training (APT) Family of Systems (FoS) Future Contracts	C/FFP	TDB : TBD,	0.000	-		-		-		-		-	898.152	898.152	-
		Subtotal	0.000	-		-		8.000		-		8.000	-	-	-

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
Training (APT) Family of Systems (FoS) - PMA Government Costs	C/Various	AFLCMC : Dayton, OH	0.000	-		-		0.201	Aug 2015	-		0.201	Continuing	Continuing	-
		Subtotal	0.000	-		-		0.201		-		0.201	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 5	R-1 Program Element (Number/Name) PE 0605223F / *Advanced Pilot Training*	Project (Number/Name) 655340 / *Advanced Trainer Replacement T-X*	

	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	-		-		8.201		-		8.201	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0605223F / *Advanced Pilot Training*	**Project (Number/Name)** 655340 / *Advanced Trainer Replacement T-X*

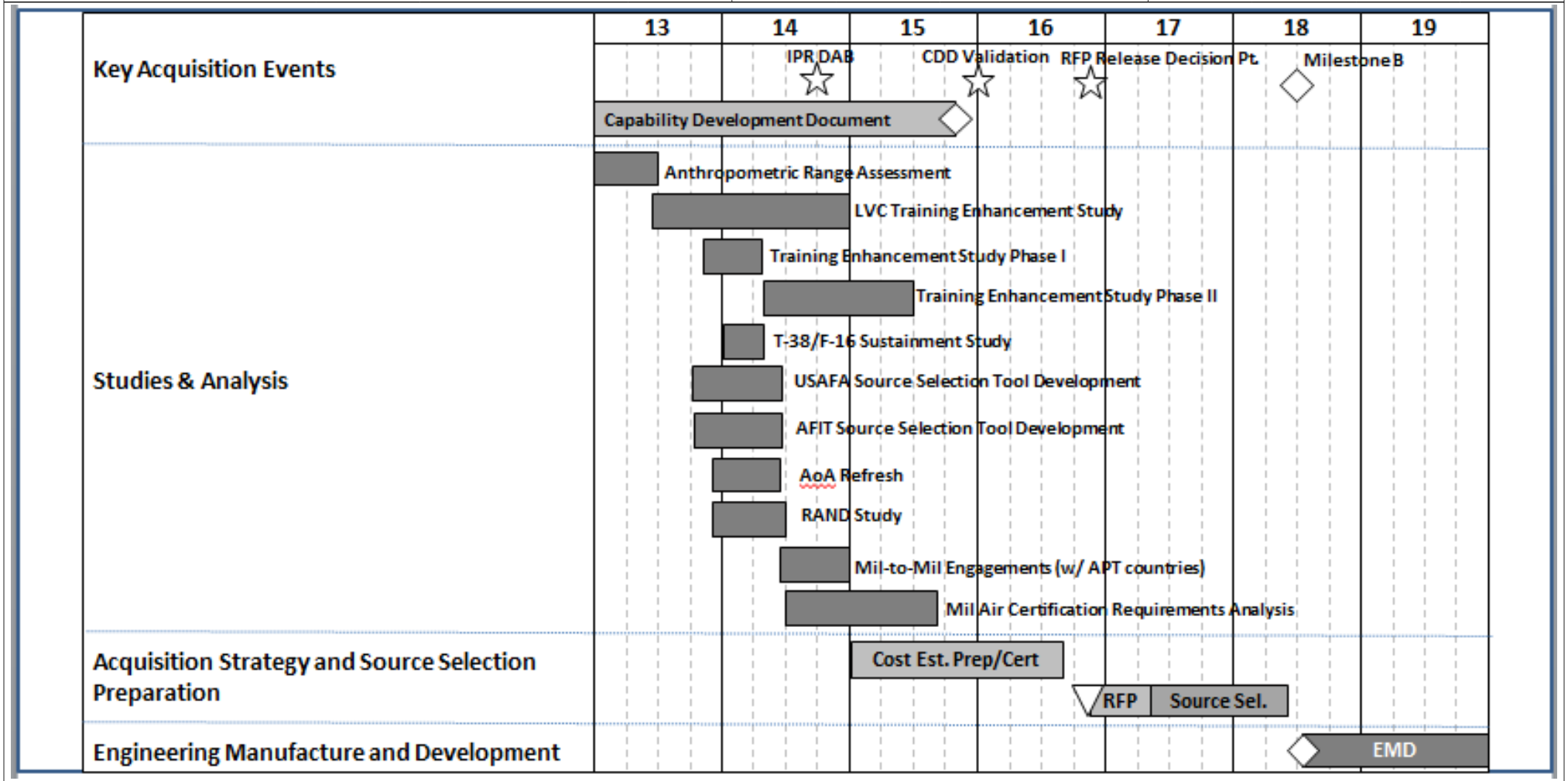

Exhibit R-4A, RDT&E Schedule Details: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0605223F / *Advanced Pilot Training*	**Project (Number/Name)** 655340 / *Advanced Trainer Replacement T-X*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
In-Process Review (IPR) Defense Acquisition Board (DAB)	4	2014	4	2014
Capability Development Document	1	2013	4	2015
CDD Validation	4	2015	4	2015
Anthropometric Range Assessment	1	2013	2	2013
Live Virtual Constructive Training Enhancement Study	2	2013	4	2014
USAFA Source Selection Tool Development	4	2013	2	2014
AFIT Source Selection Tool Development	4	2013	2	2014
AoA Refresh Support	4	2013	2	2014
RAND Study	4	2013	2	2014
Training Enhancement Study Phase 1	2	2013	2	2014
Training Enhancement Study Phase 2	2	2014	2	2015
T-38/F-16 Sustainment Study	1	2014	2	2014
Mil Air Certification Requirements Analysis	3	2014	3	2015
Mil to Mil Engagements	2	2014	4	2014
Cost Estimate Preparation Certification	1	2015	3	2016
Pre Milestone B (RFP Release) Decision Point	4	2016	4	2016
RFP Release	4	2016	2	2017
Source Selection	2	2017	2	2018
Milestone B	3	2018	3	2018
Engineering and Manufacturing Development	3	2018	4	2019

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 5	R-1 Program Element (Number/Name) PE 0605223F / *Advanced Pilot Training*	Project (Number/Name) 655361 / *Stores-Aircraft Interface*	

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
655361: *Stores-Aircraft Interface*	-	-	-	-	-	-	-	11.336	30.344	122.166	179.134	342.980
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

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

Note

In FY2017, Project Number 655361, Stores-Aircraft Interface, includes a new start effort.

A. Mission Description and Budget Item Justification

The Companion Trainer is intended to develop a variant of the Advanced Pilot Training (APT) T-X aircraft to provide a "Red Air" adversary or aggressor capability for 5th generation fighter aircraft. An Office of the Secretary of Defense (OSD) endorsed report estimates considerable savings over the life of the F-35 through use of Companion Trainer due to significantly lower operating costs. The T-X variant will be equipped with radar/data-link and hard-points for weapons and jammer carriage is envisioned for this role. Missionization of the T-X to meet Companion Trainer requirements is expected to begin in FY2017.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Companion Trainer ***Description:*** Missionize the Advanced Pilot Training (APT) T-X to meet the "Red Air" adversary/aggressor role. ***FY 2013 Accomplishments:*** N/A ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** N/A	-	-	-
Accomplishments/Planned Programs Subtotals	-	-	-

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

An acquisition strategy will be developed as Companion Trainer variant of the T-X acquisition.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0605223F / *Advanced Pilot Training*	**Project (Number/Name)** 655361 / *Stores-Aircraft Interface*

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 / 5	R-1 Program Element (Number/Name) PE 0605223F / *Advanced Pilot Training*	Project (Number/Name) 655361 / *Stores-Aircraft Interface*	

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
Subtotal			-	-		-		-		-		-	-	-	-

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	-	-		-		-		-		-	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0605223F / *Advanced Pilot Training*	**Project (Number/Name)** 655361 / *Stores-Aircraft Interface*

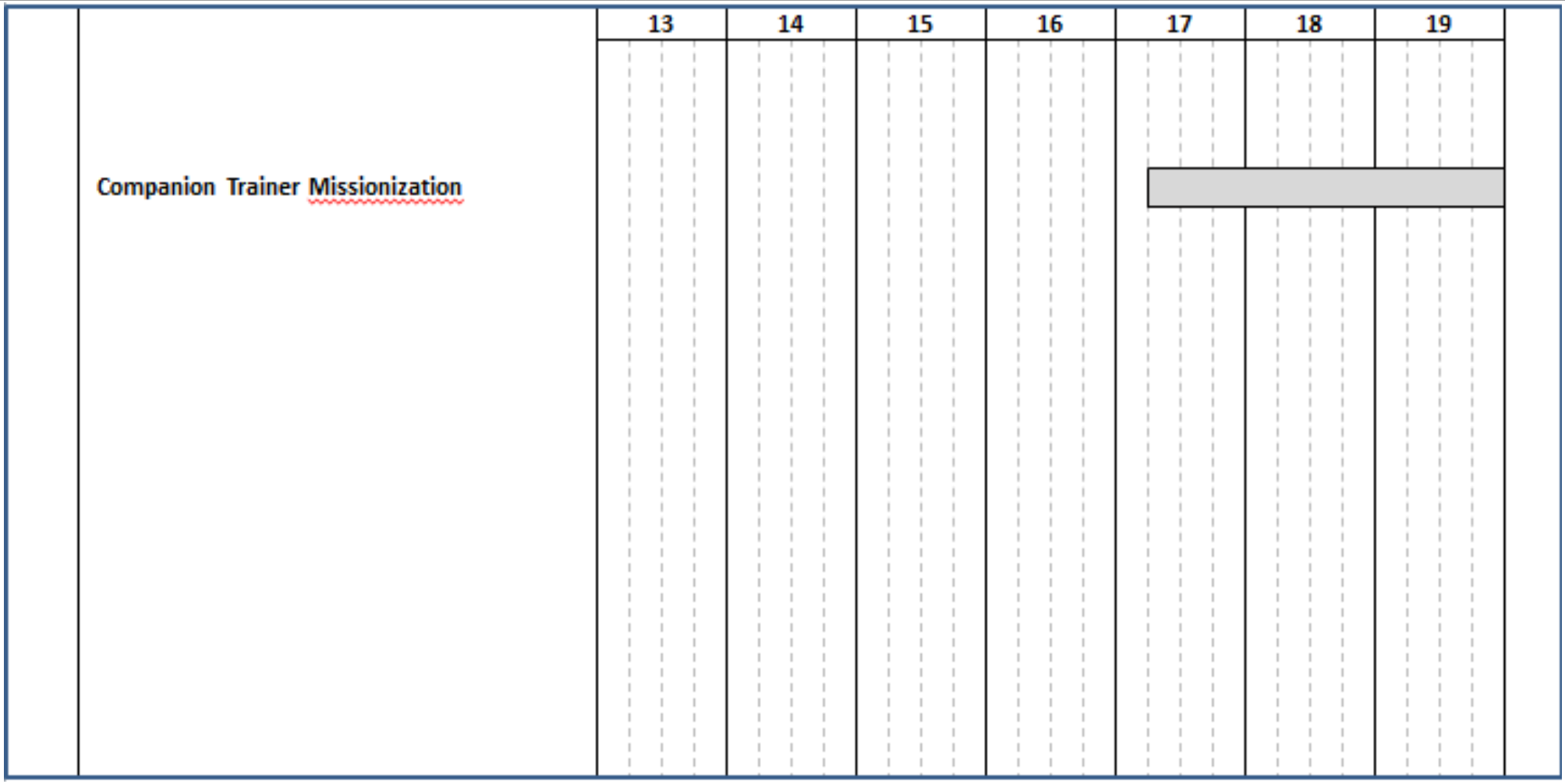

Exhibit R-4A, RDT&E Schedule Details: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0605223F / *Advanced Pilot Training*	**Project (Number/Name)** 655361 / *Stores-Aircraft Interface*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Begin Companion Trainer Missionization	2	2017	4	2019

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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 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0605229F / *CSAR HH-60 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**
Total Program Element	11.113	32.787	333.558	-	-	-	10.973	121.979	393.767	560.625	-	1,464.802
654364: *Combat Rescue Helicopter*	11.113	32.787	333.558	-	-	-	10.973	121.979	393.767	560.625	-	1,464.802
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		
MDAP/MAIS Code: 479												

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

A. Mission Description and Budget Item Justification

The Combat Rescue Helicopter (CRH) program, formerly referred to as HH-60 Recapitalization, will replace the aging HH-60G. The HH-60G currently supports the Air Force's core function of Personnel Recovery. The primary mission of the HH-60G is to conduct day / night / marginal weather Combat Search and Rescue (CSAR) in order to recover downed aircrew or other isolated personnel in hostile or permissive environments. Other mission areas include casualty evacuation (CASEVAC), medical evacuation (MEDEVAC), non-combatant evacuation operations, civil search and rescue, international aid, disaster humanitarian relief, and insertion/extraction of combat forces.

Funding Justification: The FY15 President's Budget shows this program having $0 in FY15. Based on the SECAF's decision to continue with the CRH program, the Air Force is committed to fully fund the program to the Air Force SCP in the FY16 Budget. This commitment is dependent upon the Air Force's top line in the FY16 Budget being consistent with the out year funding levels identified in the FY15 President's Budget, which is in excess of the Budget Control Act funding levels.

This program is in Budget Activity 5, System Development and Demonstration (SDD) because it has passed Milestone B approval and is conducting engineering and manufacturing development tasks aimed at meeting validated requirements prior to full-rate production.

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 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0605229F / *CSAR HH-60 Recapitalization*

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	123.210	393.558	572.709	-	572.709
Current President's Budget	32.787	333.558	-	-	-
Total Adjustments	-90.423	-60.000	-572.709	-	-572.709
• Congressional General Reductions	-0.152	-60.000			
• Congressional Directed Reductions	-8.000	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-62.840	-			
• SBIR/STTR Transfer	-9.705	-			
• Other Adjustments	-9.726	-	-572.709	-	-572.709

Change Summary Explanation

FY13: decreases in other adjustments due to Sequestration reductions, Congressional Directed Reduction due to unobligated prior year funds, and funds reprogrammed for higher Air Force priorities.

FY14: Congressional Directed Reduction due to program delays/saving pending program estimate.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Combat Rescue Helicopter (CRH)	32.787	333.558	-
Description: Procure a new helicopter, and associated training systems and support elements, that leverages fielded, non-developmental technologies to recapitalize the HH-60G fleet. ***FY 2013 Accomplishments:*** To be determined. ***FY 2014 Plans:*** To Be Determined ***FY 2015 Plans:*** N/A			
Accomplishments/Planned Programs Subtotals	32.787	333.558	-

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 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0605229F / *CSAR HH-60 Recapitalization*

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:BA 04:Line Item #10HHX0: *Combat Rescue Helicopter*	-	-	-	-	-	-	-	-	-	-	-

Remarks

E. Acquisition Strategy

Procure a new helicopter, and associated training systems and support elements, that leverages fielded, non-developmental technologies to recapitalized the HH-60G fleet.

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 / 5	R-1 Program Element (Number/Name) PE 0605229F / *CSAR HH-60 Recapitalization*	Project (Number/Name) 654364 / *Combat Rescue Helicopter*	

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
		Subtotal	-	-		-		-		-		-	-	-	-

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
Government Costs	Various	AFLCMC/WISV : Dayton, OH	11.113	32.787		333.558		-		-		-	1,087.344	1,464.802	-
		Subtotal	11.113	32.787		333.558		-		-		-	1,087.344	1,464.802	-

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 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	11.113	32.787		333.558		-		-		-	1,087.344	1,464.802	-

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 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0605278F / *HC/MC-130 Recap RDT&E*							
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	74.229	10.548	2.611	7.497	-	7.497	24.179	28.216	4.660	4.850	-	156.790
655249: *HC-130Recap*	74.229	10.548	2.611	7.497	-	7.497	24.179	28.216	4.660	4.850	-	156.790
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		
MDAP/MAIS Code: 257												

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

A. Mission Description and Budget Item Justification

HC/MC-130 Recapitalization will replace and augment the aging USAF fleets of combat rescue HC-130P/N and special operations MC-130E/P aircraft which are experiencing airworthiness, maintainability and operational limitations. The HC/MC-130 Recap Capabilities Production Document (CPD) defines a common baseline configuration for the weapon system and a FY 2012 Initial Operational Capability. The Joint Requirements Oversight Council (JROC) validated the CPD in Aug 2009.

This program will develop and integrate changes from discrepancies found during EMD flight test, operational use, and common C-130J block upgrades during HC/MC production. The C-130J program (PE 0401132F) developed Blocks 7.0 and 8.1 separately but all other platforms (including HC/MC) will have combined Block 7.0/8.1 trial kit install and modification programs and will be known simply as Block 8.1.

Block 8.1 primarily addresses mandated Communication, Navigation, and Surveillance/Air Traffic Management (CNS/ATM) requirements. It also incorporates capabilities such as Link 16, a new Flight Managment System (FMS), Civil GPS Navigation, Identification Friend or FOE (IFF) transponder Mode-5, Civil Data-link, and Automatic Dependent Surveillance-Broadcast (ADS-B).

This program is in Budget Activity 5, System Development and Demonstration (SDD) because it has passed Milestone B approval and is conducting engineering and manufacturing development tasks aimed at meeting validated requirements prior to full-rate production. Note that this program has met the conditions of BA7 and this will be reflected in FY16.

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 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0605278F / *HC/MC-130 Recap RDT&E*

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	19.039	6.242	20.548	-	20.548
Current President's Budget	10.548	2.611	7.497	-	7.497
Total Adjustments	-8.491	-3.631	-13.051	-	-13.051
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-8.314	-3.631			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.177	-			
• Other Adjustments	-	-	-13.051	-	-13.051

Change Summary Explanation

FY13: Congressional reduction of $8.314M for Forward financing.

FY14 : Reduction of $3.631M for program decrease.

FY15: Reduction of $13.051M.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Test and Evaluation	-	0.510	1.643
Description: Test and evaluation planning, conduct, and support for developmental and operational testing. ***FY 2014 Plans:*** Funding provided to support test for Block 6.5 follow on software build. ***FY 2015 Plans:*** Funding provided to support developmental and operational testing.			
Title: Continuous Improvement Program	10.548	2.101	4.204
Description: Aircraft Updates/Upgrades: Adds system and software modifications to the aircraft configurations as identified as deficiency reports by using command. ***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 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0605278F / *HC/MC-130 Recap RDT&E*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Funding provided to add system and software modifications to the aircraft configurations as identified as deficiency reports by using command such as defensive systems, displays, lighting, airdrop/approaches, ICS, EO/IR, and radar. ***FY 2014 Plans:*** Funding provided to add system and software modifications to the aircraft configurations as identified as deficiency reports by using command such as defensive systems, displays, lighting, airdrop/approaches, ICS, EO/IR, and radar. ***FY 2015 Plans:*** Funding provided to add system and software modifications to the aircraft configurations as identified as deficiency reports by using command.			
Title: Block 8.1 ***Description:*** Combined software/hardware upgrade for Block 8.1. Additional efforts include: Link 16, a new Flight Management System (FMS), Civil Global Positioning System (GPS) Navigation, a Special Mission Processor Interface (SMP-I), Identification Friend or Foe (IFF) Mode 5, Civil Data Link, and Automatic Dependent Surveillance-Broadcast (ADS-B). ***FY 2015 Plans:*** HC/MC-130J unnique Block 8.1 development will begin.	-	-	1.650
Accomplishments/Planned Programs Subtotals	10.548	2.611	7.497

D. Other Program Funding Summary ($ in Millions)

N/A

Remarks

Current HC/MC-130 modifciation programs are not associated with HC/MC-130 RDT&E efforts.

E. Acquisition Strategy

The full rate production decision for the HC/MC-130J RECAP was 4 Oct 13. Lockheed Martin is the prime contractor for the Research & Development work in support of the HC/MC-130J Recap program. Work done to date on the HC/MC-130 Recap program has been on a Cost Plus Award Fee (CPAF) type 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-3, RDT&E Project Cost Analysis: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 5	R-1 Program Element (Number/Name) PE 0605278F / *HC/MC-130 Recap RDT&E*	Project (Number/Name) 655249 / *HC-130Recap*	

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
EMD	SS/CPAF	Lockheed Martin : Marietta, GA	45.670	-		-		-		-		-	-	45.670	TBD
Continuous Improvement Program (CIP)	SS/CPIF	Lockheed Martin : Marietta, GA	8.766	10.548	Mar 2014	2.101	Aug 2014	4.204	Mar 2015	-		4.204	-	25.619	TBD
Block 8.1	SS/CPIF	Lockheed Martin : Marietta, GA	4.716	-		-		1.650	Apr 2015	-		1.650	61.905	68.271	TBD
		Subtotal	59.152	10.548		2.101		5.854		-		5.854	61.905	139.560	-

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
Other	Various	AFLCMC/WIS : WPAFB, OH	4.931	-		-		-		-		-	-	4.931	-
		Subtotal	4.931	-		-		-		-		-	-	4.931	-

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 and Evaluation Support	C/FFP	46th Test Wing : EAFB, FL	10.146	-		0.510	Apr 2014	1.643	Feb 2015	-		1.643	-	12.299	TBD
		Subtotal	10.146	-		0.510		1.643		-		1.643	-	12.299	-

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	-	-		-		-		-		-	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 5	R-1 Program Element (Number/Name) PE 0605278F / *HC/MC-130 Recap RDT&E*	Project (Number/Name) 655249 / *HC-130Recap*	

	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	74.229	10.548		2.611		7.497		-		7.497	61.905	156.790	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0605278F / *HC/MC-130 Recap RDT&E*	**Project (Number/Name)** 655249 / *HC-130Recap*

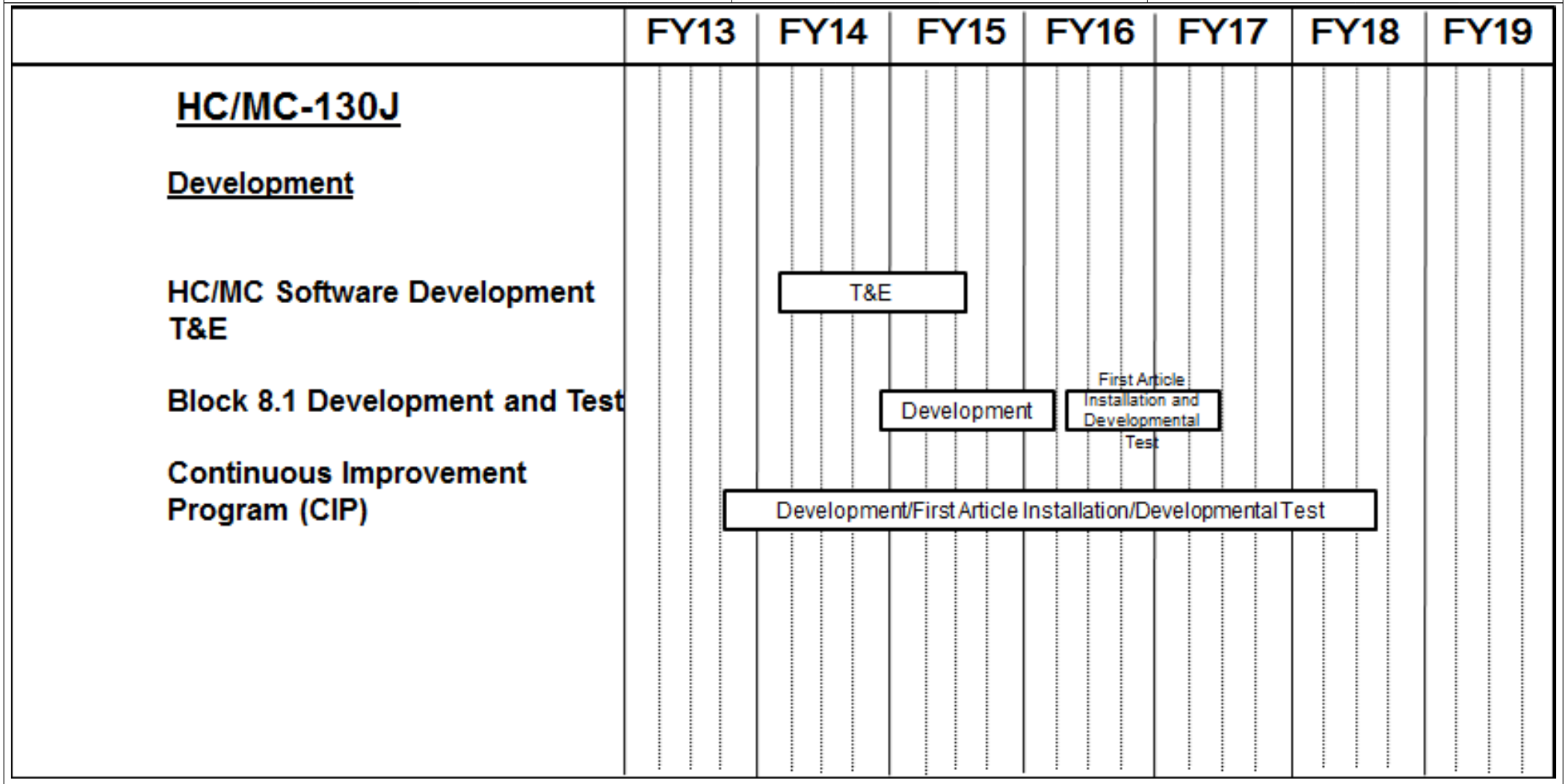

Exhibit R-4A, RDT&E Schedule Details: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0605278F / *HC/MC-130 Recap RDT&E*	**Project (Number/Name)** 655249 / *HC-130Recap*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Software Development Test and Evaluation	2	2014	4	2015
HC/MC-130 Recap Block 8.1 Development	2	2015	4	2016
HC/MC-130 Recap Block 8.1 First Article Installation and Developmental Test	4	2016	2	2018
Continuous Improvement Program (CIP)	4	2013	4	2019

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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 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0605431F / *Advanced EHF MILSATCOM (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	0.000	-	265.634	314.378	-	314.378	258.378	246.915	226.868	668.545	Continuing	Continuing
657103: *Advanced MILSATCOM*	0.000	-	183.134	192.038	-	192.038	63.861	21.485	-	-	-	460.518
657104: *Evolved AEHF MILSATCOM (EAM)*	0.000	-	82.500	122.340	-	122.340	194.517	225.430	226.868	668.545	Continuing	Continuing
MDAP/MAIS Code: 261												

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

Note

In FY2015, Project 657104, Evolved AEHF MILSATCOM, includes one new start effort.

In FY2014, Project 657103, Advanced MILSATCOM, and Project 657104, Evolved AEHF MILSATCOM, efforts transferred from PE 0603430F, Advanced EHF MILSATCOM (Space), Project 644050, Advanced MILSATCOM, and Project 64A030, Evolved AEHF MILSATCOM, in order to transition to Budget Activity 5.

A. Mission Description and Budget Item Justification

Develop and acquire Advanced Extremely High Frequency (AEHF) Military Satellite Communications (MILSATCOM) satellites, mission control segment and cryptography for survivable, anti-jam, worldwide, secure communications for the strategic and tactical warfighters. AEHF satellites will replenish the existing EHF system (Milstar) providing much higher capacity and data rate (5x increase over Milstar II) capabilities. AEHF is a cooperative program that includes International Partners (Canada, the United Kingdom, and the Kingdom of the Netherlands).

Space Vehicle-1 (SV-1) launched on 14 August 2010. SV-1 experienced a propulsion anomaly and was raised to its geostationary orbit using alternative orbit raising techniques. SV-1 completed on-orbit test and transitioned to operations in March 2012. SV-2 launched on 4 May 2012, successfully completed on-orbit testing in October 2012, and is under operational control as of 7 Nov 2012.

With SV-1 and SV-2 launched, the AEHF program has nearly completed its development phase and is now addressing obsolescence, production continuity, supplier stability and industrial base issues. AEHF SV 5-6 are being procured using the Department of Defense (DoD) Efficient Space Procurement (ESP) concept. The ESP concept is a procurement approach which seeks stable production and efficient sub-contractor product management through the block buy of two space vehicles at one time (as described in Advanced EHF MILSATCOM P-40 Exhibit).

In addition, the ESP concept includes use of RDT&E funding for a MILSATCOM Space Modernization Initiative (SMI), to fund engineering activities to reduce future production costs through manufacturing and producibility enhancements, improve capabilities through insertion of new technologies, and replace obsolete parts, crypto and materials. The SV-6 crypto redesign funding is reported in the AEHF (SV 5-6 Subprogram) Acquisition Program Baseline; the remaining SMI efforts are not part of the AEHF Major Defense Acquistion Program. The SMI efforts will provide opportunities for competition to develop potential technology upgrades at the component

and system level for future satellites of the current or any follow-on system. SMI efforts will include obsolescence management and mitigation, technology maturation, new components' qualification, subsystem and component prototyping, architecture and system concept studies (to include hosted payloads), and pathfinder efforts to address MILSATCOM capability gaps identified in the Joint Space Communications Layer (JSCL) Initial Capabilities Document (ICD) and the "Resilient Basis for SATCOM in Joint Operations" study, and currently being assessed in the Protected Satellite Communications Services (PSCS) Analysis of Alternatives (AoA). The purpose of the PSCS AoA is to evaluate alternative space and control segment architectures, along with the associated user segment, to address the required protected satellite communications capabilities in the nuclear, contested, and benign operating environments.

This program is in Budget Activity 5, System Development and Demonstration (SDD) because it is conducting engineering and manufacturing development tasks aimed at meeting validated requirements prior to full-rate production.

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	-	272.872	236.934	-	236.934
Current President's Budget	-	265.634	314.378	-	314.378
Total Adjustments	-	-7.238	77.444	-	77.444
• Congressional General Reductions	-	-0.238			
• Congressional Directed Reductions	-	-7.000			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-	-	77.444	-	77.444

Change Summary Explanation

FY14 Congressional Directed Reduction: -$7.0M, ahead of need / excess growth in hosted payload and business operations support.

FY15 Other Adjustment row: +$58.367M for Interim Contractor Support (ICS) extension required due to Initial Operational Capability (IOC) slip from Dec 2014 to Jun 2015; +$17.0M to fully fund the SMI Protected Tactical demonstration; +$6.0M to initiate the Evolved AEHF Strategic only effort (FY15 new start), -$3.923M inflation adjustment

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 5	R-1 Program Element (Number/Name) PE 0605431F / *Advanced EHF MILSATCOM (SPACE)*	Project (Number/Name) 657103 / *Advanced MILSATCOM*	

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
657103: *Advanced MILSATCOM*	-	-	183.134	192.038	-	192.038	63.861	21.485	-	-	-	460.518
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

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

Note

In FY2014, Project 657103, Advanced MILSATCOM, efforts were transferred from PE 0603430F, Advanced EHF MILSATCOM (Space), Project 644050, Advanced MILSATCOM, in order to transition to Budget Activity 5.

A. Mission Description and Budget Item Justification

Develop and acquire Advanced Extremely High Frequency (AEHF) Military Satellite Communications (MILSATCOM) satellites, mission control segment and cryptography for survivable, anti-jam, worldwide, secure communications for the strategic and tactical warfighters. AEHF satellites will replenish the existing EHF system (Milstar) providing much higher capacity and data rate (5x increase over Milstar II) capabilities.

AEHF is a cooperative program that includes International Partners (Canada, the United Kingdom, and the Kingdom of the Netherlands).

Space Vehicle-1 (SV-1) launched on 14 August 2010. SV-1 experienced a propulsion anomaly and was raised to its geostationary orbit using alternative orbit raising techniques. SV-1 completed on-orbit test and transitioned to operations in March 2012. SV-2 launched on 4 May 2012, successfully completed on-orbit testing in October 2012, and is under operational control as of 7 Nov 2012.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: AEHF SVs 1-2, MCS	-	9.256	-
Description: Maintain AEHF MILSATCOM satellites, mission control segment, and cryptography ***FY 2013 Accomplishments:*** Not applicable. ***FY 2014 Plans:*** Funds System Development and Demonstration (SDD) contract Incentive Fee and continue program office support and related activities, and conduct studies/analyses, as required. ***FY 2015 Plans:*** Not applicable.			
Title: AEHF Interim Contractor Support (ICS)	-	115.078	125.172

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0605431F / *Advanced EHF MILSATCOM (SPACE)*	**Project (Number/Name)** 657103 / *Advanced MILSATCOM*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Description: Funds ICS for AEHF satellites, Mission Control Segment (MCS), Cryptography, and AEHF Calibration Facility (ACF) until Initial Operational Capability (IOC) declaration ***FY 2013 Accomplishments:*** Not applicable. ***FY 2014 Plans:*** Conduct ICS for SV-1 and SV-2 on-orbit support, MCS, AEHF Key Management Architecture (KMA) and ACF sustainment. ***FY 2015 Plans:*** Continue ICS for AEHF satellites' on-orbit support, MCS, AEHF KMA, and ACF leading to a 3QFY2015 IOC.			
Title: AEHF Key Management Infrastructure (KMI) transition ***Description:*** Develop and conduct systems engineering, integration and test of the Protected Key Management Architecture (PKMA). National Security Agency (NSA) will lead the development of the PKMA centralized elements. Enable testing and integration of AEHF Local Key Management functionality within the KMI client with the AEHF system. Initiate PKMA integration activities with the AEHF prime contractor and the Enhanced Polar System (EPS) Control and Planning Segment (CAPS) contractor. ***FY 2013 Accomplishments:*** Not applicable ***FY 2014 Plans:*** Develop and conduct systems engineering, integration and test of the Protected Key Management Architecture (PKMA). SPO will transfer funds to NSA for the development of the PKMA centralized elements, and will enable testing and integration of the AEHF Local Key Management functionality within the KMI client with the AEHF system. SPO will also initiate PKMA integration activities with the AEHF prime contractor, Lockheed Martin, and the EPS CAPS contractor, Northrop Grumman Information Systems. ***FY 2015 Plans:*** Continue KMI transition. Develop and conduct systems engineering, integration and test of the Protected Key Management Architecture (PKMA). SPO will transfer funds to NSA for the development of the PKMA centralized elements, and will continue testing and integration of the AEHF Local Key Management functionality within the KMI client with the AEHF system. SPO will continue PKMA integration activities with the AEHF prime contractor, Lockheed Martin, and the EPS CAPS contractor, Northrop Grumman Information Systems.	-	58.800	66.866
Accomplishments/Planned Programs Subtotals	-	183.134	192.038

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0605431F / *Advanced EHF MILSATCOM (SPACE)*	**Project (Number/Name)** 657103 / *Advanced MILSATCOM*

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: BA04: PE 0603430F: *Advanced EHF MILSATCOM (Space)*	138.183	-	-	-	-	-	-	-	-	-	138.183
• MPAF: BA05: Line Item # ADV555: *Advanced EHF TOA*	476.575	328.350	298.890	-	298.890	335.786	656.455	57.794	29.784	47.650	2,231.284
• RDT&E: BA05: PE 0605433F: *Wideband Global SATCOM (Space)*	-	12.489	16.425	-	16.425	16.615	17.727	18.275	18.624	Continuing	Continuing

Remarks

Wideband Global SATCOM (Space) funding is within the Command and Control System - Consolidated (CCS-C) project.

D. Acquisition Strategy

The Advanced MILSATCOM, also known as Advanced EHF (AEHF), program is a sole source acquisition to a contractor team comprised of Lockheed Martin (prime/ integrator) and Northrop-Grumman (provider of the satellite payload). This team will perform the Advanced Component Development and Prototypes (ACD&P) and Systems Development and Demonstration (SDD) of two RDT&E-funded satellites and associated mission command and control ground capabilities under Cost Plus Award Fee line items on the contract. AEHF will incorporate lessons learned and improvements from Milstar and commercial SATCOM practices into the next generation EHF secure, anti-jam military communications satellite system.

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 / 5	R-1 Program Element (Number/Name) PE 0605431F / *Advanced EHF MILSATCOM (SPACE)*	Project (Number/Name) 657103 / *Advanced MILSATCOM*	

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
Crypto Interim Contractor Support	MIPR	Cryptologic Sys Group : San Antonio, TX	0.000	-		10.200	Mar 2014	10.200	Mar 2015	-		10.200	-	20.400	-
AEHF Interim Contractor Support	SS/CPIF	Lockheed Martin : Sunnyvale, CA	0.000	-		94.260	Dec 2013	98.406	Dec 2014	-		98.406	-	192.666	-
GFP - AEHF Calibration Facility (ACF)	Various	Lincoln Labs : Lexington, MA	0.000	-		10.618	Dec 2013	10.618	Dec 2014	-		10.618	-	21.236	-
New KMI component development	MIPR	NSA : Ft Meade, MD	0.000	-		46.300	Dec 2013	52.243	Dec 2014	-		52.243	62.094	160.637	-
Install/Integrate/Test new AEHF KMI components	SS/FP	Lockheed Martin : Sunnyvale, CA	0.000	-		4.700	Sep 2014	5.136	Dec 2014	-		5.136	7.515	17.351	-
Install/Integrate/Test new EPS KMI components	SS/CPAF	Northrop Grumman Information Systems : Redondo Beach, CA	0.000	-		3.800	Sep 2014	4.345	Dec 2014	-		4.345	5.439	13.584	-
Test new KMI hardware/ software	MIPR	AFLCMC : San Antonio, TX	0.000	-		3.500	Apr 2014	4.642	Dec 2014	-		4.642	9.298	17.440	-
		Subtotal	0.000	-		173.378		185.590		-		185.590	84.346	443.314	-

Remarks

FY14 funds transferred from PE 0603430F, Project 644050.

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 / 5	**R-1 Program Element (Number/Name)** PE 0605431F / *Advanced EHF MILSATCOM (SPACE)*	**Project (Number/Name)** 657103 / *Advanced MILSATCOM*	

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
Development Test and Evaluation support	Various	Various : Various,	0.000	-		0.250	Dec 2013	-		-		-	-	0.250	-
		Subtotal	0.000	-		0.250		-		-		-	-	0.250	-

Remarks

FY14 funds transferred from PE 0603430F, Project 644050.

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
AEHF FFRDC (PMA)	RO	The Aerospace Corporation : El Segundo, CA	0.000	-		5.019	Dec 2013	3.789	Dec 2014	-		3.789	1.000	9.808	-
Business Operating Support Services & Acquisition Mission Support (PMA)	Various	Various : Various,	0.000	-		4.487	Dec 2013	2.659	Dec 2014	-		2.659	-	7.146	-
		Subtotal	0.000	-		9.506		6.448		-		6.448	1.000	16.954	-

Remarks

FY14 funds transferred from PE 0603430F, Project 644050.

	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	-		183.134		192.038		-		192.038	85.346	460.518	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0605431F / *Advanced EHF MILSATCOM (SPACE)*	**Project (Number/Name)** 657103 / *Advanced MILSATCOM*

These efforts are funded in Project 657103 beginning FY14.
Prior to FY14 these efforts are funded in Project 644050.

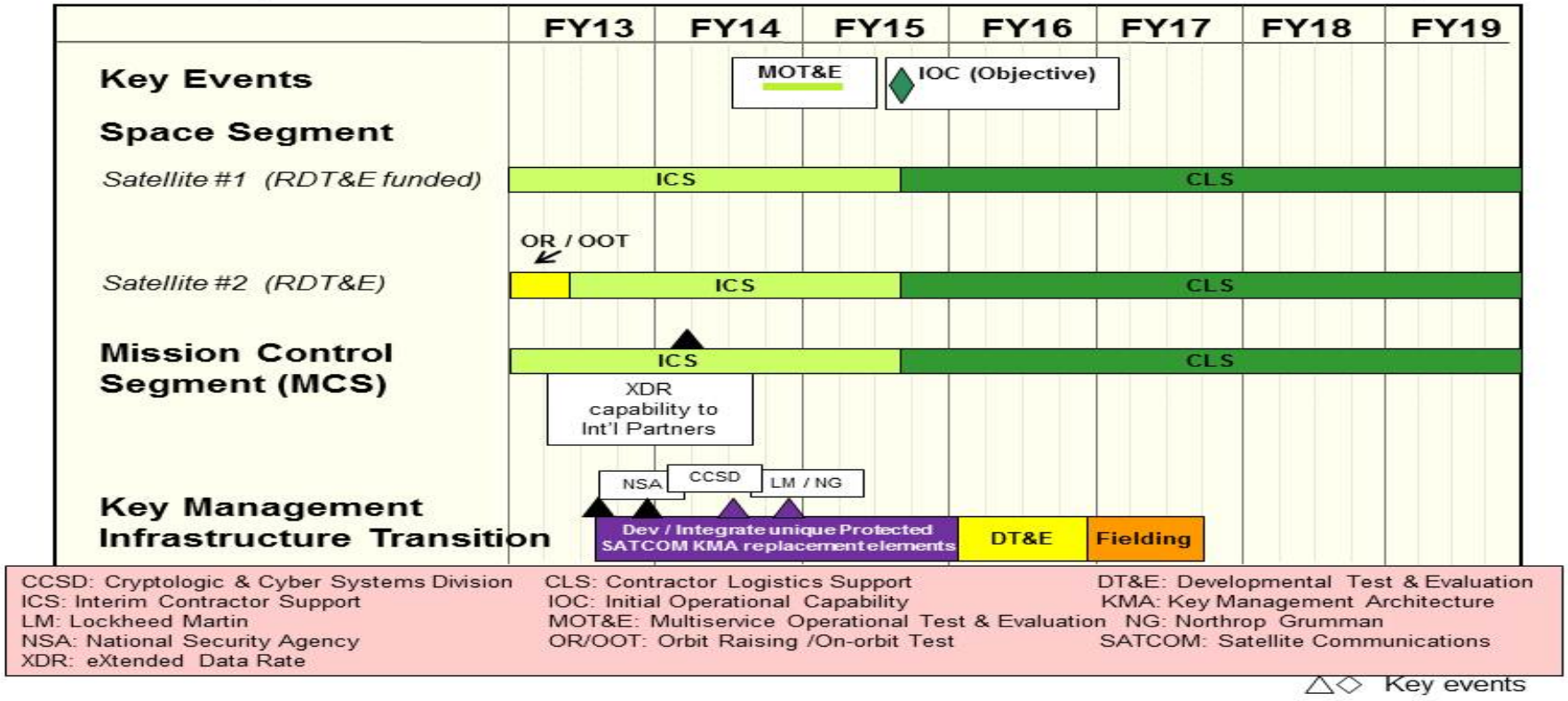


Exhibit R-4A, RDT&E Schedule Details: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0605431F / *Advanced EHF MILSATCOM (SPACE)*	**Project (Number/Name)** 657103 / *Advanced MILSATCOM*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Deliver Ground Segment Software Increment 7.5 (eXtended Data Rate capability to International Partners)	1	2014	1	2014
Award Cryptologic & Cyber Systems Division (CCSD) PKMA contract	3	2014	3	2014
Award LM/NG PKMA Integration & Test contract	4	2014	4	2014
Multiservice Operational Test and Evaluation (MOT&E)	4	2014	1	2015
Initial Operational Capability (IOC) objective	3	2015	3	2015
PKMA development complete	3	2016	3	2016
Operations Transition to PKMA	2	2017	2	2017
Operations Acceptance of PKMA	4	2017	4	2017

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 5	R-1 Program Element (Number/Name) PE 0605431F / *Advanced EHF MILSATCOM (SPACE)*	Project (Number/Name) 657104 / *Evolved AEHF MILSATCOM (EAM)*	

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
657104: *Evolved AEHF MILSATCOM (EAM)*	-	-	82.500	122.340	-	122.340	194.517	225.430	226.868	668.545	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

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

Note

In FY 2015, the Evolved AEHF Strategic only effort is a New Start.

In FY2014, Project 657104, efforts were transferred from PE 0603430F, Advanced EHF MILSATCOM (Space), Project 64A030, Evolved AEHF MILSATCOM, in order to transition to Budget Activity 5.

A. Mission Description and Budget Item Justification

This project funds the MILSATCOM Space Modernization Initiative (SMI) strategy. The main focus of the SMI strategy is to achieve a more affordable and flexible Protected Communications enterprise that will be capable of meeting near-term and future protected MILSATCOM warfighting mission requirements. This enterprise will incorporate engineering and acquisition concepts that will achieve a more resilient protected communications payload(s), develop affordable terminals and define viable ground systems requirements.The SMI strategy will also invest in a variety of promising new technologies and engineering concepts that will evolve current and future MILSATCOM technologies. These efforts will include conducting an assortment of protected communication demonstrations, identifying practicable capabilities that will reduce parts and obsolescence risk to the AEHF constellation and explore reasonable acquisition approaches that will expand the commercial transponder coverage that is capable of meeting current and future wideband SATCOM demand.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: AEHF SV-6 Flight Crypto & Future AEHF Parts Obsolescence Mitigation	-	20.000	20.000
Description: AEHF SV-6 flight cryptographic equipment redesign effort and future AEHF parts obsolescence mitigation effort			
FY 2013 Accomplishments: Not applicable.			
FY 2014 Plans: Continues efforts such as SV-6 flight crypto redevelopment and mitigation of identified parts obsolescence that may affect the future stability of the AEHF product line, particularly the payload.			
FY 2015 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0605431F / *Advanced EHF MILSATCOM (SPACE)*	**Project (Number/Name)** 657104 / *Evolved AEHF MILSATCOM (EAM)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Complete SV-6 flight crypto redevelopment and mitigation of AEHF parts/obsolescence efforts.			
Title: AEHF Capabilities Insertion Program (CIP) ***Description:*** Develop software that will increase the current AEHF constellation capacity by 10% and increase current AEHF terminal data rates with adaptive coding algorithms ***FY 2013 Accomplishments:*** Not applicable. ***FY 2014 Plans:*** Award AEHF CIP effort and conduct AEHF CIP System Design Review (SDR) and Demo. MIT/LL will conduct the Critical Design Review (CDR) for the Terminal Adaptive Coding Accelerator, an effort that builds upon previous study results to develop prototype boxes to interface with both the Navy's Navy Multiband Terminal (NMT) and the Army's SMART-T terminals to increase terminal data rates by up to 800%. Adaptive coding will be completed in FY14. ***FY 2015 Plans:*** AEHF CIP Preliminary Design Review (PDR), CDR and frequency reuse demo. Develop software simulations.	-	19.450	46.710
Title: Protected MILSATCOM "Design for Affordability" ***Description:*** Perform design for affordability studies, demonstrations, and technology risk reduction on critical technology elements for the space payload, terminals and networking segments, with a focus on the Protected Tactical Waveform. ***FY 2013 Accomplishments:*** Not applicable. ***FY 2014 Plans:*** Validate the Protected Broad Agency Announcement (BAA) Phase II results, develop Protected Tactical Waveform (PTW) compatibility test plan, conduct PTW modem tests, conduct PTW hardware demo and award follow on contract for the Protected BAA Phase III effort. ***FY 2015 Plans:*** Conduct component level PTW demonstrations on contractor provided modems, demonstrate TRL6 and above protected tactical modem software simulations, mature the PTW, generate viable PTW modem test reports, continue to develop the PTW interface control documents (ICD).	-	43.050	21.325
Title: Protected Tactical Demonstration	-	-	23.795

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0605431F / *Advanced EHF MILSATCOM (SPACE)*	**Project (Number/Name)** 657104 / *Evolved AEHF MILSATCOM (EAM)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Description: Previously funded in the Protected MILSATCOM "Design for Affordability" effort, the Protected Tactical Demonstration will develop and evaluate the Space, Ground (Mission Management and Gateway), Terminal and Information Assurance components that provide the foundation of a future protected tactical MILSATCOM program. Demonstrate Anti-Jam (AJ) and Low Probability of Intercept (LPI)/Low Probability of Detection (LPD) for tactical users. Design, build and operate ground and mission management assets necessary to support the space and terminal segment demonstrations. Design, build, and operate representative user terminal(s) to demonstrate the protected tactical waveform's application and operations concepts. Design and build representative crypto units that can demonstrate affordable Information Assurance design/implementation. ***FY 2014 Plans:*** Not applicable. ***FY 2015 Plans:*** Award contract, refine system and payload requirements, conduct SDR and prepare for PDR.			
Title: Evolved AEHF (E-AEHF) Strategic only ***Description:*** The Evolved AEHF (E-AEHF) provides nuclear survivable, protected military satellite communications (MILSATCOM) to strategic users only. E-AEHF supports strategic mission requirements such as Presidential National Voice Conferencing (PNVC), Nuclear Command and Control (NC2) strategic networks, terminal reportback, and Emergency Action Message (EAM) dissemination. ***FY 2014 Plans:*** Not applicable. ***FY 2015 Plans:*** Define system and payload definitions.	-	-	10.510
Accomplishments/Planned Programs Subtotals	-	82.500	122.340

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: BA04: PE 0603430F: *Advanced EHF MILSATCOM (Space)*	73.449	-	-	-	-	-	-	-	-	-	73.449
• MPAF: BA05: Line Item # ADV555: *Advanced EHF*	476.575	328.350	298.890	-	298.890	335.786	656.455	57.794	29.784	47.650	2,231.284

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0605431F / *Advanced EHF MILSATCOM (SPACE)*	**Project (Number/Name)** 657104 / *Evolved AEHF MILSATCOM (EAM)*

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

D. Acquisition Strategy

MILSATCOM SMI will include parts obsolescence redesign and incremental capability upgrades for potential future block buys contracted with current Prime contractor team. Enterprise studies, system design for affordability, and risk reduction efforts for next generation capabilities will include full and open competition 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 / 5	**R-1 Program Element (Number/Name)** PE 0605431F / *Advanced EHF MILSATCOM (SPACE)*	**Project (Number/Name)** 657104 / *Evolved AEHF MILSATCOM (EAM)*	

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
AEHF SV-6 Flight Crypto and Future Parts Obsolescence Mitigation	Various	Various : Various,	0.000	-		20.000	Dec 2013	20.000	Dec 2014	-		20.000	-	40.000	-
AEHF Capabilities Insertion Program (CIP)	SS/ Various	Lockheed Martin : Sunnyvale, CA	0.000	-		17.040	Jun 2014	46.300	Jan 2015	-		46.300	Continuing	Continuing	-
Protected MILSATCOM "Adaptive Coding"	Various	MIT/LL : ,	0.000	-		2.000	Jan 2014	-		-		-	-	2.000	-
Protected MILSATCOM "Design for Affordability" Phase 3 BAA #1	C/FFP	The Boeing Company : El Segundo, CA	0.000	-		5.996	Feb 2014	-		-		-	-	5.996	-
Protected MILSATCOM "Design for Affordability" Phase 3 BAA #2	C/FFP	Loral : Palo Alto, CA	0.000	-		6.675	Feb 2014	-		-		-	-	6.675	-
Protected MILSATCOM "Design for Affordability" Phase 3 BAA #3	C/FFP	Raytheon : Marlborough, MA	0.000	-		3.981	Feb 2014	-		-		-	-	3.981	-
Protected MILSATCOM "Design for Affordability" Phase 3 BAA #4	C/FFP	L3 COM - West : Salt Lake City, UT	0.000	-		3.374	Feb 2014	-		-		-	-	3.374	-
Protected Tactical Demonstration	TBD	TBD : TBD,	0.000	-		-		17.460	May 2015	-		17.460	-	17.460	-
Evolved AEHF (E-AEHF)	Various	Various : Various,	0.000	-		-		6.180	Dec 2014	-		6.180	Continuing	Continuing	-
Protected Testbed	Various	MIT/LL : Various,	0.000	-		8.874	Dec 2013	14.200	Dec 2014	-		14.200	Continuing	Continuing	-
		Subtotal	0.000	-		67.940		104.140		-		104.140	-	-	-

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
Enterprise Systems Engineering and Integration	Various	Various : Various,	0.000	-		4.120	Dec 2013	6.185	Dec 2014	-		6.185	Continuing	Continuing	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0605431F / *Advanced EHF MILSATCOM (SPACE)*	**Project (Number/Name)** 657104 / *Evolved AEHF MILSATCOM (EAM)*	

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	0.000	-		4.120		6.185		-		6.185	-	-	-

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)

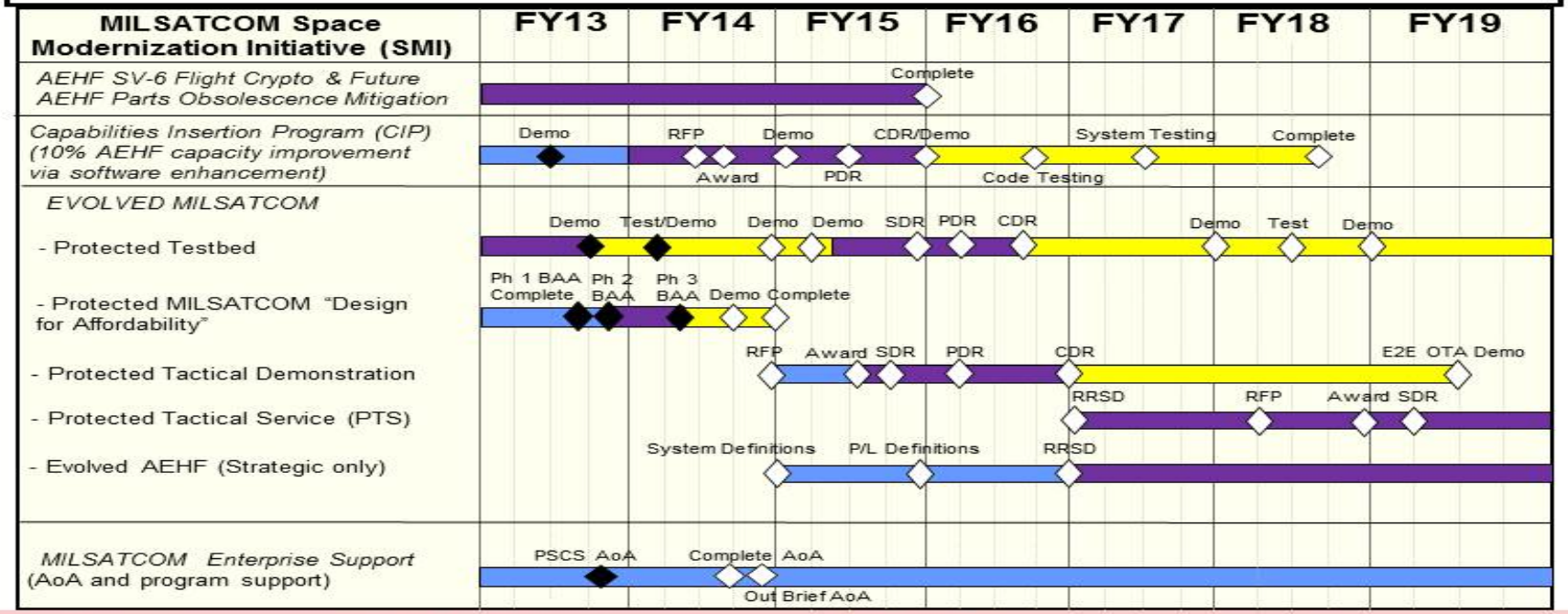
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
FFRDC to support MILSATCOM Enterprise (PMA)	Various	Various : Various,	0.000	-		9.280	Jan 2014	10.415	Jan 2015	-		10.415	Continuing	Continuing	-
Program Office Support & Other Related Activities (PMA)	Various	Various : Various,	0.000	-		0.060	Dec 2013	0.100	Dec 2014	-		0.100	Continuing	Continuing	-
Business Operating Support Services & Acquisition Mission Support (PMA)	Various	Various : Various,	0.000	-		1.100	Dec 2013	1.500	Dec 2014	-		1.500	Continuing	Continuing	-
		Subtotal	0.000	-		10.440		12.015		-		12.015	-	-	-

	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	-		82.500		122.340		-		122.340	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0605431F / *Advanced EHF MILSATCOM (SPACE)*	**Project (Number/Name)** 657104 / *Evolved AEHF MILSATCOM (EAM)*

These efforts are funded in PE 0605431F, Project 657104 beginning FY14.
Prior to FY14 these efforts are funded in PE 0603430F, Project 64A030.



BAA: Broad Agency Announcement
PDR: Preliminary Design Review
SDR: System Design Review
CDR: Critical Design Review
PSCS: Protected SATCOM Services
E2E: End To End
RFP: Request for Proposal
OTA: Over The Air
RRSD: Risk Reduction & System Definition

Concept activities | Design / development | Integration / test

Exhibit R-4A, RDT&E Schedule Details: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0605431F / *Advanced EHF MILSATCOM (SPACE)*	**Project (Number/Name)** 657104 / *Evolved AEHF MILSATCOM (EAM)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Award Phase 3 options for Protected MILSATCOM "Design for Affordability"	2	2014	2	2014
Award AEHF CIP contract	3	2014	3	2014
Outbrief Protected AoA	4	2014	4	2014
Initiate Evolved AEHF (Strategic only) system definitions	1	2015	1	2015
Conduct AEHF CIP Preliminary Design Review (PDR)	2	2015	2	2015
Award Protected Tactical Demonstration	3	2015	3	2015
Initiate Protected Tactical Service (PTS) Risk Reduction and System Definition (RRSD)	1	2017	1	2017
Initiate Evolved AEHF (Strategic only) RRSD	1	2017	1	2017
Award PTS contract	4	2018	4	2018
Conduct Protected Tactical End to End Over the Air Demonstration	3	2019	3	2019

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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 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0605432F / *Polar MILSATCOM (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	0.000	-	104.582	103.552	-	103.552	72.563	51.727	24.930	-	-	357.354
657105: *Polar Satellite Communications*	0.000	-	104.582	103.552	-	103.552	72.563	51.727	24.930	-	-	357.354
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		
MDAP/MAIS Code: 121												

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

Note

In FY2014, Project 657105, Polar Satellite Communications, efforts were transferred from PE 0603432F, Polar MILSATCOM (Space), Project 644052, Polar Satellite Communications, in order to transition to Budget Activity 5.

A. Mission Description and Budget Item Justification

This program element acquires the Polar Military Satellite Communications (MILSATCOM) system that provides protected communications (anti-jam and low probability of intercept and detection) for users in the north polar region.

Through FY05, Polar Satellite Communications funded three low data rate (LDR) Milstar packages on three classified host satellites as an expedited, interim solution for protected connectivity requirements in the north polar region (i.e., Interim Polar System (IPS)). Two satellites with hosted packages are required to provide the necessary 24-hour coverage. The third package went into operations in November 2008 to sustain the 24-hour coverage.

In FY06, the DoD began funding the next generation Polar Satellite Communications capability with two more polar packages via the same host vehicle type (i.e., Enhanced Polar System (EPS)). The host spacecraft and the polar communications packages required design modifications that replaced obsolete components and took advantage of the more capable Advanced Extremely High Frequency (AEHF) technology including the eXtended Data Rate (XDR) waveform. The EPS Capability Development Document (CDD), approved by the Joint Requirements Oversight Council in September 2006, is based on a two-package, hosted XDR program with operational availability in CY15 and CY17. The EPS system is comprised of four segments: Payload, Ground Control, Gateway, and Terminal (acquired by each Service's Terminal Program Office). Milestone B is scheduled for FY2014.

The Polar MILSATCOM program is in Budget Activity 5, System Development and Demonstration (SDD) because it has passed Milestone B approval and is conducting engineering and manufacturing development tasks aimed at meeting validated requirements prior to full-rate production.

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 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0605432F / *Polar MILSATCOM (SPACE)*	

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	-	124.805	96.782	-	96.782
Current President's Budget	-	104.582	103.552	-	103.552
Total Adjustments	-	-20.223	6.770	-	6.770
• Congressional General Reductions	-	-0.223			
• Congressional Directed Reductions	-	-20.000			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-	-	6.770	-	6.770

Change Summary Explanation

FY14: -$20.0M, Congressional Directed Reduction for unjustified increase

FY15: +8.163M, funds to the Service Cost Position cost estimate; -$1.393M inflation adjustment

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: EPS	-	104.582	103.552

Description: Develop and acquire EPS MILSATCOM which consists of 1) two Extremely High Frequency payloads, using AEHF's eXtended Data Rate (XDR) waveform, on hosted spacecraft, 2) a standalone Control and Planning Segment to provide command and control and XDR mission planning capability, and 3) one gateway to provide connectivity between polar and mid-latitude users through the Global Information Grid

FY 2013 Accomplishments:

Not applicable.

FY 2014 Plans:

Continue integration of the two EPS payloads onto the host satellites. Will complete the CAPS development and conduct the Critical Design Review (CDR). Will initiate the CAPS build and integration and test. Will continue integration and test of the ground Gateway segment and conduct site preparation planning. Will hold an EPS Milestone B review and conduct an EPS system-level CDR.

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 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0605432F / *Polar MILSATCOM (SPACE)*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Continue integration of Payload #2 onto the host satellite and will conduct Payload #1 test. Will conduct ground Gateway segment installation. Will continue the Control and Planning Segment (CAPS) installation and test, and will verify a fully functional EPS CAPS that fully integrates with all other segments of EPS.			
Accomplishments/Planned Programs Subtotals	-	104.582	103.552

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: BA04: PE 0603432F: *Polar MILSATCOM (Space)*	77.202	-	-	-	-	-	-	-	-	-	77.202

Remarks

E. Acquisition Strategy

The Enhanced Polar System (EPS) is the follow-on to the currently operational Interim Polar System (IPS) and is a component of the Extremely High Frequency SATCOM architecture providing secure, protected communications to worldwide users. The EPS acquisition consists of four segments (Payload, Ground Control, Gateway, and Terminal) acquired by separate procurement actions. Each EPS payload and its integration onto classified host satellites is funded by the EPS program while the development and integration is performed by the host organization. The MILSATCOM System Directorate will procure the Ground Control and Planning Segment. The Ground Gateway segment, funded by the EPS program, will be organically developed by the Navy's Space and Naval Warfare Systems Center Pacific (SSC-Pacific). The MILSATCOM System Directorate is the prime systems integrator for the EPS payload, ground control, and gateway segments. The Terminals that will use EPS will be acquired by each Service's Terminal Program Office.

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 / 5	R-1 Program Element (Number/Name) PE 0605432F / *Polar MILSATCOM (SPACE)*	Project (Number/Name) 657105 / *Polar Satellite Communications*	

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
Control and Planning Segment	C/CPIF	Northrop Grumman Information Systems : Redondo Beach, CA	0.000	-		50.040	Dec 2013	55.607	Nov 2014	-		55.607	70.495	176.142	-
Gateway architecture development	MIPR	Space and Naval Warfare Systems Command (SPAWAR) Systems Center - Pacific : San Diego, CA	0.000	-		16.585	Dec 2013	9.512	Nov 2014	-		9.512	17.014	43.111	-
EPS Design/Development Contract	SS/CPAF	NGAS : Redondo Beach, CA	0.000	-		10.280	Dec 2013	12.068	Nov 2014	-		12.068	16.589	38.937	-
IC2 Development	MIPR	Lincoln Labs : Boston, MA	0.000	-		1.850	Dec 2013	0.850	Nov 2014	-		0.850	2.400	5.100	-
		Subtotal	0.000	-		78.755		78.037		-		78.037	106.498	263.290	-

Remarks

FY14 funds transferred from PE 0603432F, Project 644052.

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
Systems Engineering & Integration	C/Various	Linquest : Los Angeles, CA	0.000	-		2.950	Dec 2013	4.420	Nov 2014	-		4.420	11.287	18.657	-
Systems Integration/ Ground Software Support	MIPR	Johns Hopkins University/Applied Physics Lab : Columbia, MD	0.000	-		2.700	Dec 2013	1.280	Nov 2014	-		1.280	2.632	6.612	-
		Subtotal	0.000	-		5.650		5.700		-		5.700	13.919	25.269	-

Remarks

FY14 funds transferred from PE 0603432F, Project 644052.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 5	R-1 Program Element (Number/Name) PE 0605432F / *Polar MILSATCOM (SPACE)*	Project (Number/Name) 657105 / *Polar Satellite Communications*	

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
Planning/Management Support for T&E	MIPR	Space and Naval Warfare Systems Center - Pacific : San Diego, CA	0.000	-		0.558	Dec 2013	-		-		-	-	0.558	-
		Subtotal	0.000	-		0.558		-		-		-	-	0.558	-

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 FFRDC engineering (PMA)	Various	Various : Various,	0.000	-		9.745	Dec 2013	10.037	Nov 2014	-		10.037	19.178	38.960	-
Program Office Support	Various	Various : Various,	0.000	-		1.561	Dec 2013	1.604	Nov 2014	-		1.604	1.952	5.117	-
Travel/Business Ops Support Services/ Acquisition Mission Support (PMA)	Various	Various : Various,	0.000	-		8.313	Dec 2013	8.174	Nov 2014	-		8.174	7.673	24.160	-
		Subtotal	0.000	-		19.619		19.815		-		19.815	28.803	68.237	-

Remarks

FY14 funds transferred from PE 0603432F, Project 644052.

	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	-		104.582		103.552		-		103.552	149.220	357.354	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0605432F / *Polar MILSATCOM (SPACE)*	**Project (Number/Name)** 657105 / *Polar Satellite Communications*

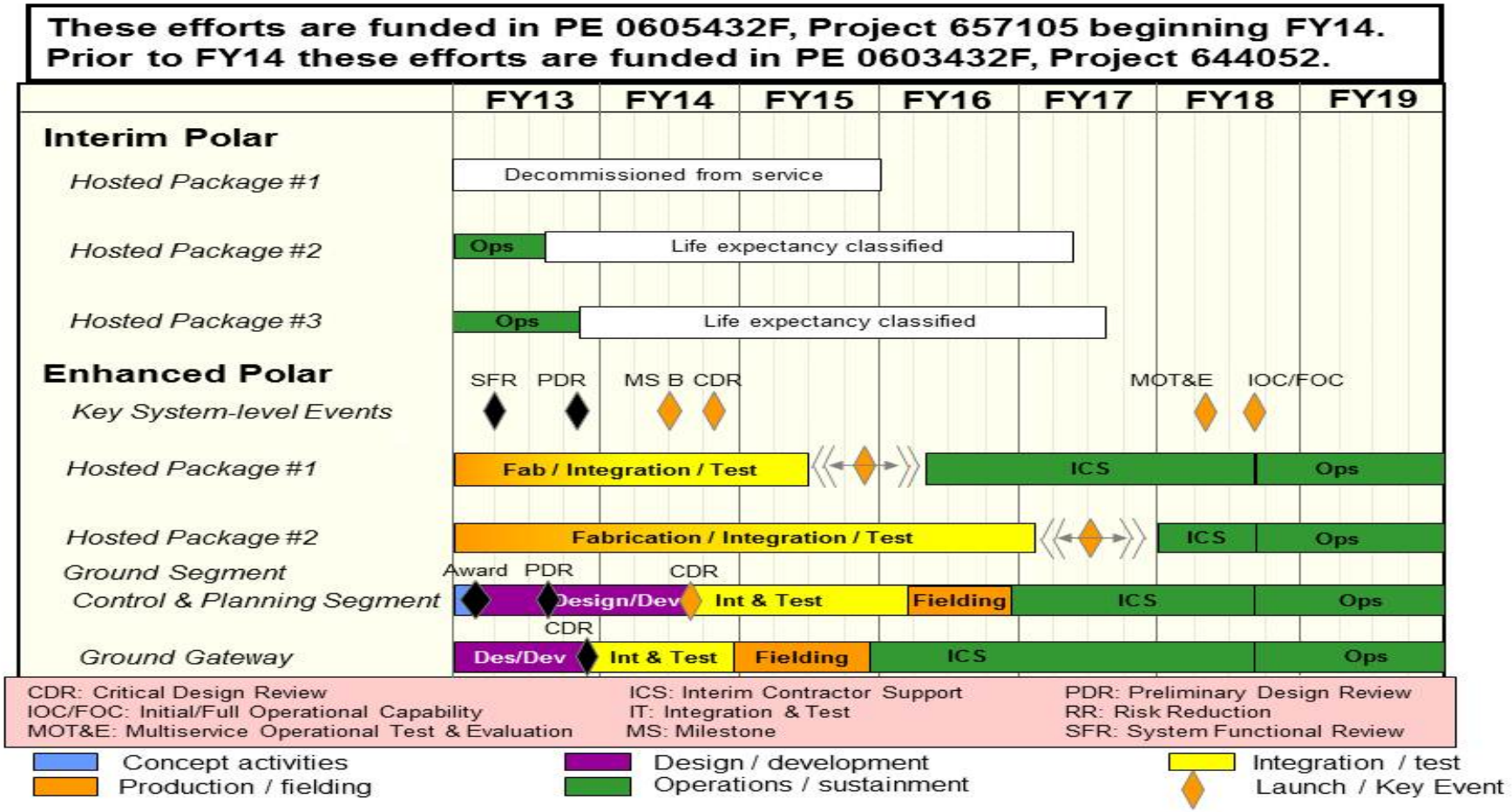

Exhibit R-4A, RDT&E Schedule Details: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0605432F / *Polar MILSATCOM (SPACE)*	**Project (Number/Name)** 657105 / *Polar Satellite Communications*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Enhanced Polar System (EPS) Milestone B Review	3	2014	3	2014
Control and Planning Segment (CAPS) Critical Design Review	3	2014	3	2014
EPS system-level Critical Design Review	4	2014	4	2014
Payload #1 available for test	2	2015	2	2015
Gateway Site Install	3	2015	4	2015
Field CAPS	1	2016	4	2016
Launch Payload #2	1	2017	4	2017
Conduct MOT&E	2	2018	2	2018
IOC/FOC declaration	3	2018	3	2018

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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 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0605433F / *WIDEBAND GLOBAL SATCOM (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	-	-	12.489	31.425	-	31.425	41.615	37.727	18.275	18.624	Continuing	Continuing
657102: *Command and Control Sys-Consolidated (CCS-C)*	-	-	12.489	16.425	-	16.425	16.615	17.727	18.275	18.624	Continuing	Continuing
657107: *WGS Space Systems Resiliency Upgrade*	-	-	-	15.000	-	15.000	25.000	20.000	-	-	-	60.000

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

Note

Project 657107, WGS Space Systems Resiliency Upgrade, is a FY15 New Start.

In FY2014, Project 657102, Command and Control System - Consolidated (CCS-C), efforts were transferred from 0603854F, Wideband Global SATCOM (Space), Project 644870, CCS-C, in order to transition to Budget Activity 5.

A. Mission Description and Budget Item Justification

The Wideband Global SATCOM (WGS) System provides DoD users with high data rate military satellite communications (MILSATCOM) services in accordance with the Joint Space Management-approved MILSATCOM architecture (Aug 96), the Joint Requirements Oversight Council (JROC)-approved MILSATCOM Capstone Requirements Document (Oct 97), and the JROC-approved WGS Operational Requirements Document (May 00). Dual-frequency WGS satellites augment, then replace the DoD's Defense Satellite Communications System (DSCS) X-band service and augment one-way Global Broadcast Service Ka-band capabilities. In addition, WGS provides a new high capacity two-way Ka-band service.

All WGS Block I (Satellites 1-3) and Block II (Satellites 4-6) have been launched and are operational. With the operation of WGS-5, the constellation has global coverage and Full Operational Capability (FOC) in March 2014. The FY15 Project 657107, WGS Space Systems Resiliency Upgrade, is a new start and will be an Acquisition Category III (ACAT III) effort. The WGS resiliency upgrade will enable the WGS system to both locate and neutralize ground-based jamming threats.

The MILSATCOM Command and Control System-Consolidated (CCS-C) system provides integrated launch and on-orbit command and control (C2) functionality, and backup operations at Schriever AFB and Vandenberg AFB, for MILSATCOM satellites as the legacy capability provided by the Air Force Satellite Control Network (PE 0305110F) has phased out according to plan. CCS-C uses modified commercial off the shelf hardware/software to control emerging and legacy MILSATCOM systems including Milstar, DSCS, WGS and Advanced Extremely High Frequency (AEHF) satellites.

The CCS-C project 657102 funds system architecture evolution to provide increased performance for additional satellites and to comply with DoD, Air Force, and AFSPC-directed standards for Information Assurance, Satellite Control Standardization, and Net-Readiness. This continuing effort was previously funded in the FY14PB

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 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0605433F / *WIDEBAND GLOBAL SATCOM (SPACE)*

and prior as an ACAT II program. With the 10 October 2013 FOC declaration, the program has transitioned to an ACAT III beginning FY2014. The WGS and AEHF procurement program elements fund the mission unique software and databases for the WGS Block II Follow-On satellites and the AEHF 4-6 satellites, respectively.

BA-5 - This program is in Budget Activity 5, System Development and Demonstration (SDD) because it is conducting engineering and manufacturing development tasks aimed at meeting validated requirements prior to full-rate production.

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	-	13.948	16.817	-	16.817
Current President's Budget	-	12.489	31.425	-	31.425
Total Adjustments	-	-1.459	14.608	-	14.608
• Congressional General Reductions	-	-0.064			
• Congressional Directed Reductions	-	-1.395			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-	-	14.608	-	14.608

Change Summary Explanation

FY14: -$1.395M Congressional Directed Reduction, program decrease

FY15: +$15.0M for the WGS space systems resiliency upgrade, -$0.4M inflation adjustment

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 5	R-1 Program Element (Number/Name) PE 0605433F / *WIDEBAND GLOBAL SATCOM (SPACE)*	Project (Number/Name) 657102 / *Command and Control Sys-Consolidated (CCS-C)*	

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
657102: *Command and Control Sys-Consolidated (CCS-C)*	-	-	12.489	16.425	-	16.425	16.615	17.727	18.275	18.624	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 Military Satellite Communications (MILSATCOM) Command and Control System-Consolidated (CCS-C) system provides integrated launch and on-orbit command and control (C2) functionality, and backup operations at Schriever AFB and Vandenberg AFB, for MILSATCOM satellites as the legacy capability provided by the Air Force Satellite Control Network (PE 0305110F) has phased out according to plan. CCS-C uses modified commercial off the shelf hardware/software to control emerging and legacy MILSATCOM systems including Milstar, Defense Satellite Communications System (DSCS), Wideband Global SATCOM (WGS) and Advanced Extremely High Frequency (AEHF) satellites.

The CCS-C project 657102 funds system architecture evolution to provide increased performance for additional satellites and to comply with DoD, Air Force, and AFSPC-directed standards for Information Assurance, Satellite Control Standardization, and Net-Readiness. This continuing effort was previously funded in the FY14PB and prior as an Acquisition Category II (ACAT II) program. With the 10 October 2013 Final Operational Capability (FOC) declaration, the program has transitioned to an ACAT III beginning FY2014. The WGS and AEHF procurement program elements fund the mission unique software and databases for the WGS Block II Follow-On satellites and the AEHF 4-6 satellites, respectively.

BA-5 - This program is in Budget Activity 5, System Development and Demonstration (SDD) because it is conducting engineering and manufacturing development tasks aimed at meeting validated requirements prior to full-rate production.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: CCS-C development	-	12.489	16.425
Description: Develop system architecture to provide enhanced C2 of MILSATCOM satellites.			
FY 2013 Accomplishments: Not applicable.			
FY 2014 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0605433F / *WIDEBAND GLOBAL SATCOM (SPACE)*	**Project (Number/Name)** 657102 / *Command and Control Sys-Consolidated (CCS-C)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Funds the architecture evolution prototype for risk reduction, addition of new cross-domain capability, enhancement of Information Assurance posture, integration and tests of upgraded ground based cryptologic equipment, and initiation of architecture changes to increase WGS capacity and reduce system downtime. ***FY 2015 Plans:*** Funds architecture evolution prototype for risk reduction, addition of new cross-domain capability, enhancement of Information Assurance posture, integration and tests of upgraded ground based cryptologic equipment, and continues architecture changes to increase WGS capacity and reduce system downtime.			
Accomplishments/Planned Programs Subtotals	-	12.489	16.425

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 # 836780: *Milsatcom Space*	0.259	0.261	0.265	-	0.265	0.271	0.276	0.280	0.285	Continuing	Continuing
• MPAF: BA05: Line Item # ADV555: *Advanced EHF*	-	2.350	3.670	-	3.670	1.890	2.338	-	-	-	10.248
• MPAF: BA05: Line Item # GAP000: *Wideband Global System Procurement*	1.339	-	5.609	-	5.609	2.083	2.083	-	-	-	11.114
• RDT&E: BA04: PE 0603854F: *Wideband Global SATCOM RDT&E (Space)*	10.438	-	-	-	-	-	-	-	-	-	10.438

Remarks

D. Acquisition Strategy

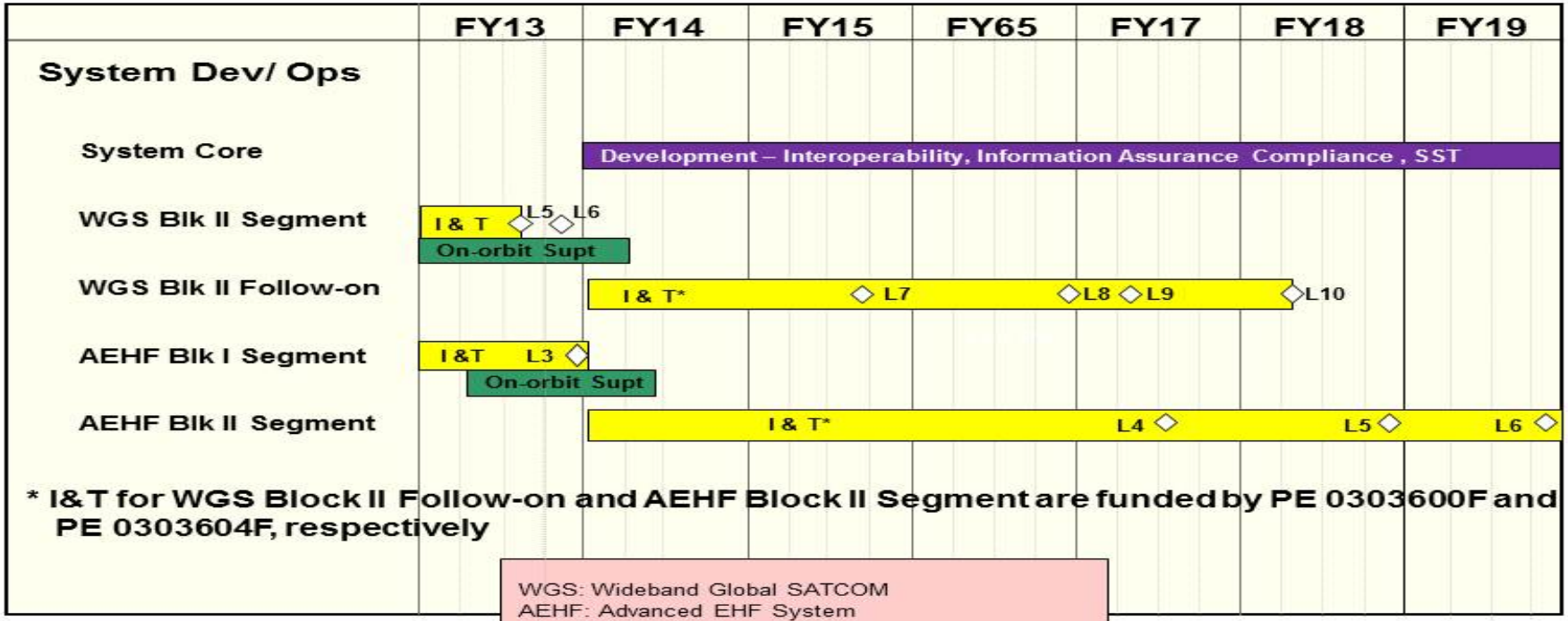
Competitive contract was awarded in November 2012 and began performance in January 2013. The CCS-C Production and Sustainment Contract (CPASC) includes effort to increase the capability of the CCS-C system to provide ongoing C2, launch readiness support, and anomaly resolution for MILSATCOM satellite families.

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 / 5	**R-1 Program Element (Number/Name)** PE 0605433F / *WIDEBAND GLOBAL SATCOM (SPACE)*	**Project (Number/Name)** 657102 / *Command and Control Sys-Consolidated (CCS-C)*

These efforts are funded in PE 0605433F, Project 657102 beginning FY14. Prior to FY14 these efforts are funded in PE 0603854F, Project 644870.



Note: All CCS-C WGS-6 effort is funded by Australia

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 5	R-1 Program Element (Number/Name) PE 0605433F / *WIDEBAND GLOBAL SATCOM (SPACE)*	Project (Number/Name) 657107 / *WGS Space Systems Resiliency Upgrade*	

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
657107: *WGS Space Systems Resiliency Upgrade*	-	-	-	15.000	-	15.000	25.000	20.000	-	-	-	60.000
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

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

Note

This effort is a FY15 New Start

A. Mission Description and Budget Item Justification

The Wideband Global SATCOM (WGS) System provides the DoD with high data rate military satellite communications (MILSATCOM) services in accordance with the Joint Space Management Board-approved MILSATCOM architecture (August 1996), the Joint Requirements Oversight Council (JROC)-approved MILSATCOM Capstone Requirements Document (October 1997), and JROC-approved WGS Operational Requirements Document (May 2000). This program was originally conceived to augment the near-term "bandwidth gap" in warfighter communications needs. Dual-frequency WGS satellites augment, then replace the DoD's Defense Satellite Communications System X-band service and augment one-way Global Broadcast Service Ka-band capabilities. In addition, WGS provides a high capacity two-way Ka-band service.

All WGS Block I (Satellites 1-3) and Block II (Satellites 4-6) have been launched and are operational. With the operation of WGS-5, the constellation has global coverage and Full Operational Capability (FOC) in March 2014. The FY15 Project 657107, WGS Space Systems Resiliency Upgrade, is a new start and will be an Acquisition Category III (ACAT III) effort. The WGS resiliency upgrade will enable the WGS system to both locate and neutralize ground-based jamming threats.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: WGS Upgrade	-	-	15.000
Description: Upgrade WGS system to both locate and neutralize ground-based jamming threats.			
FY 2013 Accomplishments: Not Applicable.			
FY 2014 Plans: Not Applicable.			
FY 2015 Plans: Funds upgrades to Wideband Global SATCOM (WGS) space and ground			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0605433F / *WIDEBAND GLOBAL SATCOM (SPACE)*	**Project (Number/Name)** 657107 / *WGS Space Systems Resiliency Upgrade*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
software/hardware to implement constellation-wide changes that will enable the WGS system to both locate and neutralize ground-based jamming threats.			
Accomplishments/Planned Programs Subtotals	-	-	15.000

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
• MPAF: BA05: Line Item # GAP000: *Wideband Global System Procurement*	36.786	33.998	38.971	-	38.971	53.864	70.973	48.526	11.318	-	3,258.596

Remarks

D. Acquisition Strategy

The Wideband Global SATCOM (WGS) Space Systems Resiliency Upgrade will be accomplished by modifying the WGS Block II Follow-On (B2FO) Firm Fixed Price (FFP) contract definitized in August 2010. The B2FO contract currently provides development, production, and deployment of WGS satellites 7 and beyond.

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 / 5	**R-1 Program Element (Number/Name)** PE 0605433F / *WIDEBAND GLOBAL SATCOM (SPACE)*	**Project (Number/Name)** 657107 / *WGS Space Systems Resiliency Upgrade*

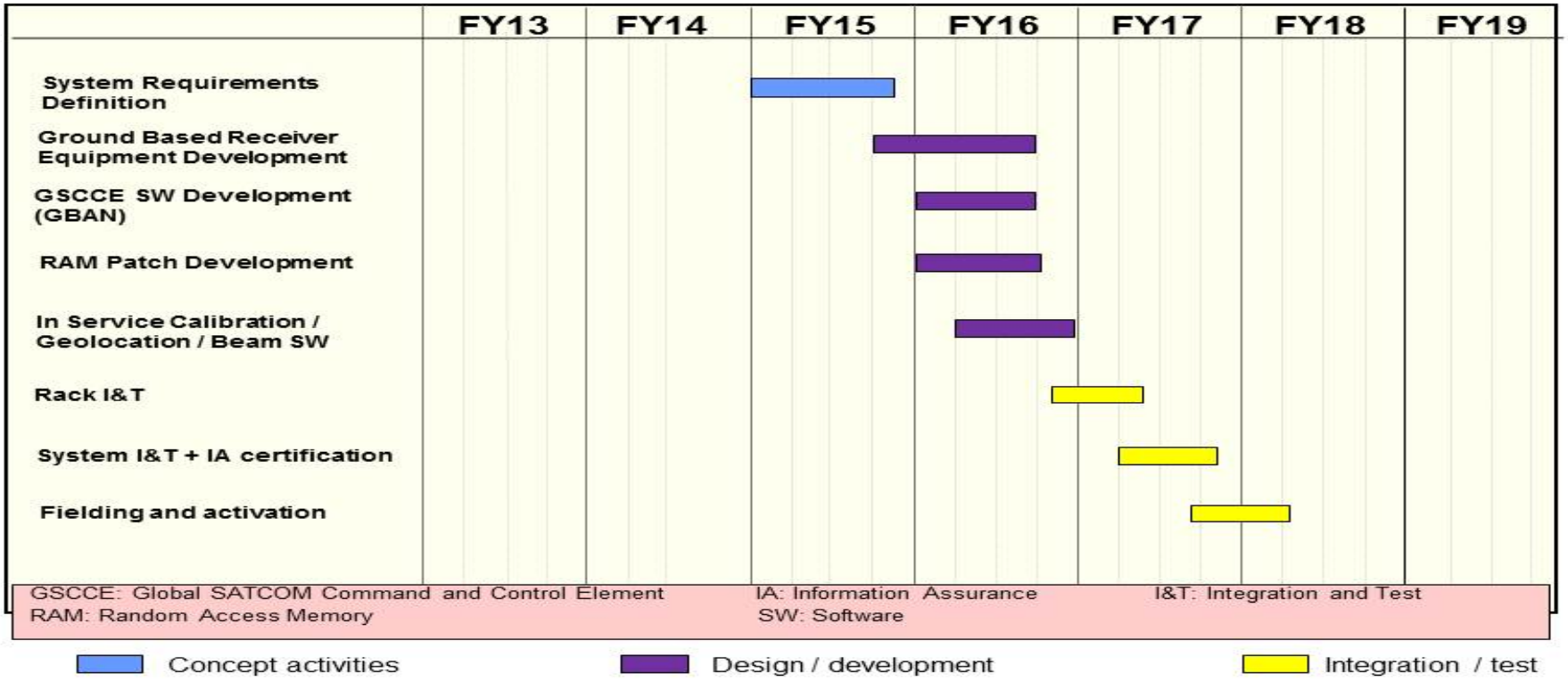


Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force												Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0605458F / *Air & Space Ops Center 10.2 RDT&E*							
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	-	-	85.938	-	85.938	47.946	-	-	-	-	133.884
654945: *AOC 10.2 Development*	0.000	-	-	85.938	-	85.938	47.946	-	-	-	-	133.884
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

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

Note

In FY 2014, PE 0604458F, Project Number 644945, AOC Inc. 10.2, efforts were transferred from PE 0207410F, AOC WS, Project Number 675117, in order to improve transparency of ACAT 1 Acquisition programs.

AOC Increment 10.2 received a Milestone B decision 11 October 2013. In FY 2015, PE 0605458F, Air & Space Ops Center 10.2, project number 654945, AOC 10.2 Development, efforts were transferred from PE 0604458F, Air & Space Ops Center, project number 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). This is not a new start.

A. Mission Description and Budget Item Justification

The Air Operations Center Weapon System (AOC WS), AN/USQ-163 Falconer, the senior element of the Theater Air Control System (TACS), is the weapon system the Commander, Air Force Forces (COMAFFOR) provides the Combined/Joint Force Air Component Commander (C/JFACC) for planning, executing, and assessing theater-wide air and space operations. The C/JFACC provides air, space and cyber support to the Combined/Joint Forces Commander (C/JFC) by coordinating, deconflicting and assessing the progress of various weapon systems to advance the C/JFC's campaign. The AOC WS develops operations strategy and planning documents. The weapon system also disseminates tasking orders; executes day-to-day peacetime and combat air, space and cyber operations; and provides rapid reaction to immediate situations by exercising positive control of friendly forces.

The AOC WS Increment 10.2 program keeps the AOC interoperable, certified, supportable, and compliant through the integration, testing and fielding of new capabilities and sustainment upgrades to the AOC WS baseline. The program supports mission requirements at Geographic and Functional AOCs, as well as Support and Manpower Augmentation units. To keep the AOC current and interoperable with the COCOMs, cyber requirements, and fifth generation weapon system/weapons, the AOC WS program plans to evolve the AOC through the integration and test of progressively improving capabilities. These activities ensure a system of systems engineering perspective for the AOC WS, and include weapon system standardization activities as defined by AOC WS requirements documents. The Modernization contractor, which was awarded the Modernization contract on 25 October 2011, conducted AOC 10.2 pre-Engineering and Manufacturing Development (EMD) activities, including a Systems Requirements Review (SRR), an Interim Design Review (IDR), and a delta-Preliminary Design Review (delta-PDR). In accordance with AOC 10.2 Milestone Decision Authority (MDA) direction (23 June 2010), the AOC 10.2 Modernization program conducted prototyping and Limited Early Install (LEI) activities through an iterative build methodology prior to Milestone B (MS B) to reduce integration risk and improve user feedback in the acquisition process. AOC Increment 10.2 received a Milestone B decision 11 October 2013. AOC 10.2 EMD activities include the design (i.e., Critical Design Review), development, integration of 3rd party capabilities, testing (Contractor in-plant system testing, Developmental Test and Evaluation, Operational Test and Evaluation, Operational Assessment, Test

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 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0605458F / *Air & Space Ops Center 10.2 RDT&E*

Readiness Review, etc.) of the AOC 10.2 baseline, as well as build-up and fielding of the Help Desk (HD), Formal Training Unit (FTU), Combined Air Operations Center-eXperimental (CAOC-X) suite, and one geographic site.

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

This program is going into Budget Activity 5, System Development & Demonstration (SDD) because the program passed Milestone B and is conducting engineering and manufacturing development tasks aimed at meeting validated requirements prior to full fielding decision.

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	-	-	85.938	-	85.938
Total Adjustments	-	-	85.938	-	85.938
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-	-	85.938	-	85.938

Change Summary Explanation

In FY 2015, PE 0605458F, Air & Space Ops Center 10.2, project number 654945, AOC 10.2 Development, efforts were transferred from PE 0604458F, Air & Space Ops Center, project number 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).

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: AOC WS Inc 10.2 Prime Development	-	-	79.568
Description: AOC 10.2 infrastructure development and mission capability integration. Development of a robust, open, Net-Centric infrastructure with a Service Oriented Architecture (SOA). ***FY 2015 Plans:*** Completes contractor modernization and provides contractor support for development and operational testing, training, and initial site deployment.			
Title: AOC WS Inc 10.2 Test and Evaluation	-	-	4.158

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 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0605458F / *Air & Space Ops Center 10.2 RDT&E*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Description: Test and Evaluation ***FY 2015 Plans:*** Will plan and implement comprehensive Modernization contractor testing (in-plant integration and test, functional testing, security testing, etc.), System Acceptance Testing, Developmental Test and Evaluation (DT&E), and Operational Test and Evaluation (OT&E) on the AOC 10.2 baseline, to include test planning, conducting test, and documentation review.			
Title: AOC WS Inc 10.2 Training ***Description:*** Training ***FY 2015 Plans:*** Effort will include, but is not limited to, support of the Modernization effort for AOC 10.2 training analysis, planning, and development during EMD, to include both contractor-developed capabilities and supplemental training for contractor modified 3rd party capabilities. This also includes curriculum and courseware / material development, instructor training, class / Computer Based Training conduct, and training surveys / analysis / updates / enhanced simulation capabilities.	-	-	2.212
Accomplishments/Planned Programs Subtotals	-	-	85.938

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 0207410F: *Air and Space Operations Center Weapon System (AOC WS), Project 675117*	49.329	-	-	-	-	-	-	-	-	-	-
• RDTE: BA04: PE 0604458F: *Air and Space Operations Center Weapon System (AOC WS), Project 644945*	-	58.861	-	-	-	-	-	-	-	-	-
• OPAF BA03 Line Item # 834560: *Air & Space Operations Ctr Inc 10.2*	-	-	-	-	-	24.405	51.283	43.585	32.313	286.388	438.800

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 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0605458F / *Air & Space Ops Center 10.2 RDT&E*

E. Acquisition Strategy

The acquisition strategy builds on existing capabilities using evolutionary acquisition to standardize, modernize and sustain the AOC. The initial capability was AOC-WS Increment 10.0 which fielded the 10.0 configuration to five operational sites, plus a Help Desk and a Formal Training Unit. The second increment, Increment 10.1, upgraded these locations to an integrated baseline and fielded the baseline to additional operational and reserve units worldwide. The latest increment is AOC 10.2. The AOC Modernization Contract was competitively awarded on 25 October 2011, but due to contract protests and associated delays, the actual start date was 20 December 2011. The Modernization contractor is using a system of systems perspective, and is following systems engineering rigor, to evolve AOC to a Net-Centric environment, compliant with DoD Service Oriented Architecture (SOA) standards.

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 / 5	R-1 Program Element (Number/Name) PE 0605458F / *Air & Space Ops Center 10.2 RDT&E*	Project (Number/Name) 654945 / *AOC 10.2 Development*	

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
AOC 10.2 Modernization Contract	C/Various	Northrop Grumman : Herndon, VA	0.000	-		-		66.195	Oct 2014	-		66.195	37.230	103.425	TBD
AOC 10.2 Training	C/Various	TBD : TBD,	0.000	-		-		2.212	Jan 2015	-		2.212	0.758	2.970	TBD
		Subtotal	0.000	-		-		68.407		-		68.407	37.988	106.395	-

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	Various	Various : Various,	0.000	-		-		4.158	Dec 2014	-		4.158	1.424	5.582	TBD
		Subtotal	0.000	-		-		4.158		-		4.158	1.424	5.582	-

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 Adminstration	C/Various	Various : Hanscom AFB, MA	0.000	-		-		13.373	Oct 2014	-		13.373	5.012	18.385	TBD
		Subtotal	0.000	-		-		13.373		-		13.373	5.012	18.385	-

	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	-		-		85.938		-		85.938	44.424	130.362	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 5	R-1 Program Element (Number/Name) PE 0605458F / *Air & Space Ops Center 10.2 RDT&E*	Project (Number/Name) 654945 / *AOC 10.2 Development*	

	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract

Remarks

In FY 2014, PE 0604458F, Project Number 644945, AOC Inc. 10.2, efforts were transferred from PE 0207410F, AOC WS, Project Number 675117, in order to improve transparency of ACAT 1 Acquisition programs.

In FY 2015, PE 0605458F, Air & Space Ops Center 10.2, project number 654945, AOC 10.2 Development, efforts were transferred from PE 0604458F, Air & Space Ops Center, project number 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). This is not a new start.

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0605458F / *Air & Space Ops Center 10.2 RDT&E*	**Project (Number/Name)** 654945 / *AOC 10.2 Development*

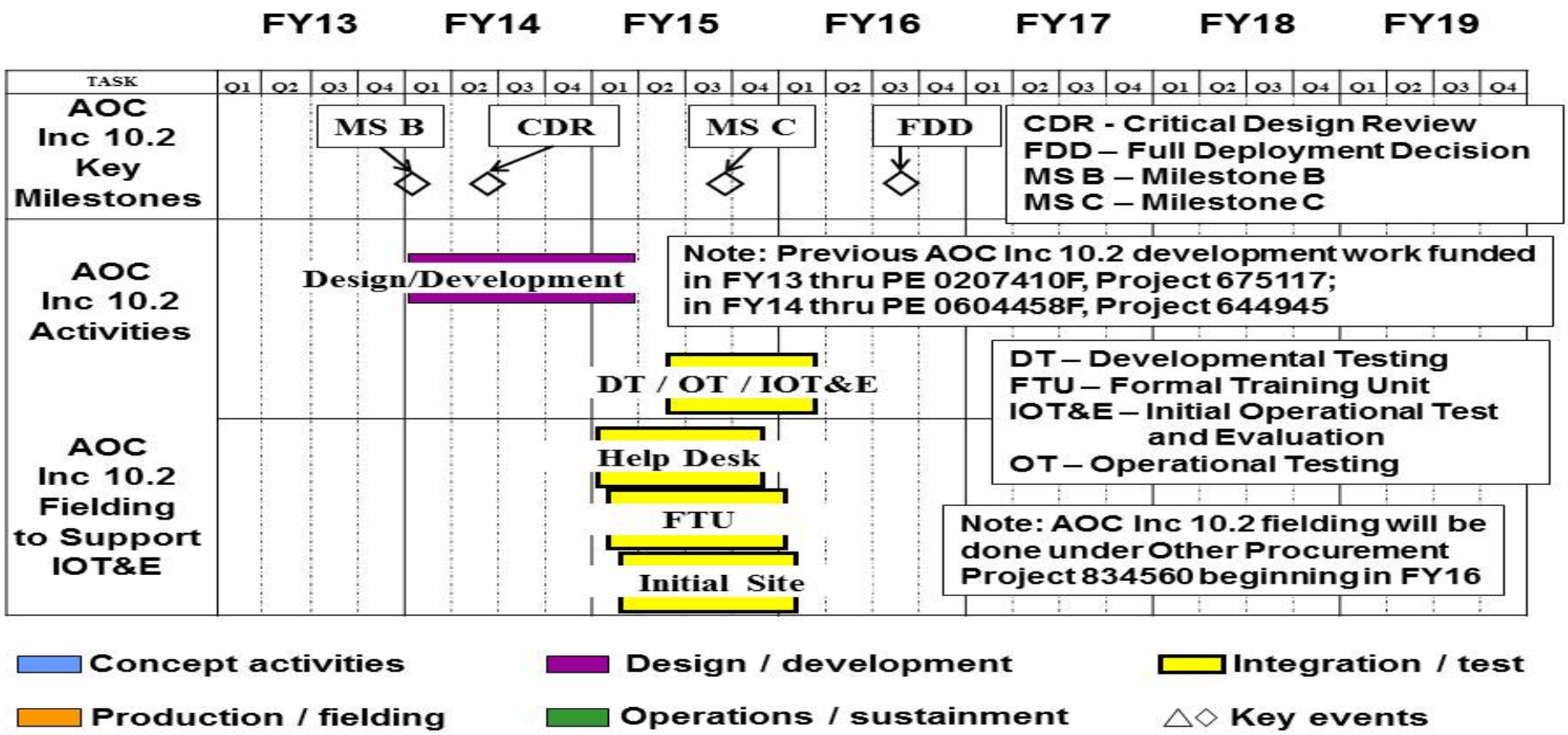


Exhibit R-4A, RDT&E Schedule Details: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0605458F / *Air & Space Ops Center 10.2 RDT&E*	**Project (Number/Name)** 654945 / *AOC 10.2 Development*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
AOC Inc 10.2 Milestone B (MS B)	1	2014	1	2014
AOC Inc 10.2 Design/Development	1	2014	1	2015
AOC Inc 10.2 Critical Design Review (CDR)	2	2014	2	2014
AOC Inc 10.2 Development Test (DT)/Operational Test (OT) and Initial Operational Test and Evaluation (IOT&E)	2	2015	1	2016
AOC Inc 10.2 Milestone C (MS C)	3	2015	3	2015
AOC Inc 10.2 Fielding to Support IOT&E at the Help Desk	1	2015	4	2015
AOC Inc 10.2 Fielding to Support IOT&E at the Formal Training Unit (FTU)	1	2015	4	2015
AOC Inc 10.2 Fielding to Support IOT&E at the Initial Site	1	2015	1	2016
AOC Inc 10.2 Full Deployment Decision (FDD)	3	2016	3	2016

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 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0605931F / *B-2 Defensive 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**
Total Program Element	132.164	249.685	257.500	98.768	-	98.768	227.668	187.127	113.737	125.381	40.000	1,432.030
653844: *B-2 DMS*	132.164	249.685	257.500	98.768	-	98.768	227.668	187.127	113.737	125.381	40.000	1,432.030
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		
MDAP/MAIS Code: 431												

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

Note

A. Mission Description and Budget Item Justification

The Defensive Management System Modernization (DMS-M) program is the #1 modification program for the B-2. The DMS-M program enhances the B-2 direct attack capability by addressing emerging and future 21st century threats and robust modern Integrated Air Defense Systems. By leveraging modern "state-of-the-art" electronic warfare antennae, processors, controllers and displays, B-2 aircrews will realize unprecedented situational battlespace awareness and dynamic, real-time threat avoidance in the most complex radio frequency emitter environments. The inherent increased sensitivity of the modernized DMS over the legacy system, with increased processing power, will build a battlespace picture that could be shared with joint force platforms by on-board communication systems. The current B-2 DMS was designed in the 1980s and has not received any upgrades to date. Also, many components of the legacy DMS are not supportable and will severely impact aircraft availability without significant investment in reliability and maintainability upgrades.

During development, the engineering baseline will be finalized and four production representative kits will be procured to support integrated development/operational test and a pre-Milestone C Operational Assessment, as well as B-2 Nuclear Certification testing. After completion of the Milestone C decision in 2019, Low Rate Initial Production will begin in early FY20. After a successful Operational Test and Evaluation, the Full Rate Production decision will occur in 2021. FY19 aircraft modification funds will be used to procure long lead components. Life of type buys may be implemented, when appropriate, to address diminishing manufacturing sources and materiel shortages for affected components and subassemblies to protect the planned production program by mitigating unplanned part redesign and requalification risks.

BA5 - This program is in Budget Activity 5, System Development and Demonstration (SDD) because it has passed Milestone B approval and is conducting engineering and manufacturing development tasks aimed at meeting validated requirements prior to full-rate production.

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 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0605931F / *B-2 Defensive Management System*	

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	281.056	303.500	259.400	-	259.400
Current President's Budget	249.685	257.500	98.768	-	98.768
Total Adjustments	-31.371	-46.000	-160.632	-	-160.632
• Congressional General Reductions	-0.371	-			
• Congressional Directed Reductions	-	-46.000			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-7.910	-			
• Other Adjustments	-23.090	-	-160.632	-	-160.632

Change Summary Explanation

FY13 reduction of -$23.090M due to Sequestration.
FY14 reduction of -$46.000M due to RAI savings.
FY15 reductions due to higher Air Force priorities.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: B-2 Defensive Management System Modernization (DMS-M) Tech Development Ph 1	6.323	-	-
Description: DMS Modernization program develops improved aircrew situational awareness through replacement of passive antennas, receiver/processors, and display processors. DMS-M also addresses critical system shortfalls, and improves legacy DMS component repair issues.			
FY 2013 Accomplishments: Completed delivery and install of CEESIM and long-lead developmental hardware supporting TD Phase 2 and EMD.			
Title: B-2 Defensive Management System Modernization (DMS-M) Tech Development Ph 2	243.362	257.500	98.768
Description: DMS Modernization program develops improved aircrew situational awareness through replacement of passive antennas, receiver/processors, and display processors. DMS-M also addresses critical system shortfalls, and improves legacy DMS component repair issues.			
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 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0605931F / *B-2 Defensive Management System*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Continued DMS Modernization Technology Development leading to Preliminary Design Review in FY14 a and Milestone B decision in FY15. ***FY 2014 Plans:*** Conduct Preliminary Design Review and continue preparation for a Milestone B decision in FY-2015 to enter Engineering and Manufacturing Development. ***FY 2015 Plans:*** Complete DMS Modernization Technology Development. Conduct Milestone B decision.			
Accomplishments/Planned Programs Subtotals	249.685	257.500	98.768

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 #B2DMS0 Mod: *B-2 DMS Mod of Acft*	-	-	-	-	-	-	-	-	76.476	701.800	781.456
• APAF: BA05: Line Item #B2DMS0 In...: *B-2 DMS Initial Spares*	-	-	-	-	-	-	-	-	3.180	-	-

Remarks

E. Acquisition Strategy

Key elements of the overall acquisition strategy include: use of sole source contract with a prime/integrating contractor (Northrop Grumman) who will perform subsystem and component competitions where appropriate, use of cost plus incentive fee (CPIF) development contracts, and the combination of developmental upgrades with software sustainment blocks to minimize the number of software releases, aircraft downtime, and differences in fielded configurations. The government will encourage the prime contractor to compete susbsystems and key components to reduce cost and risk.

F. Performance Metrics

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

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 5	R-1 Program Element (Number/Name) PE 0605931F / *B-2 Defensive Management System*	Project (Number/Name) 653844 / *B-2 DMS*	

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
Air Vehicle - Technology Development Ph1	SS/CPIF	Various : ,	121.010	6.323	Nov 2012	-		-		-		-	-	127.333	-
Air Vehicle - Technology Development Ph 2	SS/CPIF	Various : ,	8.602	234.071	Oct 2012	246.736	Dec 2013	94.754	Jan 2015	-		94.754	-	584.163	-
Air Vehicle - Engineering and Manufacturing Development (EMD)	SS/CPIF	Various : ,	0.000	-		-		-		-		-	604.368	604.368	TBD
		Subtotal	129.612	240.394		246.736		94.754		-		94.754	604.368	1,315.864	-

Remarks

Northrop-Grumman, El Segundo, CA is the prime contractor and integrator.

Major subsystem vendors are:
Electronic Support Measures: BAE, Nashua NH
Advanced Graphics Processor: Lockheed-Martin, Owego, NY
Band 1 - 3 antennas: Randtron, Menlo Park CA
Band 4 antenna: Ball Aerospace, Westminster, CO

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
Government Test	PO	AFFTC : ,	0.322	0.917	Oct 2012	1.985	Oct 2013	0.895	Oct 2014	-		0.895	54.678	58.797	TBD
		Subtotal	0.322	0.917		1.985		0.895		-		0.895	54.678	58.797	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0605931F / *B-2 Defensive Management System*	**Project (Number/Name)** 653844 / *B-2 DMS*

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	Various	Various : ,	2.230	8.374	Oct 2012	8.779	Oct 2013	3.119	Oct 2014	-		3.119	34.867	57.369	TBD
		Subtotal	2.230	8.374		8.779		3.119		-		3.119	34.867	57.369	-

	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	132.164	249.685		257.500		98.768		-		98.768	693.913	1,432.030	-

Remarks

Northrop-Grumman, the prime contractor for the B-2 weapon system, is the integrator and major contractor for B-2 DMS activities.

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0605931F / *B-2 Defensive Management System*	**Project (Number/Name)** 653844 / *B-2 DMS*

B-2 FY-2015 PB DMS-M Detailed Schedule

Defensive Management System - Modernization

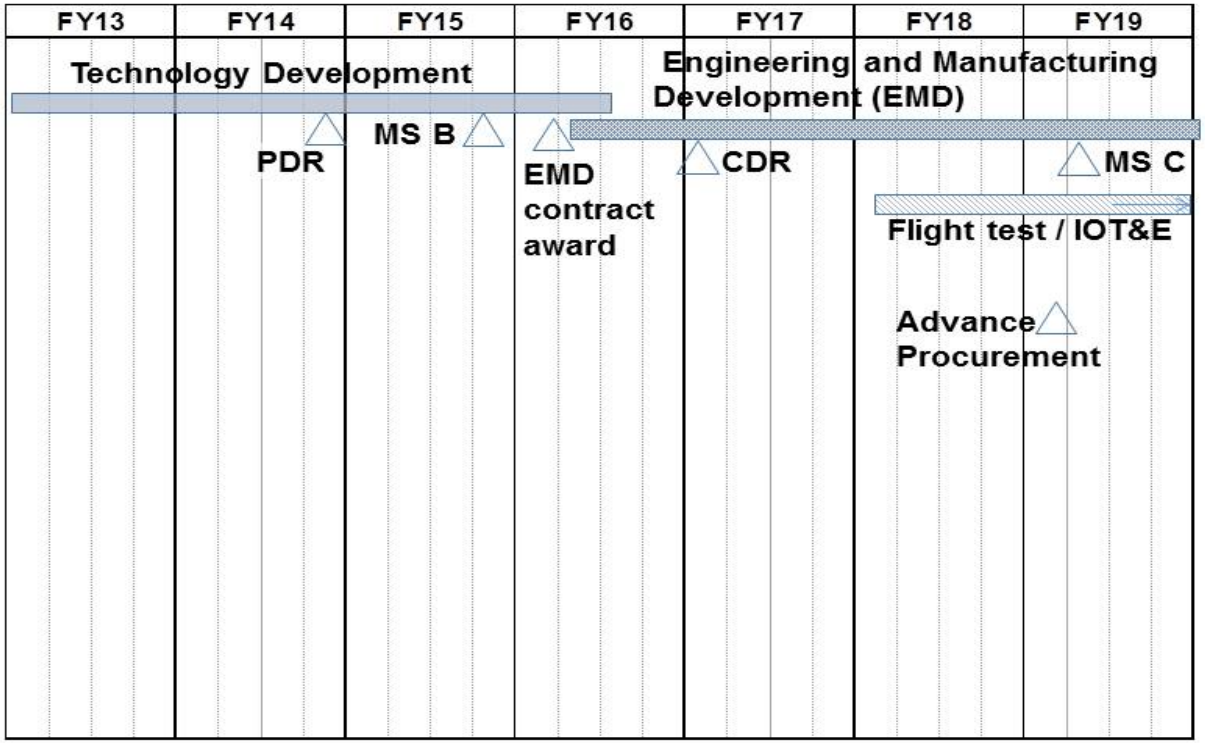


Exhibit R-4A, RDT&E Schedule Details: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0605931F / *B-2 Defensive Management System*	**Project (Number/Name)** 653844 / *B-2 DMS*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
DMS-M Preliminary Design Review	4	2014	4	2014
DMS-M Milestone B Decision	4	2015	4	2015
DMS-M EMD Contract Award	1	2016	2	2016
DMS-M Critical Design Review	1	2017	1	2017
DMS-M Milestone C	2	2019	2	2019

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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 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0101125F / *Nuclear Weapons 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**
Total Program Element	81.617	62.373	33.000	198.357	-	198.357	213.532	207.919	153.698	97.276	42.944	1,090.716
657007: *B61 LIFE EXTENSION PROGRAM*	81.617	62.373	33.000	198.357	-	198.357	213.532	207.919	153.698	97.276	42.944	1,090.716
MDAP/MAIS Code: 468												

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

A. Mission Description and Budget Item Justification

The purpose of this program element is to conduct and support United States Air Force (USAF) and Joint Department of Defense (DoD)- Department of Energy (DOE) acquisition activities for the modernization of nuclear weapons.

B61 Life Extension Program (LEP): The B61 LEP will extend the service life of the weapon. Provides programmatic integration of the Air Force-led, joint DoD-DOE program through the B61 LEP Project Officers Group (POG) and its subgroups. In accordance with Air Force Materiel Command mission assignment memo (dated 17 Feb 2011) and National Nuclear Security Administration (NNSA)-Air Force Nuclear Weapons Center (AFNWC) Memorandum of Understanding (MOU dated 28 June 2012), the USAF is responsible for development, acquisition & delivery of a guided Tailkit Assembly (TKA) and All Up Round (AUR) technical integration, system qualification & fielding of the B61-12 variant.

This program is in Budget Activity 5, System Development and Demonstration (SDD), because it is conducting engineering and manufacturing development tasks aimed at meeting validated requirements prior to full-rate production.

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	80.200	67.874	200.634	-	200.634
Current President's Budget	62.373	33.000	198.357	-	198.357
Total Adjustments	-17.827	-34.874	-2.277	-	-2.277
• Congressional General Reductions	-0.106	-			
• Congressional Directed Reductions	-	-34.874			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-9.077	-			
• SBIR/STTR Transfer	-1.882	-			
• Other Adjustments	-6.762	-	-2.277	-	-2.277

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 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0101125F / *Nuclear Weapons Modernization*

Change Summary Explanation

FY13: Reprogrammings, -$9.077M reprogrammed due to higher USAF priorities
FY13: Other adjustment, -$6.762M due to Sequestration
FY14: Congressional Directed Reduction, -$34.874M
FY15: Base BY1 Other adjustment, -$2.277M due to higher USAF priorities

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 5	R-1 Program Element (Number/Name) PE 0101125F / *Nuclear Weapons Modernization*	Project (Number/Name) 657007 / *B61 LIFE EXTENSION 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
657007: *B61 LIFE EXTENSION PROGRAM*	81.617	62.373	33.000	198.357	-	198.357	213.532	207.919	153.698	97.276	42.944	1,090.716
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

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

A. Mission Description and Budget Item Justification

B61 Life Extension Program (LEP): The B61 LEP will extend the service life of the weapon. Provides programmatic integration of the Air Force-led, joint DoD-DOE program through the B61 LEP Project Officers Group (POG) and its subgroups. In accordance with Air Force Materiel Command mission assignment memo (dated 17 Feb 2011) and National Nuclear Security Administration (NNSA)-Air Force Nuclear Weapons Center (AFNWC) Memorandum of Understanding (MOU dated 28 June 2012), the USAF is responsible for development, acquisition & delivery of a guided tailkit assembly (TKA) and All Up Round (AUR) technical integration, system qualification & fielding of the B61-12 variant.

This program is in Budget Activity 5, System Development and Demonstration (SDD), because it is conducting engineering and manufacturing development tasks aimed at meeting validated requirements prior to full-rate production.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Engineering & Manufacturing Development Contract (B61)	25.605	4.878	103.108
Description: Prime contract to develop, test, integrate and nuclear certify a guided TKA in support of the B61-12 LEP.			
FY 2013 Accomplishments: Performed B61-12 TKA development, design, test, integration, qualification and nuclear certification activities in support of the B61-12 LEP. Supported design, integration and testing of the B61-12 system and verification of requirements and validation of TKA performance. Established and implemented B61-12 TKA program practices that ensure the following are met: requirements flow down, requirement allocation to hardware and software, requirements compliance matrix, system performance, reliability, maintainability, product assurance, testability, producibility and supportability.			
FY 2014 Plans: Continues B61-12 TKA development, design, test, integration, qualification and nuclear certification activities in support of the B61-12 LEP. Continues design, integration and testing of the B61-12 system and verification of requirements and validation of TKA performance. Continues 61-12 TKA program practices that ensure the following are met: requirements flow			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0101125F / *Nuclear Weapons Modernization*	**Project (Number/Name)** 657007 / *B61 LIFE EXTENSION PROGRAM*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
down,requirement allocation to hardware and software, requirements compliance matrix, system performance, reliability, maintainability, product assurance, testability, producibility and supportability. ***FY 2015 Plans:*** Continues B61-12 TKA development, design, test, integration, qualification and nuclear certification activities in support of the B61-12 LEP. Continues design, integration and testing of the B61-12 system and verification of requirements and validation of TKA performance. Continues B61-12 TKA program practices that ensure the following are met: requirements flow down, requirement allocation to hardware and software, requirements compliance matrix, system performance, reliability, maintainability, product assurance, testability, producibility and supportability. Conducting seven contractor flight tests with weapons drops in preparation for the Critical Design Review (CDR) and closure of the Engineering Manufacturing and Development (EMD) phase one activities. Providing support to three Department of Energy (DOE) flight tests in support of the Preliminary Design Review for the bomb assembly. Also conducting B-2A Operational Flight Program development and integration at the Weapon System Support Center (WSSC) to deliver the OFP test tape in support of FY 16 flight testing.			
Title: All Up Round (AUR) Technical Integration (B61)	9.334	9.471	17.069
Description: Covers all system engineering tasks in support of AUR technical integration, qualification & fielding, including program support to the B61 LEP POG. ***FY 2013 Accomplishments:*** Developed B61-12 system qualification plan, warhead component qualification, TKA qualifications, and B61-12 AUR integration activities. Provided support to maintain technical and programmatic schedules and program documents that support the AUR technical integration. Developed warhead-to-TKA interface requirements and design. Provided technical expertise to maintain B61-12 aircraft compatibility with all 5 delivery platforms through completion of a test and evaluation program. Developed Combined Test Units (CTUs) to support early integration efforts at the aircraft system integration laboratories. Conducted B61-12 AUR technical and programmatic reviews, including design reviews, systems reviews, technical interchange meetings, and test reviews. Also conducted test assessments to validate model & simulation results in support of system qualification; configuration management of B61-12 AUR drawings, interface control documents, and system specifications; and development of trainers and other USAF configurations. ***FY 2014 Plans:*** Continues B61-12 system qualification plan, warhead component qualification, TKA qualifications, and B61-12 AUR integration activities. Continues support to maintain technical and programmatic schedules and program documents that support the AUR technical integration. Continues to develop warhead-to-TKA interface requirements and design. Continues to provide technical expertise to maintain B61-12 aircraft compatibility with all 5 delivery platforms through completion of a test and evaluation program. Continues to develop CTUs to support early integration efforts at the aircraft system integration laboratories.			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0101125F / *Nuclear Weapons Modernization*	**Project (Number/Name)** 657007 / *B61 LIFE EXTENSION PROGRAM*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Conducting B61-12 AUR technical and programmatic reviews, including design reviews, systems reviews, technical interchange meetings, and test reviews. Also conducting test assessments to validate model & simulation results in support of system qualification; configuration management of B61-12 AUR drawings, interface control documents, and system specifications; and development of trainers and other USAF configurations. ***FY 2015 Plans:*** Continues B61-12 system qualification plan, warhead component qualification, TKA qualifications, and B61-12 AUR integration activities. Continues support to maintain technical and programmatic schedules and program documents that support the AUR technical integration. Continues to develop warhead-to-TKA interface requirements and design. Continues to provide technical expertise to maintain B61-12 aircraft compatibility with all 5 delivery platforms through completion of a test and evaluation program. Continues to develop CTUs to support early integration efforts at the aircraft system integration laboratories. Includes B61-12 AUR technical and programmatic reviews, including design reviews, systems reviews, technical interchanges meetings, and test reviews. Also includes test assessments to validate models & simulation results in support of system qualification; configuration management of B61-12 AUR drawings, interface control documents, and system specifications; and development of trainers and other USAF configurations. Conducting seven contractor flight tests with weapons drops in preparation for the Critical Design Review (CDR) and closure of the Engineering Manufacturing and Development (EMD) phase one activities. Providing AUR integration support to three Department of Energy (DOE) flight tests in support of the Preliminary Design Review for the bomb assembly.			
Title: Aircraft Integration (B61)	16.218	12.308	52.417
Description: B61-12 integration with threshold aircraft, including mission planning system upgrades to accommodate the new weapon variant and weapon design compatibility with objective aircraft. ***FY 2013 Accomplishments:*** Acquisition planning, meeting participation and fit checks for threshold aircraft. Also provided F-15E Suite 8 test tape development and demonstration/validation of the Programmable Armament Control System's (PAC) Operational Flight Program (OFP). Also provided fit check and design compatibility with objective aircraft. Included development of Mission Planning upgrades to Air Vehicle System (AVS), Joint Mission Planning System (JMPS), and Combat Weapon Delivery Software (CWDS). ***FY 2014 Plans:*** Continues meeting participation and fit checks for threshold aircraft. Continues F-15E Suite 8 test tape development and demonstration/validation of the OFP. Continues design compatibility with objective aircraft. Continues Mission Planning upgrades. ***FY 2015 Plans:*** Continues meeting participation and fit checks for threshold aircraft. Continues F-15E Suite 8 test tape development and demonstration/validation of the Operational Flight Program (OFP). Continues design compatibility with F-15E and B-2A objective			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0101125F / *Nuclear Weapons Modernization*	**Project (Number/Name)** 657007 / *B61 LIFE EXTENSION PROGRAM*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
aircraft. Continues Mission Planning upgrades. Conducting B-2A Operational Flight Program development and integration at the Weapon System Support Center (WSSC) to deliver the OFP test tape in support of FY 16 flight testing.			
Title: Test Support (B61) ***Description:*** Test activities & support for TKA design validation & verification and nuclear certification, as well as B61-12 AUR system qualification (includes design & operational certification activities). ***FY 2013 Accomplishments:*** Test planning and execution activities to support B61-12 weapon development, AUR technical integration and aircraft integration were conducted. Provided ground test activities to verify warhead-to-tailkit integration to include wind tunnel testing. Provided aircraft and support equipment fit check activities. Provided flight testing to verify aircraft flight environments in support of weapon development. Also provided for the development and delivery of necessary bomb assemblies (BAs) to accomplish TKA test and trainer activities. ***FY 2014 Plans:*** Continues test planning and execution activities to support B61-12 weapon development, AUR technical integration and aircraft integration. Continues ground test activities to verify warhead-to-tailkit integration to include wind tunnel testing. Provides aircraft and support equipment fit check activities. Continues flight testing to verify aircraft flight environments in support of weapon development. Also, provides flight testing for tailkit and AUR design verification. Continues development and delivery of necessary BAs to accomplish TKA test and trainer activities. ***FY 2015 Plans:*** Continues test planning and execution activities to support B61-12 weapon development, AUR technical integration and aircraft integration. Continues ground test activities to verify warhead-to-tailkit integration to include wind tunnel testing. Provides aircraft and support equipment fit check activities. Continues flight testing to verify aircraft flight environments in support of weapon development. Also, provides flight testing for tailkit and AUR design verification. Continues development and delivery of necessary BAs to accomplish TKA test and trainer activities. Conducting seven contractor flight tests with weapons drops in preparation for the Critical Design Review (CDR) and closure of the Engineering Manufacturing and Development (EMD) phase one activities. Providing support to three Department of Energy (DOE) flight tests in support of the Preliminary Design Review for the bomb assembly. Also conducting B-2A Operational Flight Program development and integration at the Weapon System Support Center (WSSC) to deliver the OFP test tape in support of FY 16 flight testing.	11.216	6.343	25.763
Accomplishments/Planned Programs Subtotals	62.373	33.000	198.357

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0101125F / *Nuclear Weapons Modernization*	**Project (Number/Name)** 657007 / *B61 LIFE EXTENSION PROGRAM*

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
• PAAF: BAA1 WSC354040: *PE 0101125F: B61*	-	-	-	-	-	-	-	147.872	210.671	2.557	361.100

Remarks

D. Acquisition Strategy

Full and open competition as approved by the MDA.

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 / 5	R-1 Program Element (Number/Name) PE 0101125F / *Nuclear Weapons Modernization*	Project (Number/Name) 657007 / *B61 LIFE EXTENSION 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
B61 LEP EMD Contract	C/CPIF	Boeing : ,	71.273	21.360	Jul 2013	1.000	Nov 2013	96.838	Nov 2014	-		96.838	283.660	474.131	TBD
		Subtotal	71.273	21.360		1.000		96.838		-		96.838	283.660	474.131	-

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
AUR Technical Integration	MIPR	Various : ,	2.255	9.334	Apr 2013	9.471	Apr 2014	17.069	Oct 2014	-		17.069	40.601	78.730	-
Aircraft Integration	MIPR	Various : ,	1.109	16.218	Mar 2013	12.308	Oct 2014	52.417	Oct 2014	-		52.417	170.267	252.319	-
		Subtotal	3.364	25.552		21.779		69.486		-		69.486	210.868	331.049	-

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 Support for B61 LEP Development	MIPR	RTO : ,	0.105	11.216	Jun 2013	6.343	Jun 2014	25.763	Oct 2014	-		25.763	197.061	240.488	-
		Subtotal	0.105	11.216		6.343		25.763		-		25.763	197.061	240.488	-

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	Various	Not specified. : ,	6.875	4.245	Oct 2012	3.878	Oct 2013	6.270	Oct 2014	-		6.270	23.780	45.048	TBD
		Subtotal	6.875	4.245		3.878		6.270		-		6.270	23.780	45.048	-

	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	81.617	62.373		33.000		198.357		-		198.357	715.369	1,090.716	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 5	R-1 Program Element (Number/Name) PE 0101125F / *Nuclear Weapons Modernization*	Project (Number/Name) 657007 / *B61 LIFE EXTENSION 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

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0101125F / *Nuclear Weapons Modernization*	**Project (Number/Name)** 657007 / *B61 LIFE EXTENSION PROGRAM*

B61-12 TKA Schedule

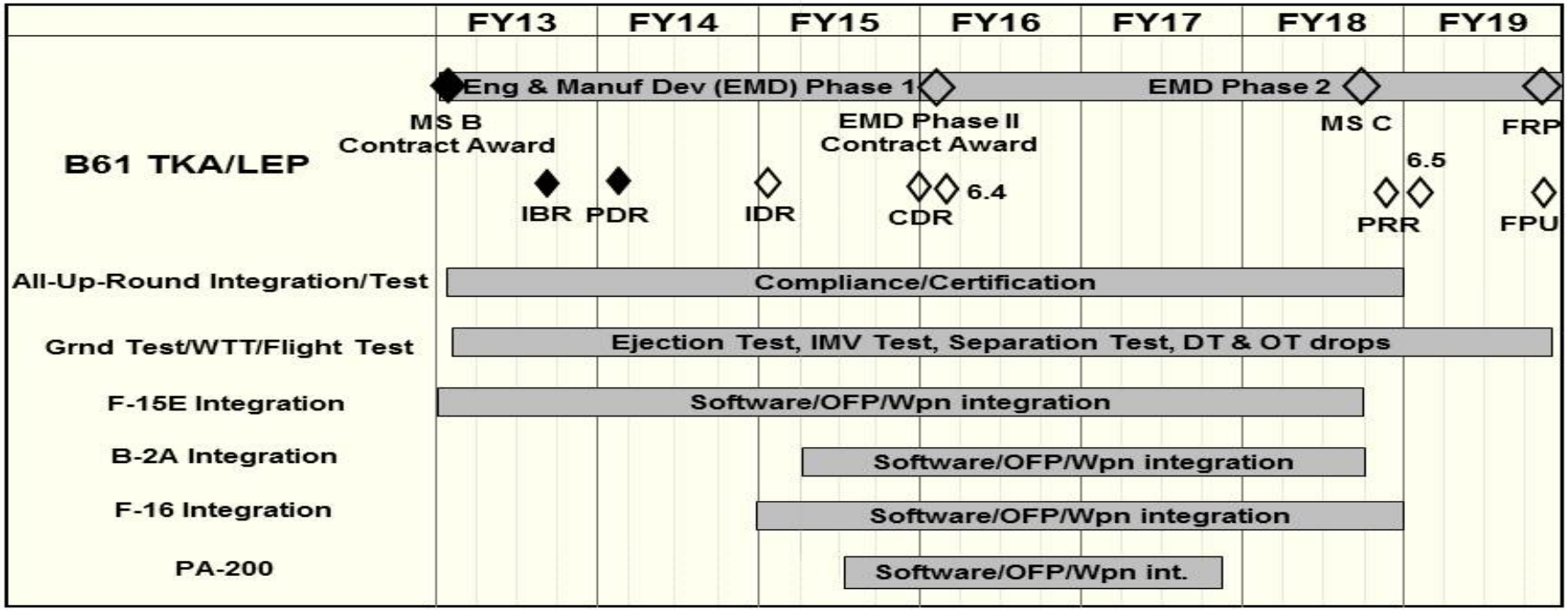

Exhibit R-4A, RDT&E Schedule Details: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0101125F / *Nuclear Weapons Modernization*	**Project (Number/Name)** 657007 / *B61 LIFE EXTENSION PROGRAM*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Milestone B Decision	1	2013	1	2013
Engineering & Manufacturing Development Phase 1 Contract	1	2013	1	2015
All-Up-Round Integraton Test	1	2013	4	2018
Ground Test/WTT/Flight Test	1	2013	4	2019
F-15E Integration	1	2013	4	2018
B-2A Integration	2	2015	4	2018
F-16 Integration	1	2015	4	2018
PA-200	3	2015	4	2017
Milestone C Decision	3	2018	3	2018

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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 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0207604F / *Readiness Training Ranges, Operations and Maintenance*

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	-	0.285	-	-	-	-	-	-	-	-	-	0.285
652286: *Combat Training Range Equipment*	-	0.285	-	-	-	-	-	-	-	-	-	0.285
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 of Center Schedule Enterprise (CSE) program to provide an Air Force wide system to schedule, manage, and report utilization of all ranges and airspace. The system will meet new FAA interface requirements, replacing 31 different non-interoperable systems currently in use and provides a single common method of scheduling ranges and airspace to all AF and other DoD users.

This program is in Budget Activity 5, System Development and Demonstration (SDD) because it has passed Milestone B approval and is conducting engineering and manufacturing development tasks aimed at meeting validated requirements prior to full-rate production.

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	0.310	-	-	-	-
Current President's Budget	0.285	-	-	-	-
Total Adjustments	-0.025	-	-	-	-
• Congressional General Reductions	-0.025	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-	-	-	-	-

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Center Scheduling Enterprise (CSE)	0.285	-	-
Description: Develop AF wide tool to schedule, manage, and report utilization of all ranges and airspace			
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 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0207604F / *Readiness Training Ranges, Operations and Maintenance*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Developed and implemented CSE tool ***FY 2014 Plans:*** No FY14 funding reqested. ***FY 2015 Plans:*** No FY15 funding requested.			
Accomplishments/Planned Programs Subtotals	0.285	-	-

D. Other Program Funding Summary ($ in Millions)

N/A

Remarks

E. Acquisition Strategy

Standard contracting practices will be used to maximize 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 / 5	**R-1 Program Element (Number/Name)** PE 0207604F / *Readiness Training Ranges, Operations and Maintenance*	**Project (Number/Name)** 652286 / *Combat Training Range Equipment*

Center Schedule Enterprise (CSE) Schedule

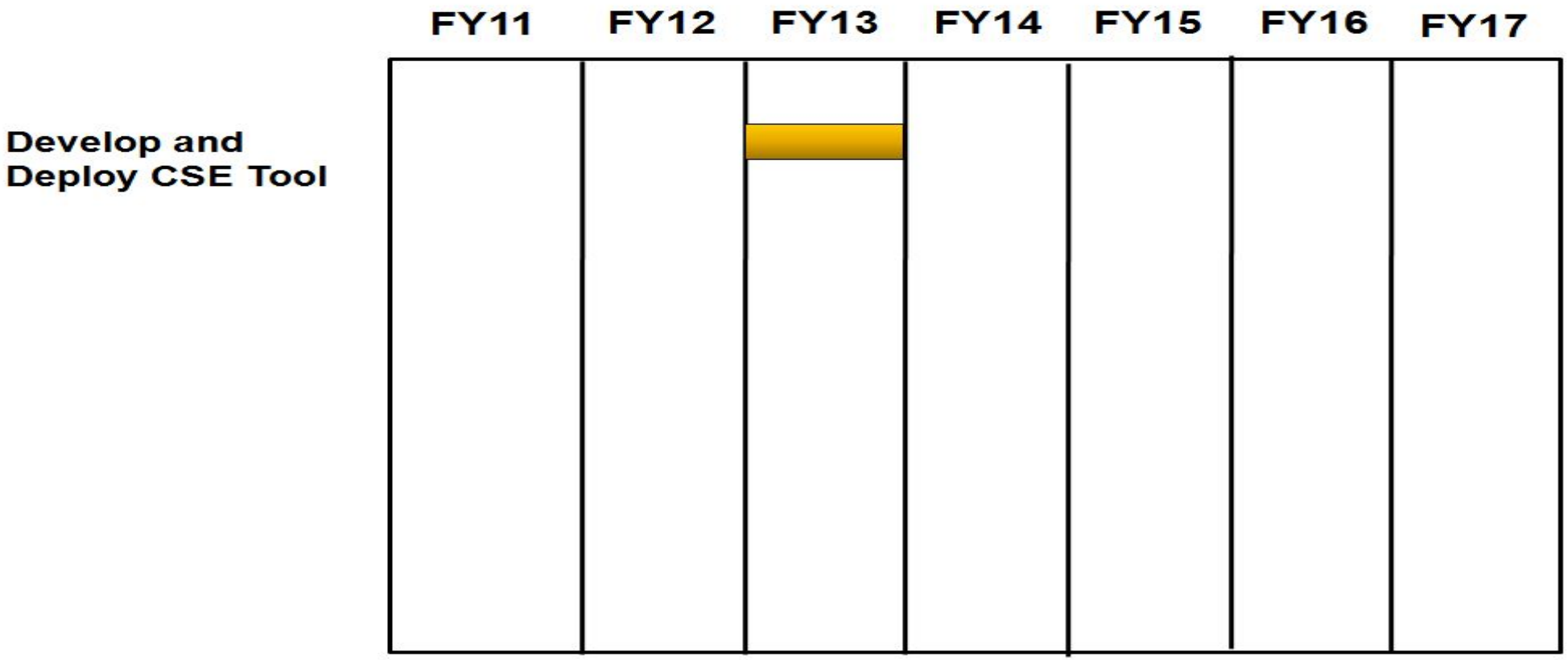

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Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force											Date: March 2014	
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0207701F / *Full Combat Mission 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	-	13.089	4.663	8.831	-	8.831	18.202	13.389	11.781	12.005	Continuing	Continuing
655012: *Full Combat Mission Training*	-	0.347	-	2.612	-	2.612	2.683	2.825	2.881	2.935	Continuing	Continuing
655354: *F-16 Block 40/50 MTC*	-	12.742	4.663	6.219	-	6.219	15.519	10.564	8.900	9.070	Continuing	Continuing

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

A. Mission Description and Budget Item Justification

Full Combat Mission Training (FCMT) supports Air Force Distributed Mission Operations (DMO) and Live-Virtual-Constructive (LVC) integration. DMO is an operational readiness initiative enabling the USAF to exercise and train at the operational and strategic levels of war while facilitating unit-level training. Networked LVC components form the integrated DMO battlespace by linking geographically distributed high fidelity combat and combat support training devices, including Command and Control (C2) and Intelligence, Surveillance, and Reconnaissance (ISR) systems. RDT&E for Project 655012, FCMT, efforts are focused on development, demonstration, and transitioning of critical functions associated with the DMO/LVC network and linked simulators. Project 655354, F-16 Block 40/50 Mission Training Centers (MTC), efforts are focused on development and demonstration of the F-16 Block 40/50 MTC.

This program is in Budget Activity 5, System Development and Demonstration (SDD) because it has passed Milestone B approval and is conducting engineering and manufacturing development tasks aimed at meeting validated requirements prior to full-rate production.

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	14.861	4.663	13.571	-	13.571
Current President's Budget	13.089	4.663	8.831	-	8.831
Total Adjustments	-1.772	-	-4.740	-	-4.740
• Congressional General Reductions	-0.020	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.428	-			
• Other Adjustments	-1.324	-	-4.740	-	-4.740

Change Summary Explanation

- FY13 Reduction of $1.324M: Sequestration reduction

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 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0207701F / *Full Combat Mission Training*

- FY15 Reduction of $4.74M: Funds realigned for proper execution

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 5	R-1 Program Element (Number/Name) PE 0207701F / *Full Combat Mission Training*	Project (Number/Name) 655012 / *Full Combat Mission 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
655012: *Full Combat Mission Training*	-	0.347	-	2.612	-	2.612	2.683	2.825	2.881	2.935	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

Full Combat Mission Training (FCMT) supports Air Force Distributed Mission Operations (DMO) and Live-Virtual-Constructive (LVC) integration. DMO is an operational readiness initiative enabling the USAF to exercise and train at the operational and strategic levels of war while facilitating unit-level training. FCMT funding provides research in areas benefiting the AF DMO/LVC environment as a whole. Provides research and development to facilitate integration of fielded and newly acquired, Air Force owned training devices into DMO/LVC networks. Enhances the quality of training for the systems added to the network. Enables aircrews to network with LVC components to form the integrated DMO battlespace. Links geographically distributed, high-fidelity combat and combat support training devices including Command and Control (C2) and Intelligence, Surveillance, and Reconnaissance (ISR) systems. Develops, demonstrates and inserts multi-level security capability. This capability allows the warfighters at home station to exercise and train at the operational and strategic levels of war as well as conduct networked unit-level training.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: FCMT Cross Domain Solutions (CDS) ***Description:*** Development, demonstration and insertion of multi-level security capability. ***FY 2013 Accomplishments:*** N/A ***FY 2014 Plans:*** N/A	-	-	-
Title: FCMT Develop DMO Capabilities ***Description:*** Continue development, demonstration, studies and insertion of DMO/LVC related technologies and proficiency based continuation training strategies. ***FY 2013 Accomplishments:*** Continue enhancement of visual fidelity of F-22 and B-2 simulators to support DMO capability. Continue to develop network architecture initiatives for technology refresh and cost reductions; side by side feasiblity testing of DMO and Global Information Grid (GIG) network. ***FY 2014 Plans:***	0.347	-	1.012

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0207701F / *Full Combat Mission Training*	**Project (Number/Name)** 655012 / *Full Combat Mission Training*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
N/A ***FY 2015 Plans:*** Continue enhancement of visual fidelity to include but not limited to B-2 simulators to support DMO capability. Continue to develop network architecture initiatives for technology refresh and cost reductions.			
Title: FCMT Validation of warfighter seasoning and development of objective performance enhancements ***Description:*** Studies to assess and validate warfighter seasoning in continuation training and accreditation of portions of this process; studies to develop objective enhancement and measurement tools for the DMO/LVC environment. ***FY 2013 Accomplishments:*** N/A ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** Transition training assessment and performance measurement tools to operational units for readiness studies. Complete training credibility assessments of an ACC identified set of Virtual and Constructive environments.	-	-	0.600
Title: FCMT Other Network Studies ***Description:*** Research and development to provide for the integration of fielded and newly introduced, Air Force, Joint and Coalition high-fidelity flight and mission trainers. ***FY 2013 Accomplishments:*** N/A ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** Research and development to include but not limited to support for the integration of F-35, Joint and Coalition Trainers into the Combat Air Forces (CAF) DMO network.	-	-	1.000
Accomplishments/Planned Programs Subtotals	0.347	-	2.612

C. Other Program Funding Summary ($ in Millions)

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0207701F / *Full Combat Mission Training*	**Project (Number/Name)** 655012 / *Full Combat Mission Training*

C. Other Program Funding Summary ($ in Millions)

Remarks

D. Acquisition Strategy

Each platform joining the Distributed Mission Operations (DMO)/Live-Virtual-Constructive (LVC) environment selects its own acquisition strategy based on using Command needs, Economic Analysis (EA) and the magnitude of the training system changes required to provide DMO capability. The initial systems in the DMO/LVC environment; F-15C, AWACS, F-16 Block 40/50 and F-15E, all required new training systems. In addition, the Operations and Integration capability was created. The Training Simulation Service (TSS) acquisition strategy was used to meet a portion of these requirements. In the TSS approach, the contractor owns and provides the simulator equipment, maintains simulator concurrency with weapon systems, and has incentives to keep the equipment up to date with simulator and network technologies. Currently fielded and projected Air Force-owned Flight and Mission Training Systems without DMO/LVC capability will be modified using Full Combat Mission Training (FCMT) funds to ensure compatibility with the DMO-LVC environment.

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 / 5	**R-1 Program Element (Number/Name)** PE 0207701F / *Full Combat Mission Training*	**Project (Number/Name)** 655012 / *Full Combat Mission Training*

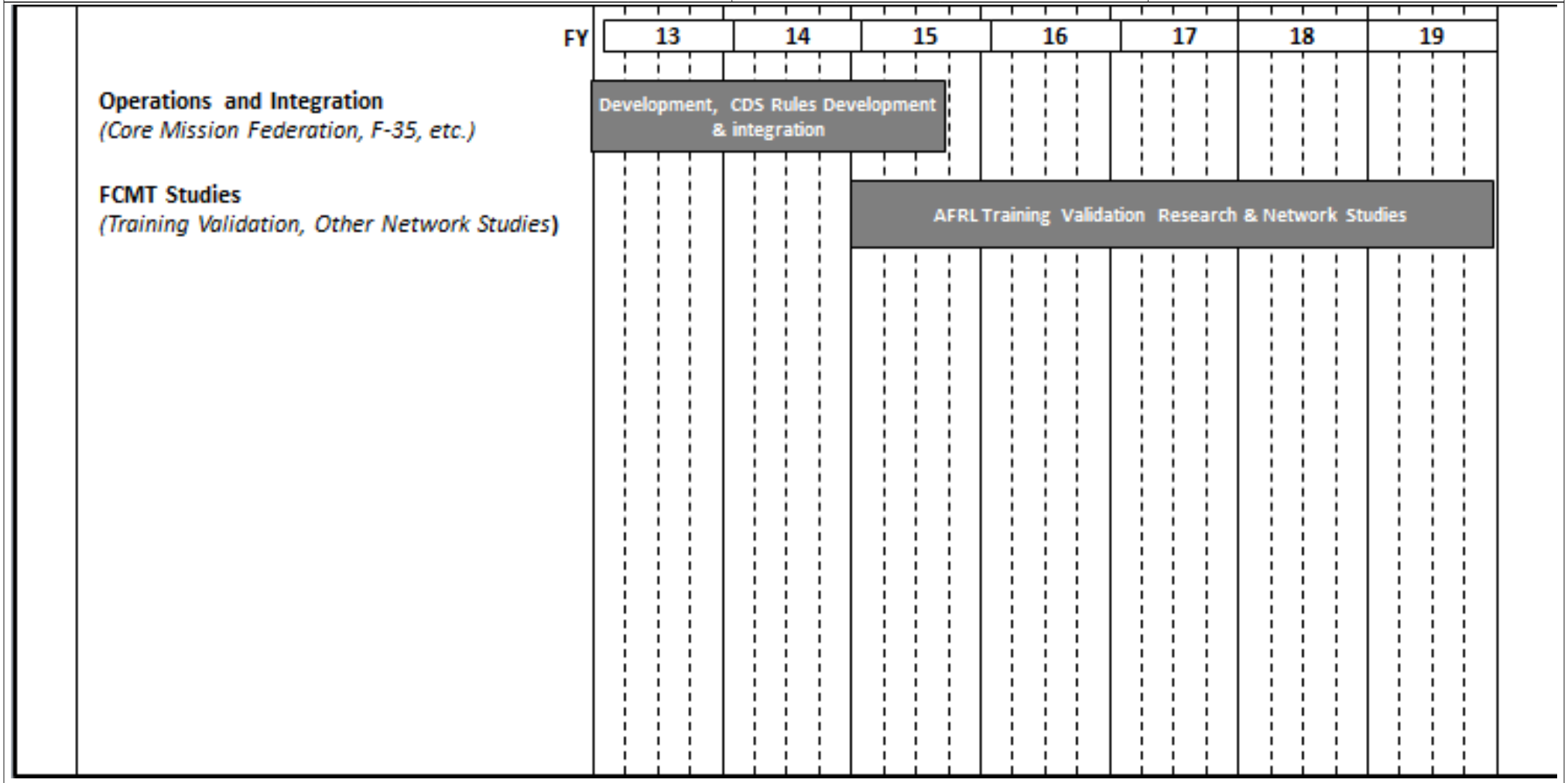

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 5	R-1 Program Element (Number/Name) PE 0207701F / *Full Combat Mission Training*	Project (Number/Name) 655354 / *F-16 Block 40/50 MTC*	

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
655354: *F-16 Block 40/50 MTC*	-	12.742	4.663	6.219	-	6.219	15.519	10.564	8.900	9.070	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

F-16 Block 40/50 Mission Training Center (MTC) supports the development, acquisition, fielding and sustainment of high fidelity, Distributed Mission Operations (DMO) capable flight simulators for F-16 Block 40 and 50 weapon systems. Each MTC includes multiple high fidelity Simulator Cockpits, Instructor Operator Stations, a Threat Server and Brief/Debrief and Mission Observation capability. Each is capable of linking to geographically distributed high-fidelity combat and combat support training devices including Command and Control (C2) and Intelligence, Surveillance, and Reconnaissance (ISR) systems. This capability allows the warfighters at home station to exercise and train at the operational and strategic levels of war as well as conduct networked unit-level training.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: F-16 MTC Modification Dvelopment	12.742	4.663	6.219
Description: Development and testing of modifications to the F-16 MTC to maintain concurrency with F-16 aircraft. ***FY 2013 Accomplishments:*** Development, test and fielding F-16 MTC Operational Flight Plan (OFP) M6.1 concurrency modifications. ***FY 2014 Plans:*** Development, test and fielding F-16 MTC Operational Flight Plan (OFP) M6.2+ Phase 1 (Baseline) Concurrency modifications. ***FY 2015 Plans:*** Development, test and fielding F-16 MTC Operational Flight Plan (OFP) M6.2+ Phase 2 (upgrades) and intial definition of OFP M7.1+ concurrency modifications.			
Accomplishments/Planned Programs Subtotals	12.742	4.663	6.219

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 #OTHACF: *Other Aircraft*	1.563	0.918	2.751	-	2.751	2.481	1.904	1.941	1.977	Continuing	Continuing
• APAF: BA06: Line item # 000999: *Initial Spares/Repair Parts*	1.302	0.177	0.130	-	0.130	0.322	0.270	0.212	0.216	Continuing	Continuing

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0207701F / *Full Combat Mission Training*	**Project (Number/Name)** 655354 / *F-16 Block 40/50 MTC*

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: BA07: Line Item #OTHACF: *Other Aircraft*	0.009	-	0.027	-	0.027	-	-	-	-	Continuing	Continuing

Remarks

D. Acquisition Strategy

F-16 Block 40/50 MTCs are being developed and fielded under a competitively awarded Federal Acquisition Regulation (FAR) Part 15 Supply contract with RDT&E and APAF funds. The MTCs will be sustained by Contract Logistic Support (CLS) using Operations and Maintenance funds.

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 / 5	**R-1 Program Element (Number/Name)** PE 0207701F / *Full Combat Mission Training*	**Project (Number/Name)** 655354 / *F-16 Block 40/50 MTC*

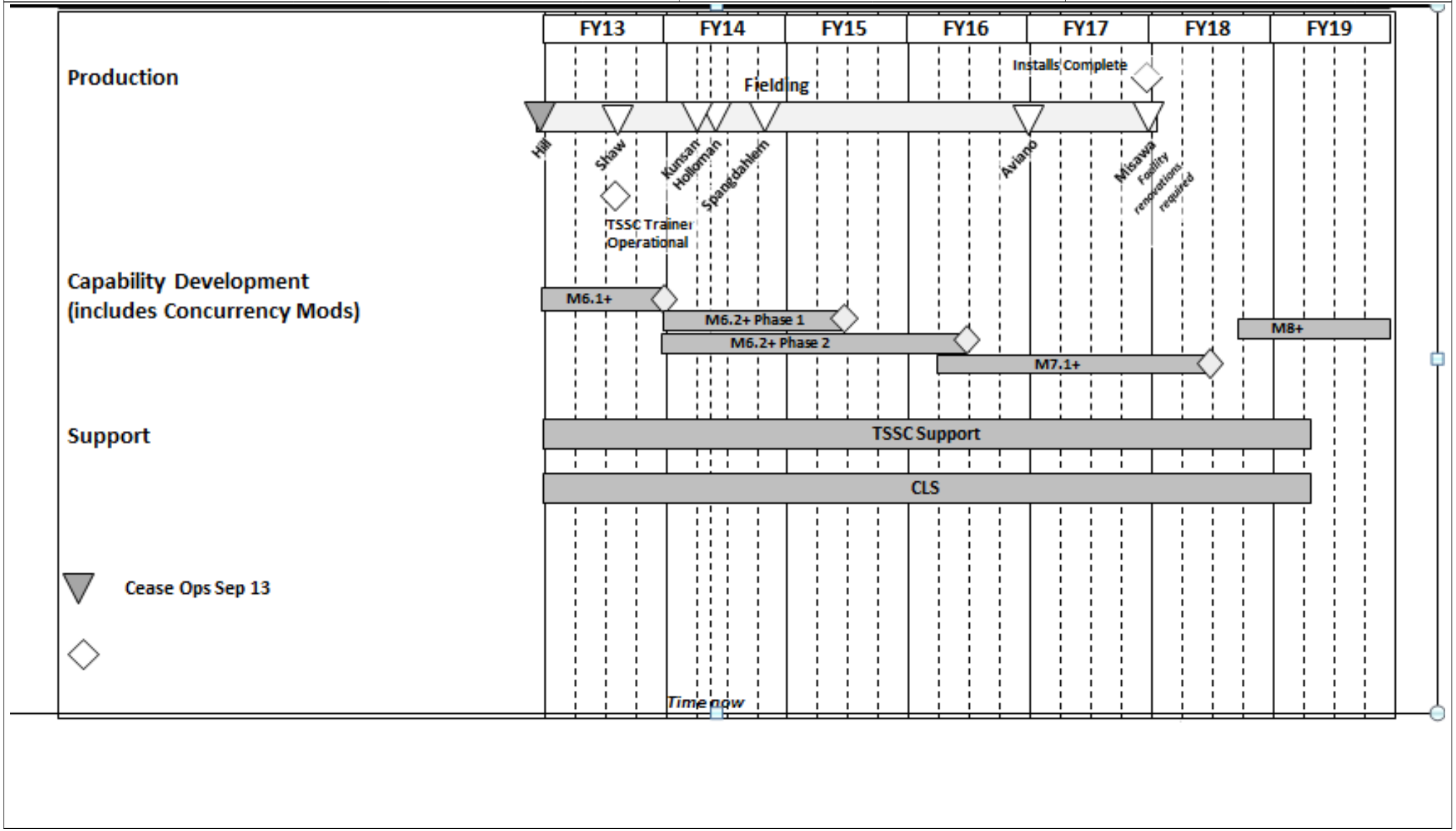

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Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force											Date: March 2014	
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0307581F / *NextGen JSTARS*							
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	-	-	-	73.088	-	73.088	334.137	640.589	536.459	376.198	Continuing	Continuing
650003: *JSTARS Recapitalization*	-	-	-	73.088	-	73.088	334.137	640.589	536.459	376.198	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

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

Note

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.

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.

A. Mission Description and Budget Item Justification

The Joint Surveillance Target Attack Radar System (JSTARS) Recapitalization (Recap) will provide a unique blend of Battle Management Command and Control (BMC2) and Intelligence, Surveillance, and Reconnaissance (ISR) that enables the central tenant of Air Forces doctrine "Centralized Control and Decentralized Execution". Air Battle Managers onboard the JSTARS use its wide area ground surveillance radar to build situational awareness and identify targets which are passed to strike assets or crossed cued with ISR platforms. The capability to perform this dual mission at the tactical edge both reduces the time to execute the kill chain and improves ISR collections across the range of military options.

This program element enhances the warfighter's ability to achieve the joint vision of combat operations. It develops advanced battle management aids and information fusion technologies to enable rapid decisions by automating tracking and addressing time-critical targets. Concept exploration, program definition/risk reduction efforts, and studies support continuous improvements in development of BMC2 capabilities, network centric operational capabilities, and interoperability with joint service, allied, and coalition systems.

Currently this program element is comprised of the JSTARS Recap Program to include: (1) BMC2 System; (2) Sensor Systems; (3) Air Vehicle & Avionics Systems; (4) Data, Voice, & Advanced Communications Systems; and (5) Systems Engineering & Integration (SE&I). It may also include the furtherance of other related activities to include, but not be limited to, Open System Architecture (OSA) development and/or refinement for sensor systems and BMC2.

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

JSTARS Recap:

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 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0307581F / *NextGen JSTARS*

The JSTARS Recap program was initiated to satisfy the JSTARS Mission Area capability gaps and life-cycle affordability challenges as defined in the Synthetic Aperture Radar/Moving Target Indicator (SAR/MTI); JSTARS Mission Area Analysis of Alternative (AoA) and the SAR/MTI, BMC2 Initial Capabilities Document (ICD). The JSTARS Recap program consists of multiple efforts for the development and integration of all sub-systems necessary to satisfy the requirements documented in the ICD, AOA and, upon completion, the Capability Development Document (CDD). The efforts include, but are not limited to: BMC2 System; Sensor Systems; Air Vehicle & Avionics Systems; Data, Voice & Advanced Communications Systems; SE&I; as well as related OSA development or refinement activities to improve AF weapon system life-cycle affordability.

This program is in Budget Activity 5, System Development and Demonstration (SDD) because it is conducting engineering and manufacturing development tasks aimed at meeting validated requirements prior to full-rate production. MDD is expected in FY14 with a MS B decision in FY16.

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	-	-	73.088	-	73.088
Total Adjustments	-	-	73.088	-	73.088
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-	-	73.088	-	73.088

Change Summary Explanation

PE 0307581F was established in the FY15 PB to continue development for JSTARS Recapitalization; previously, JSTARS Recapitalization activities were funded under PE 0604283F (Congressional add in FY13) and PE 0207581F.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: BMC2 System	-	-	22.636
Description: The BMC2 System development effort builds upon a broad body of work in OSA by evaluating and applying lessons learned from system designs across many areas such as Air Operations Centers (AOC), AWACS Block 40/45, and the Open Mission Systems (OMS) Working Group. Using an evolutionary approach made possible by an OSA design that firmly defines interfaces and messaging standards, the BMC2 System will provide an on-board BMC2 solution that meets the Joint/Air Force Requirements as defined in the AoA, ICD, and CDD, thereby enabling rapid technology insertion based on mission need and			

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 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0307581F / *NextGen JSTARS*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
funds availability. The BMC2 System development effort will also inform the AF OSA concept and frameworks with regard to applicability and efficacy of on-board BMC2 mission systems. ***FY 2015 Plans:*** Will further define a OSA reference architecture. Will perform demonstration activities, requirements analysis, system definition, and selection criteria definition.			
Title: Sensor Systems ***Description:*** The Sensor Systems development effort intends to leverage the government owned, platform-independent, radar OSA enterprise specification to develop a modern radar that meets the Joint/Air Force Requirements as defined in the AoA, ICD, and CDD. JSTARS Recap is the first planned Major Defense Acquisition Program (MDAP) to leverage this body of work. JSTARS Recap also takes into considerations lessons learned from the Dismount Detection Radar (DDR) Quick Reaction Capability (QRC) program, which was a pathfinder for OSA radar in a small, pod configured for surface surveillance missions. The JSTARS Recap Sensor Systems development effort will not only satisfy the requirements of the JSTARS Recap, but also intends to provide critical feedback to an OSA radar concept and framework with regard to applicability and efficacy in a wide area surface surveillance mission. Other sensor systems may include, but are not limited to, Electro-Optical/Infrared (EO/IR) and multi/hyper-spectral. ***FY 2015 Plans:*** Will further define a OSA reference architecture. Will perform demonstration activities, requirements analysis, system definition, and selection criteria definition.	-	-	28.699
Title: Air Vehicle and Avionics Systems ***Description:*** The Air Vehicle & Avionics System effort will evaluate available air vehicles and select one based on its ability to meet the Joint/Air Force Requirements as defined in the AoA, ICD and CDD. It will deliver greater unrefueled range, increased fuel efficiency, higher operational ceiling, and possess the ability to operate from shorter runways than the current platform. All of these attributes provide for operational capabilities that meet the requirements of the mission profiles considered in the AoA. Of note is the fact that multiple Air Vehicle manufacturers have standard design kits that modify commercially available air frames to meet anticipated JSTARS Recap fuselage and power requirements, thereby reducing development time, cost and risk. ***FY 2015 Plans:*** Will conduct cosite analysis (analysis of antenna-to-antenna coupled electromagnetic interference); size, weight, and power cooling (SWAP-C)analysis; and integration analysis. Will perform requirements analysis, system definition, and selection criteria definition.	-	-	10.200
Title: Data, Voice, and Advanced Communications Systems	-	-	1.302

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 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0307581F / *NextGen JSTARS*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Description: The Data, Voice, & Advanced Communications Systems effort will leverage existing communications systems to integrate with the air vehicle and BMC2 System to create a capability that meets the Joint/Air Force Requirements as defined in the AoA, ICD, and CDD. The capability will provide Beyond Line of Sight (BLOS) and Line of Sight (LOS) Internet Protocol (IP)-based data transport to theater C2 and ISR nodes with reachback through a Global Information Grid entry point. Communications systems will include, but are not limited to air to ground Common Data Link (CDL), Link-16, Intelligence Broadcast Service (IBS), Blue Force Tracker (BFT), and voice networks (UHF, VHF, HF). Additional potential communications capabilities may include, but are not limited to Joint Arial Layer Network (JALN) waveforms, Intra-Flight Data Link (IFDL), Multi-function Advanced Data Link (MADL), 5th to 4th Generation Data Link translation, Mobile User Objective System (MUOS), Integrated Waveform (IW), and Tactical Targeting Network Technology (TTNT). ***FY 2015 Plans:*** Will conduct risk reduction efforts to leverage existing communication capabilities as well as assess new and advanced communication capabilities to meet requirements as defined in the program CDD once approved.			
Title: System Engineering and Integration ***Description:*** The SE&I effort will provide actionable analysis, deliverables, and recommendations leading to the efficient execution and integration of the complete weapon system. This effort supports the creation and maintenance of products that drive the successful use of engineering practices and complex system integration such as: Program Management Plans, Integrated Master Plans, Integrated Master Schedules, and System Engineering Plans. Included in the key activities are: Requirements Management/Trade Development, Interface Control Management, Architecture Management, Risk/Opportunity/ Issue Management, Technical Baseline Management, and Information Assurance Management. ***FY 2015 Plans:*** Will conduct key program planning activities including but not limited to the definition and production of key program execution planning documents and finalization of system interface definitions.	-	-	10.251
Accomplishments/Planned Programs Subtotals	-	-	73.088

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
• PE 0604283F, BPAC 645363: *JSTARS Recap Risk Reduction*	8.805	-	-	-	-	-	-	-	-	-	-

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 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0307581F / *NextGen JSTARS*

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 # E0800: *JSTARS Recap Production*	-	-	-	-	-	-	-	111.214	272.277	3,925.464	4,309.000

Remarks

E. Acquisition Strategy

The JSTARS Recap program is a pre-Major Defense Acquisition Program (MDAP) with a planned Material Development Decision (MDD) in FY14. The acquisition strategy is in development. The program intends to make use of high Technology Readiness Level (TRL) components to reduce development time, cost and risk. The Acquisition Strategy will be designed to enable maximum competition for each major sub-system through the EMD phase. Each major sub-system has a capable industry base large enough to make competition an effective tool in achieving the goal of system affordability through development, procurement and sustainment. The program will also leverage ongoing DoD and industry work on Open System Architectures and standard inferfaces to enhance competition and ease of upgrades throughout the program life cycle.

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 / 5	**R-1 Program Element (Number/Name)** PE 0307581F / *NextGen JSTARS*	**Project (Number/Name)** 650003 / *JSTARS Recapitalization*

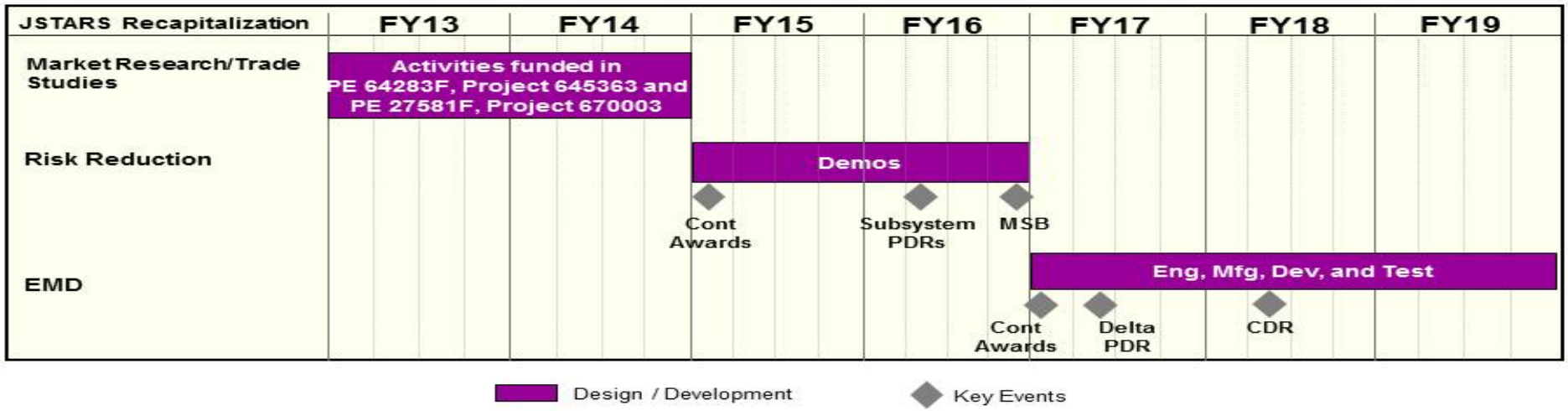

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Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force												Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 5: *System Development & Demonstration (SDD)*					R-1 Program 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	348.589	19.741	46.705	-	-	-	-	-	-	-	-	415.035
654103: *CV-22*	348.589	19.741	46.705	-	-	-	-	-	-	-	-	415.035
Quantity of RDT&E Articles	2.000	-	-	-	-	-	-	-	-	-		
MDAP/MAIS Code: 212												

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

Note

In FY2015, 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.

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 operations 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.

US Special Operations Command (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 Special Operations Forces (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 was in Budget Activity 5, System Development and Demonstration (SDD), through FY2014. In FY2015, CV-22 RDT&E funding transitioned to Budget Activity 7, Operational Systems Development, because the program has reached the end of System Development and Demonstration and is transitioning to 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 5: *System Development & Demonstration (SDD)*	**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	28.027	46.705	41.588	-	41.588
Current President's Budget	19.741	46.705	-	-	-
Total Adjustments	-8.286	-	-41.588	-	-41.588
• Congressional General Reductions	-0.037	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-5.782	-			
• SBIR/STTR Transfer	-0.791	-			
• Other Adjustments	-1.676	-	-41.588	-	-41.588

Change Summary Explanation

FY13: $5.782M was reprogrammed to higher AF priorities, reduction in Other Adjustments was due to Sequestration.

FY15: The CV-22 RDT&E transitioned from BA05 System Development & Demonstration to BA07 Operational Systems Development, PE 0401318F Project 676033

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: CV-22 Block 20 RDT&E	14.741	17.417	-

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:

RDT&E activities were conducted on Block 20 increments 1, 2, and 3. Conducted Line-of-Sight Communications Functional Configuration Audit (FCA) and operational testing. Conducted Beyond-Line-of-Sight (BLOS) Communications risk reduction, electromagnetic interference testing and Preliminary Design Review (PDR). Completed Block 20 Increment 1 RDT&E effort.

FY 2014 Plans:

RDT&E activities are continuing on Block 20 increments 2 and 3. Conduct long-range communications Critical Design Review (CDR). Initiate long-range communications developmental testing (DT).

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 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0401318F / *CV-22*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
See BA07 Program Element 0401318F CV-22 for FY15 activities and funding.			
Title: Enhanced Self-Deployment Capabilities	5.000	10.000	-
Description: Future capabilities increment to enhance self-deployment capabilities such as Distributed Ice Protection, Engine Time-On-Wing Improvement and Area Navigation (Global Positioning System) (RNAV(GPS)). ***FY 2013 Accomplishments:*** Initiated Future Capabilities increment to enhance self-deployment capabilities such as Distributed Ice Protection and Engine Time-On-Wing Improvement. Began risk reduction analysis and assessed industry's internal research and development (IRAD) of Improved Inlet Solution prototypes to improve Engine Time-On-Wing performance. ***FY 2014 Plans:*** RDT&E activities are continuing for Enhanced Self-deployment Capabilities such as Distributed Ice Protection and Engine Time-On-Wing Improvement. Conduct SRR on Distributed Ice Protection. Initiate RDT&E activities for RNAV(GPS). Conduct risk reduction analysis and System Requirements Review (SRR) for RNAV(GPS). ***FY 2015 Plans:*** See BA07 Program Element 0401318F CV-22 for FY15 activities and funding.			
Title: Improved Inlet Solution	-	19.288	-
Description: Initiate 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. Improved Inlet Solution is a joint V-22 effort being developed in conjunction with the Department of the Navy. ***FY 2013 Accomplishments:*** N/A ***FY 2014 Plans:*** Conducting Improved Inlet Solution Preliminary Design Review (PDR). Improved Inlet Solution PDR is driven by the results from the risk reduction analysis for Engine Time-On-Wing Improvement. ***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 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0401318F / *CV-22*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
See BA07 Program Element 0401318F CV-22 for FY15 activities and funding.			
Accomplishments/Planned Programs Subtotals	19.741	46.705	-

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: BA07: PE 0401318F: *CV-22*	-	-	38.719	-	38.719	26.422	15.914	14.443	14.718	62.338	172.554
• 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: Line Item #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 Joint Program Office (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. Development 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.

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 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0401318F / *CV-22*

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 / 5	R-1 Program Element (Number/Name) PE 0401318F / *CV-22*	Project (Number/Name) 654103 / *CV-22*	

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
2 Production Representative Test Vehicles	SS/CPAF	Bell Boeing : Amarillo, TX	161.859	-		-		-		-		-	-	161.859	-
Block 10 Development	SS/CPAF	Bell Boeing : Amarillo, TX	44.025	-		-		-		-		-	-	44.025	-
Block 10 Development Tech Support	Various	Various : Various,	11.886	-		-		-		-		-	-	11.886	-
Situational Awareness Hazard Avoidance Federated Terminal	C/CPAF	Manufacturing Technology Inc : Fort Walton Beach, FL	5.000	-		-		-		-		-	-	5.000	-
Block 20 Development	SS/CPFF	Bell Boeing : Amarillo, TX	47.807	9.801	Dec 2012	6.031	Nov 2013	-		-		-	-	63.639	161.014
Enhanced Self-deployment Capability	Various	Various : Various,	0.000	5.000	Aug 2013	9.900	Apr 2014	-		-		-	-	14.900	-
Improved Inlet Solution	SS/CPFF	Bell Boeing : Various,	0.000	-		19.288	May 2014	-		-		-	-	19.288	-
		Subtotal	270.577	14.801		35.219		-		-		-	-	320.597	-

Remarks

The Block 20 Development effort target value of contract differs from the total cost because the target contract value includes some test related funding and USSOCOM MFP-11 funding for Special Operations Forces (SOF) peculiar development efforts.

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
Interim Contractor Support	SS/CPAF	Bell Boeing : Amarillo, TX	26.889	-		-		-		-		-	-	26.889	-
Contractor Logistics Support for Test Aircraft	Various	Various : Various,	10.362	1.618	Dec 2012	3.420	Dec 2013	-		-		-	-	15.400	-
		Subtotal	37.251	1.618		3.420		-		-		-	-	42.289	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 5	R-1 Program Element (Number/Name) PE 0401318F / *CV-22*	Project (Number/Name) 654103 / *CV-22*	

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	SS/CPFF	Bell Boeing : Amarillo, TX	30.119	2.224	Apr 2013	5.593	Feb 2014	-		-		-	-	37.936	-
Test & Evaluation Technical Support	MIPR	Various : Various,	8.523	1.072	Dec 2012	2.373	Dec 2013	-		-		-	-	11.968	-
		Subtotal	38.642	3.296		7.966		-		-		-	-	49.904	-

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
Management Services (Support)	MIPR	Various : Various,	2.119	-		-		-		-		-	-	2.119	-
Travel	Allot	AFLCMC/WIV : Patuxent River, MD	0.000	0.026		0.100		-		-		-	-	0.126	-
		Subtotal	2.119	0.026		0.100		-		-		-	-	2.245	-

	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	348.589	19.741		46.705		-		-		-	-	415.035	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0401318F / *CV-22*	**Project (Number/Name)** 654103 / *CV-22*

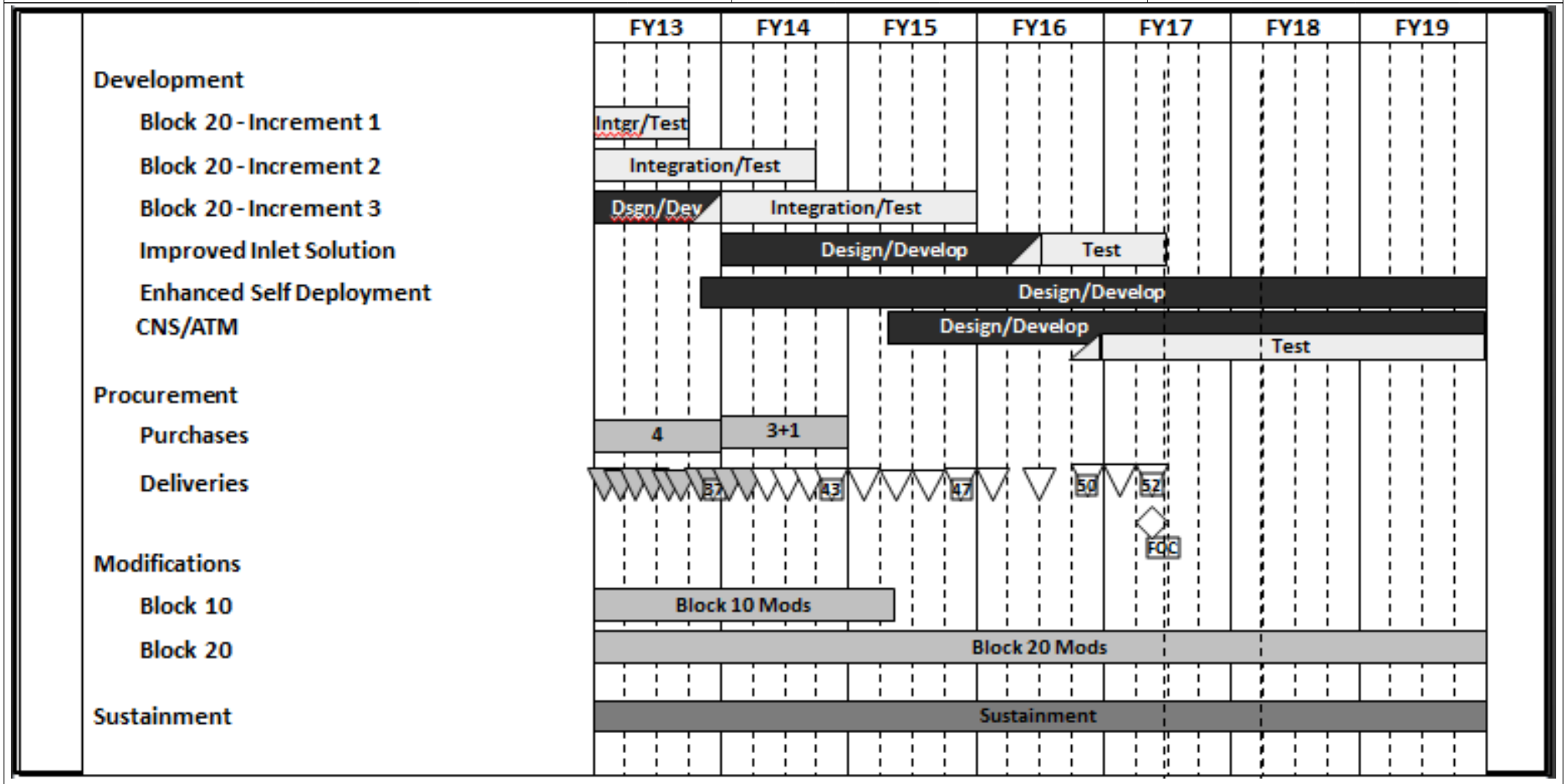

Exhibit R-4A, RDT&E Schedule Details: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0401318F / *CV-22*	**Project (Number/Name)** 654103 / *CV-22*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Block 20 Increment 1 Development, Testing and Evaluation	1	2013	3	2013
-- Line-of-site Comm ground and flight tests	1	2013	3	2013
Block 20 Increment 2 Development, Testing and Evaluation	1	2013	3	2014
-- Situational awareness/avionics upgrades ground & flight tests	1	2013	3	2014
Block 20 Increment 3 Development, Testing and Evaluation	1	2013	4	2014
-- Long range comm upgrades development and design reviews	1	2013	4	2013
-- Long range comm upgrades ground and flight tests	3	2013	4	2014
Enhanced Self Deployment	4	2013	4	2014
Improved Inlet Solution (IIS)	1	2014	4	2014
-- IIS development and design reviews	3	2014	4	2014

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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 6: *RDT&E Management Support*					R-1 Program Element (Number/Name) PE 0604256F / *Threat Simulator 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	-	22.348	14.841	24.418	-	24.418	24.003	22.020	22.436	22.833	Continuing	Continuing
662907: *Electronic Combat Intel Support*	-	1.840	1.558	2.631	-	2.631	3.218	2.526	2.586	2.621	Continuing	Continuing
663321: *Electronic Warfare Ground Test Resources*	-	13.243	9.506	13.188	-	13.188	12.759	12.352	12.578	12.787	Continuing	Continuing
667500: *Foreign Materiel Acquisition/Analysis*	-	7.265	3.777	8.599	-	8.599	8.026	7.142	7.272	7.425	Continuing	Continuing

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

A. Mission Description and Budget Item Justification

This PE provides funding for the elements necessary to support the Air Force Electronic Warfare (EW) Test Process, including Directed Energy (DE). This test process provides a scientific methodology to ensure the effective disciplined and efficient testing of EW and avionics systems. Each capability or facility improvement is pursued in concert with the others to avoid duplicate capabilities while at the same time producing the proper mix of test resources needed to support the AF EW Test Process and testing of EW systems which can be used in any action involving the use of electromagnetic and DE to control the electromagnetic spectrum or to attack the enemy. This PE provides funding for the management and technical oversight of implementation activities, development and improvement of digital EW models, measurement facilities improvements, hardware-in-the-loop test facilities improvements, and installed system test facility improvements. Support includes requirements definition and analysis, project planning, programming and budgeting, technical oversight, and application of T&E facility Improvement & Modernization (I&M). Products include studies, analyses, improved Modeling & Simulation (M&S) of threat sources, improved or new T&E capabilties to support EW testing and related documentation. Additionally, this PE provides funding to support the acquisition and analysis efforts of the Foreign Materiel Program and EW intelligence efforts.

This program is in Budget Activity 6, RDT&E Management Support because this budget activity includes research, development, test and evaluation efforts and funds to sustain and/or modernize the installations or operations required for general research, development, test and evaluation.

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 6: *RDT&E Management Support*		**R-1 Program Element (Number/Name)** PE 0604256F / *Threat Simulator Development*			
B. Program Change Summary ($ in Millions)	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO**	**FY 2015 Total**
Previous President's Budget	22.812	17.690	22.213	-	22.213
Current President's Budget	22.348	14.841	24.418	-	24.418
Total Adjustments	-0.464	-2.849	2.205	-	2.205
• Congressional General Reductions	-0.030	-			
• Congressional Directed Reductions	-	-2.849			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.434	-			
• Other Adjustments	-	-	2.205	-	2.205

Change Summary Explanation

FY14: $2.849M Congressional Directed Reduction: Program decrease.

FY15: $2.205M Other Adjustment increase: Restoral of AF T&E infrastructure.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 6	R-1 Program Element (Number/Name) PE 0604256F / *Threat Simulator Development*	Project (Number/Name) 662907 / *Electronic Combat Intel 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
662907: *Electronic Combat Intel Support*	-	1.840	1.558	2.631	-	2.631	3.218	2.526	2.586	2.621	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 provides funding to support Foreign Materiel Operational Test and Evaluation (FMOT&E), which ensures the ability of operational commands to test and develop effective Electronic Attack/Electronic Protection (EA/EP) techniques and tactics. Funds are required for: deployment of systems to test facilities; travel of personnel to the test sites to evaluate and validate test results; range and laboratory costs; test consumables; costs for instrumentation of systems; and contracted engineering support for the conduct of tests and subsequent reporting. Funding for this program is required to prevent future aircraft losses due to improper and inaccurate aircrew tactics (e.g., lack of evasive action or proper tactics training to avoid missile attack).

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: FMOT&E	1.840	1.558	2.631
Description: Supports Foreign Materiel Operational Test and Evaluation (FMOT&E) ***FY 2013 Accomplishments:*** Continued to conduct foreign materiel operational analysis (FMOA) for fighter and bomber testing; mobility/special operations transport/helicopter testing; classified operational assessments; and extensive evaluations and reporting of system effectiveness. ***FY 2014 Plans:*** Continue to conduct foreign materiel operational analysis (FMOA) for fighter and bomber testing; mobility/special operations transport/helicopter testing; classified operational assessments; and extensive evaluations and reporting of system effectiveness. ***FY 2015 Plans:*** Continue to conduct foreign material operational analysis (FMOA) for figher and bomber testing; mobility/special operations transport/helicopter testing; classified operational assessments; and extensive evaluations and reporting of system effectiveness.			
Accomplishments/Planned Programs Subtotals	1.840	1.558	2.631

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 6	**R-1 Program Element (Number/Name)** PE 0604256F / *Threat Simulator Development*	**Project (Number/Name)** 662907 / *Electronic Combat Intel Support*

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: BA 06: PE 0605807F: *Test and Evaluation Support*	670.586	722.658	689.509	-	689.509	672.427	680.719	688.020	700.796	Continuing	Continuing

Remarks

D. Acquisition Strategy

Not applicable.

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-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 6	R-1 Program Element (Number/Name) PE 0604256F / *Threat Simulator Development*	Project (Number/Name) 663321 / *Electronic Warfare Ground Test Resources*	

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
663321: *Electronic Warfare Ground Test Resources*	-	13.243	9.506	13.188	-	13.188	12.759	12.352	12.578	12.787	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 AF requires a comprehensive set of test facilities to implement the Air Force Electronic Warfare (EW) Test Process in order to test EW systems, including Directed Energy (DE). To manage program risk effectively throughout the weapons system acquisition process, and conduct T&E effectively and efficiently, a broad multi-spectrum, integrated set of T&E capabilities for modeling and simulation through open-air ranges (OAR) are required. The EW Test Process Support task provides for investment management, coordinated technical oversight, and application of EW T&E facilities, including studies, analyses, and related documentation. The National Radar Cross Section (RCS) Test Facility (NRTF) at Holloman AFB, NM, provides timely, accurate, and secure RCS and antenna measurements for tri-service and joint program offices, DoD laboratories, Defense Advanced Research Projects Agency (DARPA) and industry. The NRTF tests fielded and developmental systems and technology to meet Low Observable (a.k.a. stealth) and EW customer requirements. The Guided Weapons Evaluation Facility (GWEF), 412 EWG/OL-HN and the Digital Integrated Air Defense System (DIADS) provide the ability to realistically evaluate hardware components and simulated weapon systems against manned hardware threat representations throughout the acquisition process. GWEF provides simulations of advanced Infrared (IR) & Radio Frequency (RF) semi-active Surface-to-Air Missiles (SAMs), Air-to-Air Missiles (AAMs), RF missile warning, IR and Laser countermeasure functions; integration of actual threat hardware and ground clutter into advanced threat RF and IR missile simulations. DIADS provides algorithm based enemy command and control (C2) capabilities plus early warning radar detection, limited ground control intercept features and also allows man-in-the-loop interaction for the enemy C2 positions. The Advanced Warfare Test and Evaluation Capability (AWTEC) will replace 90's technology with state-of-the-art stimulators to upgrade the Benefield Anechoic Facility (BAF) at Edwards AFB, CA and provides Electromagnetic Interference/Electromagnetic Compatibility (EMI/EMC) capabilities at the BAF. Improvement and modernization efforts within this PE are identified for the EW mission area. EW provides planning, improvements, and modernization needed for test capabilities to conduct and support the AF EW test process, including DE. This test process provides a scientific methodology to ensure the effective disciplined and efficient testing of EW and avionics systems.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: I&M	11.537	8.749	11.606
Description: Provides for planning and improvement & modernization (I&M) of test capabilities to conduct and support the AF EW test process, including DE.			
FY 2013 Accomplishments: The 96 TW at Eglin AFB (IR) and the 412 EWG/OL-HN (RF) at Wright-Patterson AFB completed backup of all software received from the Air Force Electronic Warfare Evaluation Simulator (AFEWES) lab. The 96 TW initiated system integration, development and calibration plans for a new 9-axis flight motion simulator (FMS) capability. The 412 EWG/OL-HN began facility renovations			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 6	**R-1 Program Element (Number/Name)** PE 0604256F / *Threat Simulator Development*	**Project (Number/Name)** 663321 / *Electronic Warfare Ground Test Resources*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015

and conducted initial operator training and functional checkouts of 33% of RF equipment transferred from Ft Worth in 2012. The Digital Integrated Air Defense System (DIADS) upgrade project fielded software version 7.2 containing Remote Interface Control updates to support multiple interfaces; continued development of advanced jamming capabilities, control and display system upgrades, and improved sensor and multi-mode capabilities; and initiated efforts to improve weapon command and control algorithms to simulate evolving air defense threats in support of acquisition programs such as F-22, F-35, B-2 and MALD-J. The Advanced Warfare Test & Evaluation Capability (AWTEC) project completed regression and acceptance testing of Electromagnetic Interference/Electromagnetic Compatibility (EMI/EMC) upgrades at the Benefield Anechoic Facility (BAF) and continued integrating an advanced radar environment simulation (ARES) upgrade, new real-time displays and controls, new Identify Friend or Foe (IFF) software, and advanced Global Positioning System (GPS) and navigation system upgrades in the BAF. The National Radar Cross Section (RCS) Test Facility (NRTF) upgrade project began site preparation for the new operations center; completed the design of the RCS Advanced Measurement Site (RAMS) utility improvements design; and initiated development of consolidated machine/supply shops and a new specialized paint booth fire supression system to enhance efficiency of operations and accuracy for measuring RCS of Low Observable platforms and antennas. NRTF also completed design of a new Radar VHF/UHF Measurement System (RVUMS) Antenna Feed to enhance broadband signal performance and completed several studies addressing improvements in signal processing and system accuracy.

FY 2014 Plans:

The 412 EWG/OL-HN will continue RF threat simulator reconstitution and complete end-to-end checkout for approximately 50% of the delivered RF threat simulator systems. The 96 TW will continue system integration, development and calibration efforts on the IR 9-axis FMS, and will begin IR simulator software improvements and upgrade system hardware and interfaces. DIADS will field a new software release which improves tracker capability and improves scenario preparation, continue development of advanced jamming capabilities, continue development of improved weapon command and control algorithms, and validate architecture and simulation upgrades to advance new capabilities to simulate evolving threats. AWTEC will continue BAF upgrades to provide new state-of-the-art stimulators and EMI/EMC test capabilities in high and low frequency bands, and will complete integration of new real-time displays and controls, new Identify Friend or Foe (IFF) software, and advanced GPS and navigation system upgrades in the BAF. AWTEC will also develop and procure upgrades to LINK-16 and satellite communication systems, including antenna mounting and pointing systems, and will also begin development and integration of a follow-on ARES build. NRTF will continue upgrades of the machine/supply shops facilities; initiate development and procurement of the RVUMS Antenna Feed; implement a high-power transmitter system; and initiate a study of next generation RCS metrology requirements.

FY 2015 Plans:

The 96 TW will continue development of IR threat simulator capabilities to include the 9-axis FMS and upgrade of additional system hardware and interfaces. DIADS will field a new software release and continue to develop and validate architecture and simulation upgrades to advance new capabilities to simulate evolving threats, including improvements to command and control models and design and development of advanced threat tracking capabilities. AWTEC will continue BAF upgrades to provide

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 6	**R-1 Program Element (Number/Name)** PE 0604256F / *Threat Simulator Development*	**Project (Number/Name)** 663321 / *Electronic Warfare Ground Test Resources*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
better test chamber control, integration and monitoring; will complete development, integration and checkout of the LINK-16 and satellite communication systems; and will continue development and integration of a follow-on ARES build. NRTF will continue facility upgrades to consolidate and enhance efficiency of operations and accuracy for measuring RCS of Low Observable platforms and antennas, including design studies of next generation radar and RCS metrology requirements.			
Title: EC Test Process Support ***Description:*** Electronic Combat (EC) Test Process Support. Conduct requirements analyses and other studies in support of Air Force T&E investments in test infrastructure and capabilities. ***FY 2013 Accomplishments:*** Provided Systems Engineering/Technical Assistance (SETA) support needed to implement planned Air Force test processes and infrastructure I&M capabilities. Team members supported tri-service studies and analysis identifying joint investment needs and developing requirements recommendations. ***FY 2014 Plans:*** Continue to provide SETA support needed to implement planned Air Force test processes and infrastructure I&M capabilities. Team members will continue support to tri-service monitoring and analysis teams established to identify emerging joint investment needs and requirements development. Team members will help manage and monitor I&M program elements and activities. ***FY 2015 Plans:*** Continue to provide SETA support needed to implement planned Air Force test processes and infrastructure I&M capabilities. Team members will continue support to tri-service monitoring and analysis teams established to identify emerging joint investment needs and requirements development. Team members will help manage and monitor I&M program elements and activities.	1.706	0.757	1.582
Accomplishments/Planned Programs Subtotals	13.243	9.506	13.188

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: BA 06: PE 0604759F: *Major T&E Investment*	33.968	32.341	47.232	-	47.232	68.755	67.374	68.690	69.998	Continuing	Continuing
• RDTE: BA 06: PE 0605807F: *Test and Evaluation Support*	670.586	722.658	689.509	-	689.509	672.427	680.719	688.020	700.796	Continuing	Continuing
• RDTE: BA 06: PE 0605976: *Facility Restoration & Modernization - T&E*	38.854	44.160	46.955	-	46.955	40.787	43.319	44.157	44.723	Continuing	Continuing

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 6	**R-1 Program Element (Number/Name)** PE 0604256F / *Threat Simulator Development*	**Project (Number/Name)** 663321 / *Electronic Warfare Ground Test Resources*

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: BA 06: PE 0605978F: *Facilities Sustainment - T&E Support*	24.986	27.643	32.965	-	32.965	28.080	28.598	29.154	29.623	Continuing	Continuing

Remarks

D. Acquisition Strategy

NA

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-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 6	R-1 Program Element (Number/Name) PE 0604256F / *Threat Simulator Development*	Project (Number/Name) 667500 / *Foreign Materiel Acquisition/ Analysis*	

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
667500: *Foreign Materiel Acquisition/Analysis*	-	7.265	3.777	8.599	-	8.599	8.026	7.142	7.272	7.425	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's specific purpose is to support USAF Foreign Materiel Program requirements through the acquisition and analysis of foreign materiel. Items considered for these Foreign Materiel Acquisition (FMA) funds are included in the prioritized Air Force FMA Top 20 list established each year. Each Major Command (MAJCOM) prepares and approves a Foreign Materiel - Mission Requirements Statement for each requirement. Annually, the MAJCOM commanders establish a list of their top 20 requirements. The MAJCOMs' requirements lists are integrated and prioritized into a classified Air Force requirement list. Each MAJCOM then approves the FMA Top 20 List and final validation comes from the Air Force Vice Chief of Staff. System analyses are based on and driven by acquisitions. The USAF provides assessments and data for threat systems to all DoD components.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: FMP	7.265	3.777	8.599
Description: Supports USAF Foreign Materiel Program (FMP) Requirements through the acquisition and analysis of foreign materiel. ***FY 2013 Accomplishments:*** Continued to fund acquisition of available Foreign Materiel IAW the prioritized Air Force Foreign Materiel List; analysis of acquired Foreign Materiel; and operations and maintenance of the specialized Foreign Materiel assets. ***FY 2014 Plans:*** Continue to fund acquisition of available Foreign Materiel IAW the prioritized Air Force Foreign Materiel List; analysis of acquired Foreign Materiel; and operations and maintenance of the specialized Foreign Materiel assets. ***FY 2015 Plans:*** Continue to fund acquisition of available Foreign Materiel IAW the prioritized Air Force Foreign Materiel List; analysis of acquired Foreign Materiel; and operations and maintenance of the specialized Foreign Materiel assets.			
Accomplishments/Planned Programs Subtotals	7.265	3.777	8.599

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 6	**R-1 Program Element (Number/Name)** PE 0604256F / *Threat Simulator Development*	**Project (Number/Name)** 667500 / *Foreign Materiel Acquisition/ Analysis*

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: BA 06: PE 0605807F: *Test and Evaluation Support*	670.586	722.658	689.509	-	689.509	672.427	680.719	688.020	700.796	Continuing	Continuing

Remarks

D. Acquisition Strategy

Not applicable.

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-2, RDT&E Budget Item Justification: PB 2015 Air Force											Date: March 2014	
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 6: *RDT&E Management Support*					R-1 Program Element (Number/Name) PE 0604759F / *Major T&E Investment*							
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	-	33.968	32.341	47.232	-	47.232	68.755	67.374	68.690	69.998	Continuing	Continuing
664597: *Air Force Test Investments*	-	33.968	32.341	47.232	-	47.232	68.755	67.374	68.690	69.998	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 PE provides planning, improvements, and modernization for test capabilities at three Air Force Test Center (AFTC) organizations: 96 Test Wing at Eglin AFB FL (to include 96 Test Group at Holloman AFB NM, and operating locations at Wright-Patterson AFB OH), Arnold Engineering Development Complex (AEDC) at Arnold AFB TN and the 412 Test Wing at Edwards AFB CA. The purpose is to help test organizations improve and develop their test infrastructure and capabilities to keep pace with improvements in weapon system technologies.

The improvement and modernization (I&M) requirements are defined through the AF Test Investment Planning & Programming (TIPP) Process. All projects have been reviewed through the Tri-Service Reliance process (to communicate AF efforts to the other Services and avoid unwarranted duplication of effort) and are documented in the Technology Development Acquisition Program (TDAP) database. Each project has its own planning, development, equipment acquisition, equipment installation, and checkout phases which often require significant differences in funding from one year to the next. As such, the changes in category funding from year to year do not necessarily indicate program growth, but rather a planned phasing of improvement and modernization efforts. The test capabilities at these locations enable testing through all phases of weapon system acquisition, from system concept exploration through component and full scale integrated weapon system testing to operational testing. These test organizations are a part of the Major Range and Test Facility Base (MRTFB), operated and maintained by the Air Force for DoD test and evaluation. These national test assets are available to others requiring their unique capabilities.

The 96TW, at Eglin AFB FL, conducts and supports developmental test and evaluation (DT&E) of non-nuclear air armaments; Command, Control, Communications, Computers, Intelligence, Surveillance, Reconnaissance (C4ISR) systems; target acquisition and weapon delivery systems; navigation systems; provides a climatic simulation capability; determines target/test item spectral signatures; and provides Cyber testing capabilities as part of the Joint Information Operations (IO) Range. The 96TG at Holloman AFB, NM provides independent test and evaluation of inertial, Global Positioning System (GPS) and integrated systems used for aircraft navigation and missile guidance systems including vulnerability to electronic interference; provides the liaison function for coordinating and scheduling all US Air Force test operations at White Sands Missile Range; provides subsonic through hypersonic ground testing of aircraft and missiles in a flight-representative environment under highly instrumented conditions; and executes flight test and test support for advanced avionics and weapons development of joint, international and commercial test programs.

AEDC, at Arnold AFB TN, provides pre-flight and reliability ground environmental test support for DoD aeropropulsion, flight systems, and space and missile programs. The center has 53 test facilities providing: aerodynamic testing of scale model aircraft, missiles, and space systems; testing of large and full-scale satellites, sensors,

and space vehicles in a simulated space environment; altitude environmental testing for aircraft, missile, and spacecraft propulsion systems; and testing of large-scale models such as space boosters together with their propulsion systems.

The 412th Test Wing, at Edwards AFB CA, conducts and supports DT&E and Operational Test and Evaluation (OT&E) of aircraft and aircraft systems, aerospace research vehicles, unmanned aerial vehicles, cruise missiles, parachute delivery/recovery/systems, and cargo handling systems.

I&M efforts within this PE are identified in four mission area categories: Airframe/Propulsion/Avionics (APA); Armament/Munitions (A/M); Command, Control, Communications, Computers, Intelligence, Surveillance, Reconnaissance (C4ISR); and Space. These categories describe general types of effort that will be conducted in this PE. APA provides planning, improvements, and modernization needed for test capabilities to conduct and support DT&E and OT&E of aircraft and aircraft systems, aerospace research vehicles, unmanned aerial vehicles, cruise missiles, parachute delivery/recovery systems, cargo handling systems, and turbine engines. APA focuses on evaluation of the vehicle airframe, propulsion system, and avionics systems, as well as overall systems integration testing. It encompasses both ground test facilities, on-board test aircraft systems, and open-air range infrastructure, including instrumentation and data processing. A/M provides planning, improvements and modernization to conduct DT&E of air-to-ground and air-to-air armaments and munitions, which include gun, chaff and flare systems as well as aerial decoy and target systems. The A/M category encompasses the full range of DT&E from digital modeling and simulation, to precision measurement testing, to hardware-in-the-loop and installed systems testing, to open-air range testing. Elements of A/M DT&E include environmental, warhead effectiveness, arena blast/fragmentation, guidance navigation and control, aerodynamics, propulsion, electromagnetic interference and compatibility, mass properties, seeker and signature measurement, survivability, lethality, integration, reliability, net-centric and terminal effects testing. A/M also involves the design and development of systems needed to support A/M DT&E including the design and development sleds, targets, range support systems and various instrumentation and measurement systems. C4ISR provides planning, improvements and modernization to conduct DT&E of systems that support C2 functions which range from air campaign planning at the theater level to wing level C2 operations, to planning individual missions, to putting weapons on target using concepts such as machine to machine targeting. C4ISR includes ground and flight performance testing of airborne C2 networks and tactical data links, air operation centers, mission planning systems, multi-level security systems, radio and communication systems, ISR systems, information assurance systems, and radar systems such as those used by JSTARS and air traffic control systems. C4ISR conducts DT&E on a full range of systems covering the sensor (detection) to the shooter (weapon), including functional and environmental testing of these systems. C4ISR includes DT&E for offensive and defensive Cyber capabilities. Space provides planning, improvements, and modernization needed for test capabilities to perform developmental and operational testing for space and launch acquisition and sustainment programs. Test capabilities include launch vehicle, satellite, missile, sensor, thermal protection system, signature, hardness, and interface testing. The capabilities reside at Vandenberg, Kirtland, Arnold, Patrick, Schriever, Peterson, Holloman Air Force Bases and others. Infrastructure includes launch sites, mobile control units, thermal vacuum chambers, sled track, arc heated wind tunnels, ballistic test ranges, signature collection, and the requisite personnel.

Budget Activity Justification: This program is in Budget Activity 6, RDT&E Management Support, because this budget activity includes research, development, test and evaluation efforts and funds to sustain and/or modernize the installations or operations required for general research, development, test and evaluation.

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 6: *RDT&E Management Support*	**R-1 Program Element (Number/Name)** PE 0604759F / *Major T&E Investment*	

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	42.236	34.841	47.821	-	47.821
Current President's Budget	33.968	32.341	47.232	-	47.232
Total Adjustments	-8.268	-2.500	-0.589	-	-0.589
• Congressional General Reductions	-0.056	-			
• Congressional Directed Reductions	-	-2.500			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-4.086	-			
• SBIR/STTR Transfer	-0.650	-			
• Other Adjustments	-3.476	-	-0.589	-	-0.589

Change Summary Explanation

FY13: $4.086M Reprogramming decrease due to O&M shortfall; $3.476M other adjustment decrease due to sequestration.

FY14: $2.5M Congressional Directed Reduction: Program decrease.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Airframe/Propulsion/Avionics T&E I&M	20.830	21.511	35.059

Description: Improvement and modernization of the AF capability to test and evaluate Airframe/Propulsion/Avionics (APA)

FY 2013 Accomplishments:

The Advanced Range Systems Upgrade (ARSU) project completed critical infrastructure upgrades to the operational control center and switching networks, and continued development and integration of digital data management and distribution systems, interactive display and analysis software, and mission control room upgrades at the 412TW range to manage obsolescence. The Joint Airborne Instrumentation Integration (JAII) effort completed hardware and data instrumentation system modifications to about 12 percent of AFMC's test fleet's instrumented airborne platforms. The Telemetry (TM) Systems Integration and Support (TSIS) effort completed C-band upgrades to eight fixed TM ground sites, modified about half of the 412 TW's ground-based receivers to incorporate C-band capabilities, and accelerated integration plans for airborne C-band instrumentation pallets. The Tunnel 4T Modernization completed fabrication and installation of new nozzle actuator and control systems, installation and checkout of a new data acquisition system (DAS), and completed fabrication and began installation of a new Captive Trajectory System (CTS) for AEDC's transonic wind tunnel. The Tunnels A/B/C Modernization project completed installation and checkout of new nozzle actuator and control systems, installation and checkout of a new DAS, and modernized the flow-field visualization system for AEDC's continuous flow supersonic and hypersonic wind tunnels. The Advanced Large Military Engine Capability (ALMEC) project completed design activities and initiated contract awards on the exhaust intercoolers and main drive exciters to upgrade

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 6: *RDT&E Management Support*	**R-1 Program Element (Number/Name)** PE 0604759F / *Major T&E Investment*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015

the C1/C2 aero-propulsion test cells for testing advanced high-speed air-breathing engines. ALMEC also continued design efforts on the C1/C2 plant control and air supply water systems. The Advanced Small Military Engine Capability (ASMEC) project completed critical design and initiated procurement efforts on the gas heater system, began preliminary and critical design efforts on the air supply and mechanical bypass systems, and completed technical requirements for the plant control systems to upgrade the T3 test facility supporting high-Mach small-engine propulsion test requirements. The Ultra-High Accuracy Reference System (UHARS) project completed design efforts, continued procurement activities of GPS and non-GPS based reference systems, and began integration efforts to develop a high-accuracy inertial-based Time Space Position Information (TSPI) truth source reference system for testing and evaluating future navigation and guidance systems. The T&E Board of Directors led tri-service investment planning and joint T&E Reliance activities as directed by the Service Secretaries.

FY 2014 Plans:

ARSU will complete program upgrades to digital data display and analysis software, interactive display and analysis software, and mission control rooms at the 412 TW. JAII will continue executing instrumentation systems upgrades to the test fleet's instrumented airborne platforms per the test fleet modernization plan. TSIS will complete remote control capabilities of the TM mobile ground stations, continue C-band upgrades to the fixed TM ground antenna sites at Edwards AFB, continue to modify the remaining ground-based TM receivers at Edwards AFB to incorporate C-band capabilities, and continue to acquire and integrate the airborne TM systems into test aircraft. Tunnel 4T will complete installation and begin verification and validation efforts of the new CTS rig, and will complete verification and validation efforts of the nozzle actuator and control systems and the DAS at AEDC's transonic wind tunnel. Tunnels A/B/C will complete final acceptance program close-out activities. ALMEC will complete design efforts and initiate development activities on the plant control and air supply water systems, and will begin installation and checkout of the exhaust intercoolers and main drive exciters, for the C1/C2 aero-propulsion test cells. ASMEC will complete procurement and installation and checkout of the gas heater system, will complete critical design and begin procurement activities on the air supply and mechanical bypass systems, and will begin preliminary design efforts on the plant control systems to upgrade the T3 test facility. The Improved Transonic Test Capability (IMTTC) will begin design and development efforts to upgrade the 16T transonic wind tunnel systems to increase productivity and efficiency. The Test Instrumentation, Data Systems & Control (TIDSC) project will initiate preliminary design and development efforts to provide instrumentation and data system upgrades across AEDC test infrastructure. UHARS will complete integration efforts and initiate fielding, installation and checkout of the GPS and non-GPS based reference systems needed to test and evaluate future navigation and guidance systems. The T&E Board of Directors will continue to lead tri-service investment planning and joint T&E Reliance efforts as directed by the Service Secretaries.

FY 2015 Plans:

JAII will continue executing instrumentation systems upgrades to the test fleet's instrumented airborne platforms per the test fleet modernization plan. TSIS will continue improvements to fixed TM acquisition systems by upgrading and integrating C-band ground-based receiver systems and airborne instrumentation pallets. ALMEC will complete installation and checkout of

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 6: *RDT&E Management Support*	**R-1 Program Element (Number/Name)** PE 0604759F / *Major T&E Investment*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
the exhaust intercoolers and main drive exciters, will begin installation and checkout of the plant control and air supply water systems, and will initiate design and development efforts on the switchgear and heater systems for the C1/C2 aero-propulsion test cells. ASMEC will complete installation and checkout efforts on the air supply and mechanical bypass systems and continue design efforts on the plant control systems to upgrade the T3 test facility. IMTTC will continue design and development efforts to upgrade the 16T transonic wind tunnel systems to increase productivity and efficiency. The TIDSC project will continue design and development efforts to provide instrumentation and data system upgrades across AEDC test infrastructure. UHARS will complete fielding and conduct verification and validation efforts of the GPS and non-GPS based reference systems needed to test and evaluate future navigation and guidance systems. The Common Range Integrated Instrumentation System (CRIIS) Production project will begin design, development and procurement efforts to upgrade range TSPI instrumentation capabilities. The T&E Board of Directors will continue to lead tri-service investment planning and joint T&E Reliance efforts as directed by the Service Secretaries.			
Title: Armament/Munitions T&E I&M	12.638	10.830	11.673
Description: Improvement and modernization of the AF capability to test and evaluate Armament/Munitions (A/M) ***FY 2013 Accomplishments:*** The Advanced Command Destruct System (ACDS) project continued independent verification and validation (IV&V) efforts to upgrade the command destruct systems supporting test missions at Eglin AFB and Edwards AFB. The Advanced Range Telemetry (ARTM) project completed the final TM receiver procurements and all remaining upgrades to the TM antennas implementing Continuous Phase Modulation (CPM) waveforms to improve usage of critical TM spectrum capabilities at the 96 TW. The Advanced Munitions Test Improvement (AMTI) project began checkout of Millimeter Wave (MMW) simulator and GPS simulator hardware, and took delivery of low observable target and countermeasure models target models to provide new hardware-in-the-loop (HITL) capabilities for testing advanced multi-mode seeker/sensor guidance technologies. The Gulf Range Test and Training Center (GRTTCC) project procured and began installation of high resolution video system distribution and display hardware; increased data storage; began procurement of mission control room fiber data links and TM processing equipment; and initiated mission control room computer upgrades to support advanced programs. The Joint Gulf Range Area Network Development (JGRAND) project awarded a fiber contract to connect test sites D-84 to D-1B, completed preliminary design work and began contract award activity for the alternate Range Network Operations Control Center (RNOCC), and accepted the delivery of fiber links from test sites D-1C to D-3 at the 96TW. The Combined High-Speed/High-Resolution (CHSHR) EO/IR Imaging project completed delivery of approximately 25% of high-speed camera systems, and continued design and development of Cinetheodolite (Cine-T) modifications to provide improved tracking capabilities for small, high-speed A/M, missiles and airborne platform testing at Eglin AFB and Holloman AFB. The Next Generation Munitions Test Environment (NGMTE) project completed design and initiated environmental assessments for the range C-80B drop tower installation, and			

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 6: *RDT&E Management Support*	**R-1 Program Element (Number/Name)** PE 0604759F / *Major T&E Investment*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
began design activity on a data acquisition system supporting range C-80B to upgrade aging gun and munitions test capabilities at Eglin AFB to support modern, smarter weapon systems requiring more precise data. ***FY 2014 Plans:*** ACDS will complete IV&V efforts and final report activities to close out the program. The ARTM project will complete checkout of all CPM upgrades and integration of TM systems and processes at the 96 TW. AMTI will complete integration and acceptance of the MMW and advanced GPS simulators. GRTTCC will complete the installation and checkout of high-resolution video system distribution and display hardware, mission control room fiber data links, and TM processing equipment; continue development of mission control room computer upgrades; initiate a critical facility power upgrade; and continue development of upgrades to range data systems including range communication, range interface and data display systems. JGRAND will complete design efforts and award a contract for the alternate RNOCC, award a fiber contract to connect test site D-1B to D-3 and continue to develop remaining advanced fiber optic and network security systems to improve range communication capabilities at the 96TW. CHSHR EO/IR will complete delivery of approximately 50% of the high-speed camera systems and 30% of the infrared camera systems, continue design of and initiate Cine-T modifications for four long range optical tracking systems, and initiate designs for remote C2 operations to provide improved tracking capabilities of long-range photo optic tracking systems. NGMTE will begin drop tower construction and site preparation on C-80B, continue design activity on the data acquisition system supporting range C-80B, and begin design activity for new ballistic scoring and fragmentation recording systems for arena test range C-80C supporting gun and munitions test capabilities. ***FY 2015 Plans:*** GRTTCC will continue procurement and integration efforts to upgrade range data systems including range communication, range interface, and data display systems. JGRAND will continue to develop the alternate RNOCC capabilities and initiate additional contracts for advanced fiber optic systems to improve range communication capabilities at the 96TW. CHSHR EO/IR will continue procurement and integration of new high-speed digital cameras, modernization of long-range Cine-T photo optic tracking systems, and remote C2 operation upgrades to provide improved tracking capabilities. NGMTE will continue to upgrade aging gun and munitions test infrastructure, develop and procure common data instrumentation and acquisition systems, and replace environmental test chambers supporting gun and arena test capabilities.			
Title: C4ISR T&E I&M ***Description:*** Improvement and modernization of the AF capability to test and evaluate C4ISR ***FY 2013 Accomplishments:***	0.500	-	0.500

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 6: *RDT&E Management Support*	**R-1 Program Element (Number/Name)** PE 0604759F / *Major T&E Investment*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
The Command and Control Test Operations Center (C2TOC) project completed efforts to develop a Joint Air Operations Center (AOC) level test capability by fielding additional C2 connectivity and communication links of C2 computer systems, including computers, firewalls, and test tools to support end-to-end weapon system testing. ***FY 2014 Plans:*** Early planning will begin for the Improved Command and Control Test Operations Center (I-C2TOC) project to develop net-centric C2 battle management operations capabilities, improve communication interfaces and data collection, handling, analysis and display capabilities to support C4ISR/Cyber end-to-end weapon system testing. ***FY 2015 Plans:*** I-C2TOC will begin formal design and development efforts for net-centric C2 battle management operations capabilities, improve communication interfaces and data collection, handling, analysis and display capabilities to support C4ISR/Cyber end-to-end weapon system testing.			
Accomplishments/Planned Programs Subtotals	33.968	32.341	47.232

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: BA 06: PE 0604256F: *Threat Simulator Development*	22.348	14.841	24.418	-	24.418	24.003	22.020	22.436	22.833	Continuing	Continuing
• RDTE: BA 06: PE 0605807F: *Test and Evaluation Support*	670.586	722.658	689.509	-	689.509	672.427	680.719	688.020	700.796	Continuing	Continuing
• RDTE: BA 06: PE 0605976F: *Facility Restoration & Modernization - T&E*	38.854	44.160	46.955	-	46.955	40.787	43.319	44.157	44.723	Continuing	Continuing
• RDTE: BA 06: PE 0605978F: *Facility Sustainment - T&E Support*	24.986	27.643	32.965	-	32.965	28.080	28.598	29.154	29.623	Continuing	Continuing

Remarks

E. Acquisition Strategy

This program element uses several different contracting strategies to provide the most cost effective T&E investment solutions. The main acquisition strategy is to use full and open competition wherever possible to improve and modernize existing test capabilities.

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 6: *RDT&E Management Support*	**R-1 Program Element (Number/Name)** PE 0604759F / *Major T&E Investment*

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 6: *RDT&E Management Support*					R-1 Program Element (Number/Name) PE 0605101F / *RAND Project Air Force*							
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	-	28.132	32.956	30.443	-	30.443	35.151	35.263	34.866	35.495	Continuing	Continuing
661110: *Project Air Force*	-	28.132	32.956	30.443	-	30.443	35.151	35.263	34.866	35.495	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 provides for continuing analytical research across a broad spectrum of aerospace issues and concerns. The Project AIR FORCE (PAF) research agenda is focused primarily on mid to long-term problems; in addition, PAF provides quick response assistance for senior Air Force officials on high priority, near term issues. Within these areas, PAF addresses difficult and complex, far-reaching and inter-related questions linked to future strategies, approaches and policies, in order to enhance Air Force senior leadership's deliberations and decisionmaking on major issues. The Air Force Steering Group, chaired by the Vice Chief of Staff, reviews, monitors, and approves PAF annual research efforts. Each project is initiated, processed, and approved in accordance with PAF Sponsoring Agreement which requires General Officer (or SES equivalent) sponsorship and involvement on a continuing basis.

PAF is organized in four primary research program areas: strategy and doctrine; force modernization employment; manpower, personnel and training; and resource management. Integrative research projects are also conducted at the division level with direct support provided through the most applicable program. Research programs address organizational crosscutting issues as defined by specific research themes approved by the Air Force Steering Group. These research themes encompass a wide spectrum of topics including external challenges to national security; terrorism and homeland defense; joint and coalition operations; integrated roadmap for ISR capabilities; enhancing, tailoring and reducing infrastructure to meet new force requirements; potential changes to the Active/Reserve/National Guard/Civilian/Contractor manpower mix; and improved weapon system costing.

The research program will continue to build upon research foundations, examining the evolving security environment, emerging threats, national and military strategy, transformation approaches including investment strategies to provide capabilities within changing Defense budgets, operational concepts to meet evolving and increasingly joint missions, exploiting advanced technologies, increasing the effectiveness and efficiency of combat support, and developing the total force (Active/Reserve/National Guard/Civilian/Contractor). These efforts will continue to inform and support the senior Air Force leadership regarding personnel management and training; improving logistical efficiencies and force sustainment; ongoing conflicts and joint operations; force structure capabilities, limitations, and operational concepts; and making force structure tradeoffs within resource constraints to meet future national security and Air Force needs.

Future research will build upon earlier work to continue to help the Air Force to rapidly and appropriately adapt to the changing world environment and emerging threats; continue to modernize and employ its force structure to provide capabilities within changing DoD budgets; assess lessons learned from recent and ongoing conflicts; develop and utilize its total force; and enhance the support of our aerospace forces, ranging from sustainment of the force structure to agile combat support.

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 6: *RDT&E Management Support*	**R-1 Program Element (Number/Name)** PE 0605101F / *RAND Project Air Force*

PAF research spans functional and organizational boundaries and is managed in a manner to facilitate independence and freedom from organizational bias thereby providing perspectives and insights to senior Air Force leaders free from parochial influences not necessarily in the best interest of the Air Force at large. Benefits of independent non-Department of Defense analysis of complex present day and emerging issues are shared beyond the immediacy of the Air Force. PAF study results are given wide dissemination within the DOD on a routine basis and are deposited with the Defense Technical Information Center available to a broad range of qualified government and commercial-sector individuals and activities.

This program is in Budget Activity 6, RDT&E Management and Support because this budget activity includes research, development, and test and evaluation efforts and funds to sustain and/or modernize the installations or operations required for general research, development, test and evaluation.

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	25.579	32.956	28.358	-	28.358
Current President's Budget	28.132	32.956	30.443	-	30.443
Total Adjustments	2.553	-	2.085	-	2.085
• Congressional General Reductions	-0.034	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	4.689	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-2.102	-	2.085	-	2.085

Change Summary Explanation

FY13 increase in Current PB is attributable to Reprogrammings due to a Below Threshold Reprogramming of $4.689M.

FY13 decrease in Other Adjustments is due to sequestration.

FY15 increase from previous PB is due to higher AF priorities.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Strategy & Doctrine	6.934	7.945	7.306
Description: Provides for continuing analytical research across a broad spectrum of aerospace issues and concerns--strategy and doctrine.			
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 6: *RDT&E Management Support*	**R-1 Program Element (Number/Name)** PE 0605101F / *RAND Project Air Force*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Completed analytical research across a broad spectrum of aerospace issues and concerns--strategy and doctrine. ***FY 2014 Plans:*** Provides for continuing analytical research across a broad spectrum of aerospace issues and concerns--strategy and doctrine. ***FY 2015 Plans:*** Provides for continuing analytical research across a broad spectrum of aerospace issues and concerns--strategy and doctrine.			
Title: Force Development ***Description:*** Provides analytical research across a broad spectrum of aerospace issues and concerns--force development employment. ***FY 2013 Accomplishments:*** Completed analytical research across a broad spectrum of aerospace issues and concerns--force development employment. ***FY 2014 Plans:*** Provides for continuing analytical research across a broad spectrum of aerospace issues and concerns--force development employment. ***FY 2015 Plans:*** Provides for continuing analytical research across a broad spectrum of aerospace issues and concerns--force development employment.	6.092	7.765	7.306
Title: Manpower, Personnel & Training ***Description:*** Provides analytical research across a broad spectrum of aerospace issues and concerns--manpower, personnel and training. ***FY 2013 Accomplishments:*** Completed analytical research across a broad spectrum of aerospace issues and concerns--manpower, personnel and training ***FY 2014 Plans:*** Provides for continuing analytical research across a broad spectrum of aerospace issues and concerns--manpower, personnel and training ***FY 2015 Plans:*** Provides for continuing analytical research across a broad spectrum of aerospace issues and concerns--manpower, personnel and training	6.092	8.126	7.306
Title: Resource Management	7.356	7.674	7.306

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 6: *RDT&E Management Support*	**R-1 Program Element (Number/Name)** PE 0605101F / *RAND Project Air Force*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Description: Provides analytical research across a broad spectrum of aerospace issues and concerns--resource management. ***FY 2013 Accomplishments:*** Completed analytical research across a broad spectrum of aerospace issues and concerns--resource management.Provides for continuing analytical research across a broad spectrum of aerospace issues and concerns--resource management. ***FY 2014 Plans:*** Provides for continuing analytical research across a broad spectrum of aerospace issues and concerns--resource management.Provides for continuing analytical research across a broad spectrum of aerospace issues and concerns--resource management. ***FY 2015 Plans:*** Provides for continuing analytical research across a broad spectrum of aerospace issues and concerns--manpower, personnel and training			
Title: Integrative Research/Direct Support ***Description:*** Provides for continuing analytical research across a broad spectrum of aerospace issues and concerns--integrative research/direct support. ***FY 2013 Accomplishments:*** Completed analytical research across a broad spectrum of aerospace issues and concerns--integrative research/direct support. ***FY 2014 Plans:*** Provides for continuing analytical research across a broad spectrum of aerospace issues and concerns--integrative research/ direct support. ***FY 2015 Plans:*** Provides for continuing analytical research across a broad spectrum of aerospace issues and concerns--integrative research/ direct support.	1.658	1.446	1.219
Accomplishments/Planned Programs Subtotals	28.132	32.956	30.443

D. Other Program Funding Summary ($ in Millions)

N/A

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 6: *RDT&E Management Support*	**R-1 Program Element (Number/Name)** PE 0605101F / *RAND Project Air Force*

E. Acquisition Strategy

N/A

F. Performance Metrics

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

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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 6: *RDT&E Management Support*					R-1 Program Element (Number/Name) PE 0605502F / *Small Business Innovation Research*							
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	-	318.816	-	-	-	-	-	-	-	-	Continuing	Continuing
663005: *Small Business Innovation Research*	-	318.816	-	-	-	-	-	-	-	-	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

Implementation of 15 U.S.C., Section 638 to maximize the creative, innovative, and entrepreneurial spirit of small businesses to solve technological problems.

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	318.816	-	-	-	-
Total Adjustments	318.816	-	-	-	-
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	318.816	-			
• Other Adjustments	-	-	-	-	-

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Small Business Innovation Research	318.816	-	-
Description: Small Business Innovation Research			
FY 2013 Accomplishments: N/A			
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 6: *RDT&E Management Support*	**R-1 Program Element (Number/Name)** PE 0605502F / *Small Business Innovation Research*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Implement the provisions of 15 U.S.C., Section 638, to maximize the creative, innovative, and entrepreneurial spirit of small businesses to solve technological problems. ***FY 2015 Plans:*** N/A			
Accomplishments/Planned Programs Subtotals	318.816	-	-

D. Other Program Funding Summary ($ in Millions)

N/A

Remarks

E. Acquisition Strategy

N/A

F. Performance Metrics

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

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force											Date: March 2014	
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 6: *RDT&E Management Support*					R-1 Program Element (Number/Name) PE 0605712F / *Initial Operational Test & Evaluation*							
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	-	14.609	10.572	12.266	-	12.266	11.716	11.483	11.735	11.886	Continuing	Continuing
660191: *Initial Operational Test and Eval*	-	14.609	10.572	12.266	-	12.266	11.716	11.483	11.735	11.886	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 funds Congressionally mandated Initial Operational Test and Evaluation (IOT&E) to support major weapon system acquisition decisions beyond Low-Rate Initial Production (LRIP), Milestone C, full rate production, fielding, and declaration of Initial Operational Capability (IOC). For major defense acquisition programs, the law requires IOT&E be completed under realistic operating conditions before proceeding beyond LRIP. IOT&E will be planned to completely and unambiguously answer all critical operational issues (COI) as thoroughly as possible. IOT&E is conducted to determine the operational effectiveness and suitability and resolve overall mission capability of systems undergoing research and development (R&D) efforts. It is an evaluation of a system's performance when the complete system is tested and evaluated against operational criteria by personnel with the same qualifications as those who will operate, maintain and support the system when deployed. In general, IOT&E is performed on new systems in development, major modifications, and other systems as directed. This PE funds the Air Force Operational Test Agency's participation in Integrated Test and Evaluation (IT&E), Multiservice Operational Test and Evaluation (MOT&E), and Follow-on Operational Test and Evaluation (FOT&E) when it is the continuation of IOT&E activities past the full rate production decision. FOT&E answers specific questions about unresolved COIs and test issues, or completes areas not finished during the IOT&E. This PE also funds related operational test and evaluation (OT&E) activities such as Early Influence, Operational Utility Evaluations (OUE), Early Operational Assessments (EOA), Operational Assessments (OA), and independent IOT&E which support major milestones and decision points prior to Milestone C, full rate production, fielding, or declaration of IOC. IOT&E programs are identified in several system categories: Air; Space; Weapons; Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance (C4ISR); and Combat Support. This is a level of effort program element driven by Congressionally and DoD acquisition mandated requirements for operational testing.

Budget Activity Justification: This program is in Budget Activity 6, RDT&E Management Support because this budget activity includes research, development, test and evaluation efforts and funds to sustain operations required for general test and evaluation.

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 6: *RDT&E Management Support*	**R-1 Program Element (Number/Name)** PE 0605712F / *Initial Operational Test & Evaluation*

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	16.197	13.610	14.019	-	14.019
Current President's Budget	14.609	10.572	12.266	-	12.266
Total Adjustments	-1.588	-3.038	-1.753	-	-1.753
• Congressional General Reductions	-0.021	-			
• Congressional Directed Reductions	-	-3.038			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-1.567	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-	-	-1.753	-	-1.753

Change Summary Explanation

FY13: Reduction of $1.567M due to higher USAF and DoD priorities.

FY14: $3.038M Congressionally directed reduction-program decrease.

FY15: Reduction of $1.753M due to higher DoD priorities and adjustment for inflation.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Air Systems OT&E	4.679	4.655	3.139
Description: Plan, execute and report OT&E for Air Systems			
FY 2013 Accomplishments: -Airborne Warning and Control System (AWACS) Block 40/45: Conducted early influence -B-52 COmbat NEtwork Communications Technology (CONECT): Conducted IOT&E -C-130J Block Upgrades 7.0/8.1: Conducted early influence -Combat Rescue Helicopter (CRH): Conducted early influence -(Diminishing Manufacturing Sources) Replacement of Avionics for Global Operations and Navigation (E-3 DRAGON): Conducted OA1 -F-15 Eagle Passive and Active Warning and Survivability System (F-15 EPAWSS): Conducted early influence -F-15E Radar Modernization Program (F-15E RMP): Conducted IOT&E -F-16 Combat Avionics Programmed Extension Suite (F-16 CAPES): Conducted early influence -F-22A 3.2A: Planned for FOT&E			

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 6: *RDT&E Management Support*	**R-1 Program Element (Number/Name)** PE 0605712F / *Initial Operational Test & Evaluation*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
-F-22A 3.2B: Conducted early influence -HC/MC-130 RECAP: Published Final Report -KC-46A: Conducted OA1 -Miniature Air Launched Decoy - Jammer (MALD-J): Conducted IOT&E -MQ-9 Block 5: Conducted OA, planned for FOT&E -Presidential Aircraft Recapitalization (PAR): Conducted early influence -QF-16: Conducted OA, planned for IOT&E			
FY 2014 Plans: -AWACS Block 40/45: Conduct early influence -B-2 Flex Strike Phase 1: Conduct early influence -C-130J Block Upgrades 7.0/8.1: Conduct early influence -CRH: Conduct early influence -(Diminishing Manufacturing Sources) Replacement of Avionics for Global Operations and Navigation (E-3 DRAGON): Plan for OA2 -F-15 EPAWSS: Conduct early influence -F-22A 3.2A: Conduct FOT&E -F-22A 3.2B: Plan for OA -KC-46A: Plan for OA2 -MALD-J: Complete IOT&E -MQ-9 Block 5: Conduct FOT&E -PAR: Conduct early influence -QF-16: Conduct IOT&E -Conduct other planning and operational testing for new air system programs as the requirement becomes known to AFOTEC			
FY 2015 Plans: -AWACS Block 40/45: Plan for FOT&E -B-2 Flex Strike Phase 1: Plan for IOT&E -C-130J Block Upgrades 7.0/8.1: Plan for OA -CRH: Conduct early influence -(Diminishing Manufacturing Sources) Replacement of Avionics for Global Operations and Navigation (E-3 DRAGON): Conduct OA2, plan for IOT&E -F-15 EPAWSS: Conduct early influence -F-22A 3.2A: Publish final report -F-22A 3.2B: Conduct OA			

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 6: *RDT&E Management Support*	**R-1 Program Element (Number/Name)** PE 0605712F / *Initial Operational Test & Evaluation*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
-KC-46A: Conduct OA2, plan for IOT&E -MQ-9 Block 5: Complete FOT&E -PAR: Conduct early influence -Conduct other planning and operational testing for new air system programs as the requirement becomes known to AFOTEC			
Title: Space Systems OT&E ***Description:*** Plan, execute and report OT&E for Space Systems OT&E ***FY 2013 Accomplishments:*** -Advanced Extremely High Frequency Satellite Communications (Advanced EHF): Conducted OUE, planned for MOT&E -Enhanced Polar System (EPS): Conducted EOA -Global Broadcast Service (GBS): Planned for FOT&E -Global Positioning System Block III (GPS III): Conducted early influence -Military GPS User Equipment (GPS MGUE): Planned for EOA -GPS Next Generation Control Segment (GPS OCX): Conducted early influence -Inter-Continental Ballistic Missile Fuze (ICBM FUZE): Conducted early influence -Integrated Strategic Planning and Analysis Network Increment 4 (ISPAN Inc. IV): Planned for EOA -Joint Space Operations Center (JSpOC) Mission System (JMS): Reported on increment 1 OUE and increment 2 EOA -Space Based Infrared System (SBIRS): Conducted early influence -Space Fence: Conducted early influence ***FY 2014 Plans:*** -Advanced EHF: Conduct MOT&E -EPS: Conduct early influence -GBS: Conduct FOT&E -GPS III: Conduct early influence -GPS MGUE: Conduct EOA -GPS OCX: Plan for OA -ICBM FUZE: Conduct early influence -ISPAN Inc. IV: Conduct EOA -JMS: Plan for IOT&E -SBIRS: Plan for OUE2 -Space Fence: Conduct early influence	1.157	2.386	0.634

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 6: *RDT&E Management Support*	**R-1 Program Element (Number/Name)** PE 0605712F / *Initial Operational Test & Evaluation*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
-Conduct other planning and operational testing for new space system programs as the requirement becomes known to AFOTEC ***FY 2015 Plans:*** -Advanced EHF: Complete MOT&E -EPS: Conduct early influence -GBS: Complete FOT&E -GPS III: Conduct early influence -GPS MGUE: Plan for OA -GPS OCX: Conduct OA -ICBM FUZE: Plan for EOA -ISPAN Inc. IV: Plan for IOT&E -JMS: Conduct IOT&E -SBIRS: Conduct OUE2 -Space Fence: Conduct early influence -Conduct other planning and operational testing for new space system programs as the requirement becomes known to AFOTEC			
Title: Weapons OT&E ***Description:*** Plan, execute and report OT&E for Weapons OT&E ***FY 2013 Accomplishments:*** -AIM-120C Advanced Electronic Protection Improvement Program (AIM-120C Advanced EPIP): Planned for MOT&E -AIM-120C Electronic Protection Improvement Program (AIM-120C EPIP): Conducted MOT&E -AIM-9X Block II: Conducted MOT&E -B-61 Life Extension Program (B-61 LEP): Conducted early influence -Hard Target Void Sensing Fuze (HTVSF): Conducted OA -Long-Range Stand-Off Weapon (LRSO): Conducted early influence -Small Diameter Bomb II (SDB II): Conducted OA ***FY 2014 Plans:*** -AIM-120C Advanced EPIP: Plan for MOT&E -AIM-120C EPIP: Complete MOT&E -AIM-9X Block II: Conduct MOT&E -B-61 LEP: Conduct early influence -HTVSF: Complete OA, plan for MOT&E -LRSO: Conduct early influence	2.221	0.353	5.436

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 6: *RDT&E Management Support*	**R-1 Program Element (Number/Name)** PE 0605712F / *Initial Operational Test & Evaluation*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
-SDB II: Complete OA, plan for IOT&E -Conduct other planning and operational testing for new weapons system programs as the requirement becomes known to AFOTEC ***FY 2015 Plans:*** -AIM-120C Advanced EPIP: Conduct MOT&E -B-61 LEP: Conduct early influence -HTVSF: Conduct MOT&E -LRSO: Conduct early influence -SDB II: Conduct IOT&E -Conduct other planning and operational testing for new weapons system programs as the requirement becomes known to AFOTEC			
Title: C4ISR OT&E ***Description:*** Plan, execute and report OT&E for C4ISR OT&E ***FY 2013 Accomplishments:*** -Three Dimensional Expeditionary Long Range Radar (3DELRR): Conducted early influence -Air Force Distributed Common Ground System SR 3.0 (AF DCGS SR 3.0): Planned for OUE -Air Force Integrated Personnel and Pay System (AF-IPPS): Conducted early influence -Air Operations Center (AOC): Conducted early influence -Airborne Signals Intelligence Payload 2C (ASIP 2C): Planned for OA -Battle Control System - Fixed, Release 3.2 (BCS-F 3.2): Conducted FOT&E -Command and Control Air Operations Suite/Command and Control Information Services (C2AOS-C2IS): Conducted early influence -Dismount Detection Radar (DDR): Planned for OUE -Family of Advanced Beyond Line Of Sight Terminals (FAB T): Conducted OA3 (Boeing) -Integrated Broadcast System (IBS): Conducted MOT&E -RQ-4B Global Hawk Block 40: Conducted OUE, planned for IOT&E ***FY 2014 Plans:*** -3DELRR: Conduct early influence -AF DCGS SR 3.0: Conduct OUE, plan for IOT&E -AF-IPPS: Conduct early influence -AOC: Plan for OA and IOT&E	6.474	3.120	2.858

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 6: *RDT&E Management Support*	**R-1 Program Element (Number/Name)** PE 0605712F / *Initial Operational Test & Evaluation*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
-ASIP 2C: Conduct OA -BCS-F 3.2: Complete FOT&E -C2AOS-C2IS: Plan for MOT&E1 -DDR: Conduct OUE -FAB T: Complete OA3 (Boeing), plan for OA1 (Raytheon) -IBS: Publish final report -RQ-4B Global Hawk Block 40: Conduct IOT&E -Conduct other planning and operational testing for new C4ISR programs as the requirement becomes known to AFOTEC ***FY 2015 Plans:*** -3DELRR: Conduct early influence -AF DCGS SR 3.0: Conduct IOT&E -AF-IPPS: Plan for OA -AOC: Conduct OA, conduct IOT&E -ASIP 2C: Complete OA, plan for IOT&E -C2AOS-C2IS: Conduct MOT&E1 -DDR: Complete OUE -FAB T: Plan for IOT&E -RQ-4B Global Hawk Block 40: Complete IOT&E -Conduct other planning and operational testing for new C4ISR programs as the requirement becomes known to AFOTEC			
Title: Combat Support OT&E ***Description:*** Plan, execute and report OT&E for Combat Support OT&E ***FY 2013 Accomplishments:*** -Integrated Aircrew Ensemble (IAE): Planned for OA -Joint Mission Planning System B-2 (JMPS B-2): Conducted early influence -Joint Mission Planning System B-52 (JMPS B-52): Conducted early influence -Joint Mission Planning System E-8 (JMPS E-8): Conducted IOT&E ***FY 2014 Plans:*** -IAE: Conduct OA -JMPS B-2: Conduct early influence -JMPS B-52: Plan for IOT&E	0.078	0.058	0.199

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 6: *RDT&E Management Support*	**R-1 Program Element (Number/Name)** PE 0605712F / *Initial Operational Test & Evaluation*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
-Conduct other planning and operational testing for new combat support programs as the requirement becomes known to AFOTEC ***FY 2015 Plans:*** -IAE: Conduct IOT&E -JMPS B-2: Plan for IOT&E -JMPS B-52: Conduct IOT&E -Conduct other planning and operational testing for new combat support programs as the requirement becomes known to AFOTEC			
Accomplishments/Planned Programs Subtotals	14.609	10.572	12.266

D. Other Program Funding Summary ($ in Millions)

N/A

Remarks

E. Acquisition Strategy

N/A

F. Performance Metrics

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

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force											Date: March 2014	
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 6: *RDT&E Management Support*					R-1 Program Element (Number/Name) PE 0605807F / *Test and Evaluation 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**
Total Program Element	-	670.586	722.658	689.509	-	689.509	672.427	680.719	688.020	700.796	Continuing	Continuing
6606TG: *96th Test Group*	-	28.823	30.519	36.413	-	36.413	36.465	37.334	38.050	38.828	Continuing	Continuing
6606TS: *Test and Evaluation Support*	-	641.763	692.139	653.096	-	653.096	635.962	643.385	649.970	661.968	Continuing	Continuing

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

A. Mission Description and Budget Item Justification

Test facilities, capabilities and resources operated through this program include wind tunnels, rocket and jet engine test cells, armament test ranges, hardware-in-the-loop test facilities, climatic test facilities, avionics test facilities, aircraft testbeds, dry lakebed landing sites, instrumented test ranges, civilian payroll, and contractor services. It also provides resources for maintaining and modifying as required Air Force Materiel Command (AFMC) assigned test and test support coded aircraft. No acquisition contracts are funded from this program; test support contracts for services and supplies and equipment are predominantly awarded on the basis of full and open competition.

This program is in Budget Activity 6, RDT&E Management Support, because this budget activity includes research, development, test, and evaluation efforts and funds to sustain and/or modernize the installations or operations required for general research, development, test and evaluation.

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	722.071	742.658	698.869	-	698.869
Current President's Budget	670.586	722.658	689.509	-	689.509
Total Adjustments	-51.485	-20.000	-9.360	-	-9.360
• Congressional General Reductions	-1.417	-			
• Congressional Directed Reductions	-	-20.000			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	9.500	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-59.568	-	-9.360	-	-9.360

Change Summary Explanation

FY13: $9.5M below threshold reprogramming action to restore civilian pay taken as part of the initial sequestration reduction. The $59.6M decrease in the other adjustments section represents the FY13 sequestration reductions.

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 6: *RDT&E Management Support*	**R-1 Program Element (Number/Name)** PE 0605807F / *Test and Evaluation Support*

FY14: $20M Congressionally directed reduction-program decrease.

FY15: Decrease of $9.4M reflects higher AF priorities, restoration of test infrastructure, and restoration of maintenance funding and flying hours for a DT&E B-1 aircraft.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 6	R-1 Program Element (Number/Name) PE 0605807F / *Test and Evaluation Support*	Project (Number/Name) 6606TG / *96th Test Group*	

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
6606TG: *96th Test Group*	-	28.823	30.519	36.413	-	36.413	36.465	37.334	38.050	38.828	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 infrastructure support is provided for the unique capabilities of the 96th Test Group (TG) facilities: Central Inertial and Global Positioning System (GPS) Test Facility (CIGTF/746th Test Squadron), the Holloman High Speed Test Track (HHSTT/846th Test Squadron) and the National Radar Cross Section (RCS) Test Facility (NRTF/96 TG Det 2), the 586th Flight Test Squadron including Detachment 1 (Det 1), 96 TG Operating Location (96 TG OL-AA) at Kirtland AFB, and 96 TG Operation Location (96 TG OL-AC) at Wright-Patterson AFB.

CIGTF provides independent test and evaluation of inertial, Global Positioning System, and integrated systems used for aircraft navigation and missile guidance systems, including vulnerability to electronic interference.

HHSTT capabilities include full-scale testing in flight representative environments, realistic live-fire simulations, test item and target fragment recovery, precision trajectory analysis and high speed photography.

NRTF provides radar cross section (RCS) monostatic and bistatic amplitude and phase measurements, antenna pattern measurements, glint and near field measurements for low observable targets.

The 586th Flight Test Squadron executes flight test and test support for advanced avionics and weapons development of joint, international and commercial test programs. Det 1 provides the liaison function for coordinating and scheduling all US Air Force test and training operations at White Sands Missile Range (WSMR). OL-AA provides test support for the Air Force Research Lab (AFRL) Directed Energy Division.

The 96 TG OL-AC includes the Landing Gear Test Facility (LGTF) with capabilities such as variable and fixed inertia dynamometers, compression/tension load applicators, 4 drop towers, a burst pit and a dynamic load simulator. The 96 TG OL-AC also includes the Air Vehicle Survivability Office that provides support for Air Force aircraft acquisition programs. The 96th TG support services contracts are awarded on the basis of full and open competition.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: 96th Test Group	28.823	30.519	36.413
Description: Provide infrastructure at the 96th Test Group (TG) to support testing of DoD, other Government Agencies, foreign military sales, and commercial weapon systems.			
FY 2013 Accomplishments:			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 6	**R-1 Program Element (Number/Name)** PE 0605807F / *Test and Evaluation Support*	**Project (Number/Name)** 6606TG / *96th Test Group*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Total consists of utilities, contractor services, and civilian pay. ***FY 2014 Plans:*** Total consists of utilities, contractor services, and civilian pay. ***FY 2015 Plans:*** Total consists of utilities, contractor services, and civilian pay.			
Accomplishments/Planned Programs Subtotals	28.823	30.519	36.413

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
• NA: *NA*	-	-	-	-	-	-	-	-	-	-	-

Remarks

D. Acquisition Strategy

Not applicable

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-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 6	R-1 Program Element (Number/Name) PE 0605807F / *Test and Evaluation Support*	Project (Number/Name) 6606TS / *Test and Evaluation 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
6606TS: *Test and Evaluation Support*	-	641.763	692.139	653.096	-	653.096	635.962	643.385	649.970	661.968	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 provides resources to operate the Air Force Test Center (AFTC) test activities which are included in the Department of Defense (DoD) Major Range and Test Facility Base (MRTFB). Test facilities/capabilities operated through this program include wind tunnels, rocket and jet engine test cells, hypersonic and subsonic testing, modeling and simulation, technology, limited space environmental simulation chambers, armament test ranges, hardware-in-the-loop test facilities, climatic test facilities, avionics test facilities, aircraft testbeds, dry lakebed landing sites, instrumented test ranges, and test aircraft maintenance, as well as USAF Test Pilot School.

Test and Evaluation (T&E) Support funds institutional test infrastructure activities including: Command and supervisory staffs; supply stocks; maintenance, repair, and replacement of worn or obsolete test equipment and facilities; test infrastructure for data collection, transmission, reduction, and analysis; civilian salaries; temporary duty travel; range operations and material support contract costs for hardware and software engineering and maintenance; and minor improvement and modernization projects. It also funds institutional test aircraft depot level maintenance such as: Programmed Depot Maintenance (PDM), the calendar-based cyclic scheduling of aircraft into depots for update/inspection; modifications and any other depot level repairs required by the aircraft System Program Directors (SPD); engine overhauls; depot-provided area assistance; and assorted ground support equipment overhauls.

The AFTCs two test wings and single test complex are supported by this project: (1) Arnold Engineering and Development Complex (AEDC), located at Arnold Air Force Base (AFB), TN, whose institutional test infrastructure supports operations of the largest complex of ground test facilities in the world (includes transonic, supersonic, and hypersonic wind tunnels;rocket motor and turbine engine test cells; space environmental test chambers, hyperballistic ranges; and other specialized facilities). Included are operations at the National Full-Scale Aerodynamic Complex (NFAC) located at NASA's AMES Research Center, California as well as operations at Tunnel 9 located at White Oak, Maryland.(2) 412 Test Wing (TW), located at Edwards AFB, CA, whose institutional test infrastructure supports weapons system development and operational test and evaluation for aircraft, aircraft subsystems and aircraft weapon systems, aerospace research vehicles, unmanned miniature vehicles, cruise missiles, parachute delivery/recovery systems, cargo handling systems, communications, information operations, and Electronic Warfare (EW) systems for DoD and allied forces. The 412TW mission includes the USAF Test Pilot School. (3) 96TW, located at Eglin AFB, FL, is a joint test and training complex of 724 square miles of land area, and approximately 123,000 square miles of water area. 96TW provides the institutional test infrastructure required to conduct developmental and operational test and evaluation of non-nuclear air armaments (including aircraft guns, ammunition, and air-to-surface and air-to-air guided munitions); Command, Control, Communications, Computers and Intelligence/Surveillance/Reconnaissance (C4ISR) systems; target acquisition and weapon delivery systems; multi-service climatic simulation capability; and special operations aircraft systems. 96TW provides a scientific test process that supports the development, production, sustainment, and enhancement of munitions systems that support tri-service digital weapons development. T&E support services contracts are awarded on the basis of full and open competition.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 6	**R-1 Program Element (Number/Name)** PE 0605807F / *Test and Evaluation Support*	**Project (Number/Name)** 6606TS / *Test and Evaluation Support*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: AEDC ***Description:*** Provide infrastructure to support testing of DoD, other Government Agencies, FMS and commercial weapon systems at Arnold Engineering and Development Complex (AEDC). ***FY 2013 Accomplishments:*** Total consists of infrastructure funding for utilities, contractor services, and civilian pay. ***FY 2014 Plans:*** Total consists of utilities, contractor services, and civilian pay. ***FY 2015 Plans:*** Total consists of utilities, contractor services, and civilian pay.	148.648	167.226	164.256
Title: 412TW ***Description:*** Continue to provide institutional test infrastructure support at the 412TW and continue to operate the USAF Test Pilot School. ***FY 2013 Accomplishments:*** Total consists of utilities, contractor services, flight test operations and support and civilian pay. ***FY 2014 Plans:*** Total consists of utilities, contractor services, flight test operations and support, and civilian pay. ***FY 2015 Plans:*** Total consists of utilities, contractor services, test and evaluation flying hour program, and civilian pay.	311.371	317.269	308.105
Title: 96th Test Wing ***Description:*** Continue institutional test infrastructure support at 96th Test Wing (TW) for non-nuclear air armaments. ***FY 2013 Accomplishments:*** Total consists of utilities, contractor services, flight test operations and support, and civilian pay. ***FY 2014 Plans:*** Total consists of utilities, contractor services, and civilian pay. ***FY 2015 Plans:*** Total consists of utilities, contractor services, test and evaluation flying hour program, and civilian pay.	181.744	207.644	180.735
Accomplishments/Planned Programs Subtotals	641.763	692.139	653.096

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 6	**R-1 Program Element (Number/Name)** PE 0605807F / *Test and Evaluation Support*	**Project (Number/Name)** 6606TS / *Test and Evaluation Support*

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
• NA: *NA*	-	-	-	-	-	-	-	-	-	-	-

Remarks

D. Acquisition Strategy

Not applicable.

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.

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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 6: *RDT&E Management Support*					R-1 Program Element (Number/Name) PE 0605860F / *Rocket Systems Launch Program (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	-	15.406	12.755	34.364	-	34.364	25.451	17.143	17.477	17.809	Continuing	Continuing
661023: *Rocket System Launch Program (RSLP)*	-	15.406	12.755	34.364	-	34.364	25.451	17.143	17.477	17.809	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

Rocket Systems Launch Program (RSLP) provides responsive space and Research, Development, Test and Evaluation (RDT&E) launch vehicle support to DoD and other government agencies using commercial launch systems and excess ballistic missile assets. The RSLP mission was established by the Secretary of Defense in 1972. It provides mission planning, payload integration, vehicle acquisition, processing, launch operations, booster storage and disposition, aging surveillance, maintenance and logistics support for selected DoD responsive space and RDT&E launches. Costs directly attributable to a specific launch or program (e.g. reliability of flight testing, maintenance of launch vehicle processing infrastructure) are paid by the user (Air Force, Navy, Army, Missile Defense Agency (MDA), Defense Advanced Research Project Agency (DARPA), National Reconnaissance Office (NRO), etc.). RSLP maintains exclusive control of deactivated Minuteman and Peacekeeper assets used in testing to include refurbishment, transportation and handling, storage, and launch services. RSLP also funds general research, development, and supplemental reliability of flight testing efforts for launch to enhance the reliability of the Minotaur and other fleet vehicles (e.g., updates to the Modular Mechanical Ordnance Destruct System).

This program is in Budget Activity 6, RDT&E Management Support because this budget activity includes research, development, test and evaluation efforts and funds to sustain and/or modernize the installations or operations required for general research, development, test and evaluation.

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	16.200	14.203	51.588	-	51.588
Current President's Budget	15.406	12.755	34.364	-	34.364
Total Adjustments	-0.794	-1.448	-17.224	-	-17.224
• Congressional General Reductions	-	-0.028			
• Congressional Directed Reductions	-	-1.420			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.208	-			
• Other Adjustments	-0.586	-	-17.224	-	-17.224

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 6: *RDT&E Management Support*	**R-1 Program Element (Number/Name)** PE 0605860F / *Rocket Systems Launch Program (SPACE)*

Change Summary Explanation

FY2013: -$0.586M for sequestration; -$0.208M for SBIR
FY2014: -$1.402M for Congressional Directed Reduction; -$0.028M for CGR
FY2015: -$17.224M for higher priority needs.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: STORAGE/REFURBISHMENT/DEMIL	8.796	6.300	14.800
Description: Storage, refurbishment, inventory control, and demil/disposal of deactivated Minuteman, Peacekeeper and other missile flight test assets ***FY 2013 Accomplishments:*** Continued storage, refurbishment, inventory control, and demil/disposal of deactivated Minuteman, Peacekeeper and other missile flight test assets and perform research and development support operations as required. Continued support activities such as, but not limited to sustainment of support equipment, mission support, and special studies, e.g. studying aging issues associated with the arm/disarm switch. ***FY 2014 Plans:*** Continue storage, refurbishment, inventory control, and demil/disposal of deactivated Minuteman, Peacekeeper and other missile flight test assets and perform research and development support operations as required; Continue support activities such as, but not limited to sustainment of support equipment, mission support, special studies, etc. ***FY 2015 Plans:*** Continue storage, refurbishment, inventory control, and demil/disposal of deactivated Minuteman, Peacekeeper and other missile flight test assets and perform research and development support operations as required. Continue support activities such as, but not limited to sustainment and refurbishment of support equipment, mission support, special studies, etc. Begin security system upgrades, and environmental system upgrades.			
Title: AGING SURVEILLANCE	3.194	0.050	4.200
Description: Perform aging surveillance-related activities on stored motors ***FY 2013 Accomplishments:*** Continued performing aging surveillance-related activities on stored motors. Continued performing analyses/studies to identify and evaluate potential safety-related issues affecting stored motors. Continued program office support and related support activities such as, but not limited to mission support, special studies, etc. ***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 6: *RDT&E Management Support*	**R-1 Program Element (Number/Name)** PE 0605860F / *Rocket Systems Launch Program (SPACE)*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Continue performing aging surveillance-related activities on stored motors; Continue performing analyses/studies to identify and evaluate potential safety-related issues affecting stored motors; Continue program office support and related support activities such as, but not limited to mission support, special studies, etc. ***FY 2015 Plans:*** Continue performing aging surveillance-related activities on stored motors; Continue performing analyses/studies to identify and evaluate potential safety-related issues affecting stored motors; Continue program office support and related support activities such as, but not limited to mission support, special studies, etc.			
Title: OTHER LAUNCH SUPPORT SERVICES ***Description:*** Perform launch services activities ***FY 2013 Accomplishments:*** Continued vehicle acquisition, processing, launch services support, mission assurance, and launch operations to launch NOAA's Deep Space Climate Observatory (DSCOVR) mission. ***FY 2014 Plans:*** Continue vehicle acquisition, processing, launch services support, mission assurance, and launch operations to launch NOAA's Deep Space Climate Observatory (DSCOVR) mission. ***FY 2015 Plans:*** Continue vehicle acquisition, processing, launch services support, mission assurance, and launch operations to launch NOAA's Deep Space Climate Observatory (DSCOVR) mission. Begin launch vehicle acquisition, processing, launch services support, mission assurance, and operations to launch RDT&E payloads.	3.416	6.405	15.364
Accomplishments/Planned Programs Subtotals	15.406	12.755	34.364

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
• None: *None*	-	-	-	-	-	-	-	-	-	-	-

Remarks

E. Acquisition Strategy

N/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 6: *RDT&E Management Support*	**R-1 Program Element (Number/Name)** PE 0605860F / *Rocket Systems Launch Program (SPACE)*

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 6: *RDT&E Management Support*					R-1 Program Element (Number/Name) PE 0605864F / *Space Test Program (STP)*							
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	-	39.012	11.642	21.161	-	21.161	28.416	27.555	25.782	26.272	Continuing	Continuing
662617: *Free-Flyer Spacecraft Missions*	-	39.012	11.642	21.161	-	21.161	28.416	27.555	25.782	26.272	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 Space Test Program (STP) conducts space test missions for the purpose of accelerating DoD space technology transformation while lowering developmental risk. The program flies an optimally selected number of DoD-sponsored experiments consistent with priority, opportunity, and funding. STP missions provide a cost-effective way to flight test new militarily relevant space system technologies, concepts, and designs, providing a way to:

- Support the acquisition block development approach
- Demonstrate and develop responsive research and development (R&D) space capabilities
- Provide early operational capabilities to quickly react to new developments
- Perform operational risk reduction through direct flight test of prototype components
- Improve operational design by characterizing the space environment, event, or sensor physics proposed for an operational system/system upgrade
- Develop, integrate, test, and acquire advanced payload support hardware for launch vehicles (LV) and human-rated spaceflight vehicles

The Deputy Secretary of Defense Space Test Program Management & Funding Policy, issued in July 2002, reaffirmed STP as the primary provider of spaceflight for the DoD space research community. The July 2002 policy statement also reaffirmed STP's role as the single manager for all DoD payloads on the International Space Station (ISS).

This program is in Budget Activity 6, RDT&E Management Support because this budget activity includes research, development, test and evaluation efforts and funds to sustain and/or modernize the installations or operations required for general research, development, test and evaluation.

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 6: *RDT&E Management Support*	**R-1 Program Element (Number/Name)** PE 0605864F / *Space Test Program (STP)*

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	10.051	13.000	26.000	-	26.000
Current President's Budget	39.012	11.642	21.161	-	21.161
Total Adjustments	28.961	-1.358	-4.839	-	-4.839
• Congressional General Reductions	-0.059	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	35.000	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-2.194	-			
• Other Adjustments	-3.786	-1.358	-4.839	-	-4.839

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2013	FY 2014
Project: 662617: *Free-Flyer Spacecraft Missions*		
Congressional Add: *RESTORE PROGRAM FUNDING*	30.309	-
Congressional Add Subtotals for Project: 662617	30.309	-
Congressional Add Totals for all Projects	30.309	-

Change Summary Explanation

FY2013: -$3.786M for Sequestration
FY2014: -$1.300M for program decrease; -$.58M for FFRDC reduction
FY2015: -$4.575M for higher Air Force priorities; -$0.329M for Non-Pay Inflation reduction

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: PAYLOAD INTEGRATION	3.925	5.247	12.973

Description: Integrate payloads onto spaceflight missions, including free-flyer payloads, hosted payloads, sounding rockets, experiments on the ISS, and commercial missions. Includes acquisition of associated spacecraft and integration hardware. Provide the unique program costs required for the operation of the Space Test Program in its management and oversight role including program management, administrative, information technology, travel and supply support. This funding line now includes what was previously referred to as Program Support.

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 6: *RDT&E Management Support*	**R-1 Program Element (Number/Name)** PE 0605864F / *Space Test Program (STP)*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Continued payload integration efforts onto spaceflight missions, including free-flyer payloads, hosted payloads, sounding rockets, experiments on the ISS, and commercial missions, and acquisition of associated spacecraft and integration hardware. FY13 support included mission design, spacecraft procurement and payload integration for the Space Test Program (STP) Satellite #3 (STPSat-3) which hosted six payloads including the Air Force Research Lab (AFRL) Strip Sensor Unit (Space Experiment Review Board (SERB) #10), Naval Research Laboratory small Wind and Temperature Spectrometer (SERB#26), the US Air Force Academy's Integrated Miniaturized Electrostatic Analyzer Re-Flight (SERB #72), NASA/NOAA's Total Solar Irradiance Calibration Transfer Equipment, AFRL Joint Component Research (SERB Unranked), and the STP/AFRL De-orbit Module (enabling technology). STPSat-3 launched in 1QFY14. Provided the unique program costs required for the operation of the Space Test Program in its management and oversight role including program management, administrative, information technology, travel and supply support. ***FY 2014 Plans:*** Continue payload integration efforts onto spaceflight missions, including free-flyer payloads, hosted payloads, sounding rockets, experiments on the ISS, and commercial missions; including acquisition of associated spacecraft and integration hardware. Continue to provide the unique program costs required for the operation of the Space Test Program in its management and oversight role including program management, administrative, information technology, travel and supply support. ***FY 2015 Plans:*** (NOTE: FY15 restores the program to normal funding level as the program exhausts its FY13 Congressional Add) Continue payload integration efforts onto spaceflight missions, including free-flyer payloads, hosted payloads, sounding rockets, experiments on the ISS, and commercial missions; including acquisition of associated spacecraft and integration hardware. Continue to provide the unique program costs required for the operation of the Space Test Program in its management and oversight role including program management, administrative, information technology, travel and supply support.			
Title: LAUNCH VEHICLE AND LAUNCH SERVICES	2.533	3.386	5.453
Description: Purchase launch services, launch vehicles and launch vehicle support for free-flyer payloads, hosted payloads, sounding rockets, experiments on the ISS, and commercial spaceflight missions. ***FY 2013 Accomplishments:*** Purchased launch services, launch vehicles, and launch vehicle support for free-flyer payloads, hosted payloads, sounding rockets, experiments on the ISS, and commercial spaceflight missions. FY13 efforts included integration of several SERB experiments on the ISS, which included Active Thermal Tile (SERB #22), Miniature Array of Radiation Sensors (SERB #55), Small Wind and Temperature Spectrometer (SERB #26), Global Awareness Data-Exfiltration International Satellite Constellation (SERB #20) and Integrated Miniaturized Electrostatic Analyzer-Reflight (SERB #72) on a Japanese ISS resupply mission. It also included			

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 6: *RDT&E Management Support*	**R-1 Program Element (Number/Name)** PE 0605864F / *Space Test Program (STP)*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
flight of Cornell University Satellite (SERB #46) and Drag and Atmospheric Neutral Density Experiment (SERB #34) on a NASA-sponsored commercial launch which was launched in 4QFY13. ***FY 2014 Plans:*** Continue purchase of launch services, launch vehicles, and launch vehicle support for free-flyer payloads, hosted payloads, sounding rockets, experiments on the ISS, and commercial spaceflight missions. ***FY 2015 Plans:*** (NOTE: FY15 restores the program to normal funding level as the program exhausts its FY13 Congressional Add) Continue purchase of launch services, launch vehicles, and launch vehicle support for free-flyer payloads, hosted payloads, sounding rockets, experiments on the ISS, and commercial spaceflight missions.			
Title: ON ORBIT SATELLITE OPERATIONS ***Description:*** Execute first-year operations and operations support for STP-sponsored missions. ***FY 2013 Accomplishments:*** Executed first-year operations and operations support for STP-sponsored missions, to include Space Test Program Satellite-3 and Automated Navigation and Guidance Experiment for Local Space (ANGELS). ***FY 2014 Plans:*** Execute first-year operations and/or operations support for STP-sponsored missions. ***FY 2015 Plans:*** Execute first-year operations and/or operations support for STP-sponsored missions.	2.245	3.009	2.735
Accomplishments/Planned Programs Subtotals	8.703	11.642	21.161

	FY 2013	FY 2014
Congressional Add: RESTORE PROGRAM FUNDING	30.309	-
FY 2013 Accomplishments: Invested in mission opportunities for cost-effective future spaceflight to include: - Investment in the completion of the Air Force Research Laboratory (AFRL) Eagle spacecraft platform which will host at least three STP-sponsored payloads from the SERB-approved experiment list; - Investment in the configuration of the X-37B Orbital Test Vehicle to host multiple small payloads; - Purchasing a sounding rocket for the Active Ionospheric Control Experiment;		

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 6: *RDT&E Management Support*	**R-1 Program Element (Number/Name)** PE 0605864F / *Space Test Program (STP)*

	FY 2013	FY 2014
- Funding a portion of the STP-H5 mission, a SERB payload carrier for flight on the International Space Station; - Funding the start of development of the Nanosatellite Standard Interface Vehicle for hosting future low-cost SERB payload missions. Provided operations and operations support for the Conjugated Disturbance Experiment and initiated mission design activities based on the 2012 SERB-approved experiment list.		
Congressional Adds Subtotals	30.309	-

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: BA03: PE0603401F: *Advanced Spacecraft Technology*	14.223	13.095	10.000	-	10.000	-	-	-	-	-	-

Remarks

STP-2 integration and mission operations will be continued in FY15 via existing funding in PE 0603401F Advanced Spacecraft Technology, RDT&E AF. STP-2 is a dedicated research and development launch mission that also supports the commercial new entrant launch strategy. STP-2 will carry multiple Space Experiments Review Board approved payloads.

E. Acquisition Strategy

N/A

F. Performance Metrics

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

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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 6: *RDT&E Management Support*					R-1 Program Element (Number/Name) PE 0605976F / *Facilities Restoration and Modernization - Test and Evaluation 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**
Total Program Element	-	38.854	44.160	46.955	-	46.955	40.787	43.319	44.157	44.723	Continuing	Continuing
6606MC: *Facility Restoration and Modernization - T&E*	-	38.854	44.160	46.955	-	46.955	40.787	43.319	44.157	44.723	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

Restoration includes repair and replacement work to restore damaged facilities due to accident or failure attributable to inadequate sustainment, excessive age, or other causes. Modernization includes alteration of facilities to implement a new, higher standard (including regulatory changes), to accommodate new functions, or to replace building components that typically last more than 50 years (such as foundations and structural components). Other tasks associated with facilities operations (such as custodial services, grass cutting, and the provision of central utilities) are not included. These restoration/modernization funds support the following Air Force test organizations and their associated test and evaluation facilities, including: remote locations, 96th Test Group (TG) at Holloman AFB, NM, the 96th Test Wing (TW) at Eglin AFB, FL, the Arnold Engineering and Development Complex (AEDC) at Arnold AFB, TN, the 412th TW at Edwards AFB, CA, 96 TG Landing Gear Test Facility (LGTF) at Wright-Patterson AFB, OH, Hypersonic Wind Tunnel 9 at White Oak, MD, and the National Full-Scale Aerodynamics Complex (NFAC) at Moffett Field, CA.

Budget Activity Justification: This program element is in Budget Activity 6, RDT&E Management Support because this budget activity includes research, development, test and evaluation efforts and funds to sustain and/or modernize the installations or operations required for general research, development, test and evaluation.

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	42.597	44.160	43.765	-	43.765
Current President's Budget	38.854	44.160	46.955	-	46.955
Total Adjustments	-3.743	-	3.190	-	3.190
• Congressional General Reductions	-0.057	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-3.686	-	3.190	-	3.190

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 6: *RDT&E Management Support*	**R-1 Program Element (Number/Name)** PE 0605976F / *Facilities Restoration and Modernization - Test and Evaluation Support*

Change Summary Explanation

FY13: Reduction of $3.743M due to FY13 sequester; deferred material purchase (parts/spares) for repair and restoral projects.

FY15: Increase due to AF strategic decision to restore test capability funding according to revised strategies and DoD priorities.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Facility restoration and modernization at the 96 TG ***Description:*** Facility restoration and modernization at the 96th TG. ***FY 2013 Accomplishments:*** Renovated bathrooms at the Central Inertial and Global Positioning Satellite (GPS) Test Facility (CIGTF). Upgraded carpet and ceilings in information technology office. Replaced hydraulic cylinders at National Radar Cross Section (RCS) Test Facility (NRTF). Modernized foundations and structural components at NRTF. ***FY 2014 Plans:*** Restore deteriorated High Speed Test Track (HSTT) building. Continue bathroom renovation and install new windows in 1950s era building at the CIGTF. Repair and improve road used to transport weapons from munitions facility to aircraft. ***FY 2015 Plans:*** Upgrade and remodel calibration pit at NRTF. Restore and modernize 168i Dynamometer at the Landing Gear Test Facility (LGTF). Install structures to shelter High Power Jammers at CIGTF.	0.816	0.827	0.431
Title: Facility restoration and modernization at the 96 TW ***Description:*** Facility restoration and modernization at the 96th TW. ***FY 2013 Accomplishments:*** Repainted two Methyl Chloride Tanks at Climatic Lab. Built two additional munitions storage igloos at Range Complex C-74. Designed and planned relocation of High Explosive Incendiary (HEI) firing range from Range Location C-52. Installed entry control system for the Design and Development Facility at 96 Test Support Squadron (TSS). Installed target shelter for target support maintenance and repair. Replaced threat seekers at the Guided Weapons Evaluation Facility (GWEF). Replaced three radar C-Band transponders. Replaced 10 range access gates. ***FY 2014 Plans:*** Construct concrete berms under Air Management Unit-1 (AMU-1) at Climatic Lab. Renovate Room R-139 in GWEF to support infrared (IR) test. Install 3-phase power to Building (Bldg) 628. Replace wooden steps for Bldg 133. Replace remaining Flight	2.351	2.387	1.210

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 6: *RDT&E Management Support*	**R-1 Program Element (Number/Name)** PE 0605976F / *Facilities Restoration and Modernization - Test and Evaluation Support*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Motion simulator controllers at GWEF. Replace roof at Bldg 9307. Repair fire suppression system for Bldg 12555. Renovate facility for Bldg 961. ***FY 2015 Plans:*** Continue Range Environmental Protection and small Restoration and Modernization (R&M) efforts across the range complex.			
Title: Facility restoration and modernization at AEDC ***Description:*** Facility restoration and modernization at AEDC. ***FY 2013 Accomplishments:*** Continued to recertify Pressure and Hazardous Material Systems (PHMS). Continued planning for Test Utility Power System Upgrades for new supervisory control and data acquisition (SCADA) system. Replaced C-Plant RC11 water coils, repaired trichloroethylene (TCE) coolant lines, repair R12 freon systems, replaced reefer unit motors and gear sets. Repaired C-Plant ventilation in Test Cells C-1 and C-2. Replaced arc heater hydrogen (H2) diffuser, upgraded H2 mixing chamber and upgraded conical high-enthalpy nozzles. Refurbished five Plenum Evacuation System compressor rotors. ***FY 2014 Plans:*** Continue FY13 efforts that were deferred or not completed. Continue to recertify Pressure and Hazardous Material Systems (PHMS). Procure engine test cell C-1 and C-2 digital temperature scanners. Upgrade power distribution and control for arc heater model positioning system. Replace Von Karman Facility (VKF) cooler #HPA-HE1-VU (111) and compressor C111. Replace throttles in engine test cells C-1, C-2, J-1, J-2, SL-2, SL-3 and T-4. Refurbish C-Plant hydraulic systems 1-6 and 9-18. ***FY 2015 Plans:*** Continue FY14 efforts not completed or that were multiyear. Continue upgrading control systems from analog to digital in the Exhaust Test Facility. Continue planning to improve the exhaust plant cooling systems. Continue work to improve the 16T wind tunnel Foreign Object Damage (FOD) fix effort. Improve balances and calibration systems.	31.443	36.640	43.566
Title: Facility restoration and modernization at 412 TW ***Description:*** Facility restoration and modernization at the 412 TW. ***FY 2013 Accomplishments:*** Planned replacement of the Benefield Anechoic Facility (BAF) Radar Absorbent Material (RAM) in two increments. Replaced Integrated Facility for Avionics Systems Testing (IFAST) 400Hz frequency converters. Replaced the Polyalphaolefin (PAO) system in Building 1030. Converted the deluge system to a high expansion foam system. ***FY 2014 Plans:***	4.244	4.306	1.748

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 6: *RDT&E Management Support*	**R-1 Program Element (Number/Name)** PE 0605976F / *Facilities Restoration and Modernization - Test and Evaluation Support*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Continue restoring and modernizing electronic warfare and test range facilities to include projects for roofing, heating and air conditioning, windows, doors, floors, work area re-zoning, transformers and power systems, fire suppression systems, seismic upgrades, and RAM replacement. Continue planning replacement of the BAF RAM in two increments. Replace IFAST 400Hz frequency converters. ***FY 2015 Plans:*** Continue restoring and modernizing electronic warfare and test range facilities to include projects for roofing, heating and air conditioning, windows, doors, floors, work area re-zoning, transformers and power systems, fire suppression systems, seismic upgrades, and RAM replacement. Continue planning replacement of the BAF RAM in two increments. Continue replacement of IFAST 400Hz frequency converters.			
Accomplishments/Planned Programs Subtotals	38.854	44.160	46.955

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: BA06: PE 0604256F: *Threat Simulator Development*	22.348	14.841	24.418	-	24.418	24.003	22.020	22.436	22.833	Continuing	Continuing
• RDTE: BA06: PE 0604759F: *Major T&E Investment*	33.968	32.341	47.232	-	47.232	68.755	67.374	68.690	69.998	Continuing	Continuing
• RDTE: BA06: PE 0605807F: *Test and Evaluation Support*	670.586	722.658	689.509	-	689.509	672.427	680.719	688.020	700.796	Continuing	Continuing
• RDTE: BA06: PE 0605978F: *Facility Sustainment - T&E Support*	24.986	27.643	32.965	-	32.965	28.080	28.598	29.154	29.623	Continuing	Continuing

Remarks

E. Acquisition Strategy

N/A

F. Performance Metrics

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

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force											Date: March 2014	
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 6: *RDT&E Management Support*					R-1 Program Element (Number/Name) PE 0605978F / *Facilities Sustainment - Test and Evaluation 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**
Total Program Element	-	24.986	27.643	32.965	-	32.965	28.080	28.598	29.154	29.623	Continuing	Continuing
6606MR: *Facility Sustainment-T&E Support*	-	24.986	27.643	32.965	-	32.965	28.080	28.598	29.154	29.623	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 resources for sustainment activities required for an inventory of Air Force Material Command (AFMC) Test and Evaluation (T&E) facilities. Facility sustainment includes regularly scheduled adjustments and inspections, preventative maintenance tasks, and emergency response and service calls for minor repairs. It also includes major repairs or replacement of facility components that are expected to occur periodically. In addition to standard facility sustainment, such as roof replacement, refinishing of wall and floor surfaces, and repairing and replacing of heating and cooling systems, this work includes inspections and repairs of heavy plant machinery in large industrial facilities. This work includes, but is not limited to, inspection and repair of high-power electrical switching gear, hydraulic, lubrication, forced-air and fluid cooling systems, high pressure vessel health monitoring, facility control and remote monitoring systems, liquid oxygen systems, steam systems, test instrumentation, and fire detection and suppression systems. Other tasks associated with facilities operations (such as custodial services, grass cutting, and landscaping, waste disposal, and the provision of central utilities) are not included. These sustainment funds support the following Air Force organizations and their associated test and evaluation facilities, including: remote locations, 96th Test Group (TG) at Holloman AFB, NM, the 96th Test Wing (TW) at Eglin AFB, FL, the Arnold Engineering and Development Complex (AEDC) at Arnold AFB, TN, the 412 Test Wing (TW) at Edwards AFB, CA, 96 TG Landing Gear Test Facility (LGTF) at Wright-Patterson AFB, OH, Hypersonic Wind Tunnel 9 at White Oak, MD, and the National Full-Scale Aerodynamics Complex (NFAC) at Moffett Field, CA.

Budget Activity Justification: This program element is in Budget Activity 6, RDT&E Management Support because this budget activity includes research, development, test and evaluation efforts and funds to sustain and/or modernize the installations or operations required for general research, development, test and evaluation.

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 6: *RDT&E Management Support*	**R-1 Program Element (Number/Name)** PE 0605978F / *Facilities Sustainment - Test and Evaluation Support*

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	27.301	27.643	28.698	-	28.698
Current President's Budget	24.986	27.643	32.965	-	32.965
Total Adjustments	-2.315	-	4.267	-	4.267
• Congressional General Reductions	-0.036	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-2.279	-	4.267	-	4.267

Change Summary Explanation

FY13: Decrease of $2.315M is due to FY13 sequester and deferral of material purchases (part/spares) for sustainment.

FY15: Increase of $4.267M is due to USAF strategic decisions to restore test capability funding due to revised strategies and DoD priorities.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Facility sustainment at the 96 TG.	0.363	0.355	0.348
Description: Facility sustainment at the 96 TG. ***FY 2013 Accomplishments:*** Completed projects include sustainment of the test unique infrastructure throughout the National Radar Cross Section (RCS) Test Facility (NRTF), Holloman High Speed Test Track (HHSTT), Central Inertial and Global Positioning System (GPS) Test Facility (CIGTF), and the Landing Gear Test Facility (LGTF). Completed projects include carpet replacement at 96 TG operating locations at Wright-Patterson AFB, OH and window replacement at CIGTF. ***FY 2014 Plans:*** Projects include sustainment of the test unique infrastructure throughout the NRTF, HHSTT, CIGTF, and the LGTF. Sustainment projects include painting buildings, carpet replacement, heating, ventilation, and air conditioning (HVAC) repairs and roof repairs throughout the 96 TG. ***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 6: *RDT&E Management Support*	**R-1 Program Element (Number/Name)** PE 0605978F / *Facilities Sustainment - Test and Evaluation Support*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Projects include sustainment of the test unique infrastructure throughout the NRTF, HHSTT, CIGTF, and the LGTF. Sustainment projects include painting buildings, carpet replacement, HVAC repairs and roof repairs throughout the 96 TG.			
Title: Facility sustainment at the 96 TW. ***Description:*** Facility sustainment at the 96 TW. ***FY 2013 Accomplishments:*** Completed several hundred Direct Scheduled Work Orders (DSWs) within the Test infrastructure. ***FY 2014 Plans:*** Complete several hundred DSWs within the test infrastructure. ***FY 2015 Plans:*** Complete several hundred DSWs within the test infrastructure.	0.431	0.422	0.409
Title: Facility sustainment at the AEDC. ***Description:*** Facility sustainment at the AEDC. ***FY 2013 Accomplishments:*** Performed calendar based scheduled preventative maintenance on Engine Test Facility Plant and associated engine test cells, Propulsion Wind Tunnel Plant and associated wind tunnels, Von Karman Facility (VKF) Plant Core and associated test cells, arc heaters, rocket test facility, space chambers, and hypersonic engine test facilities, along with associated infrastructure that supports all test operations. ***FY 2014 Plans:*** Perform calendar based scheduled preventative maintenance on Engine Test Facility Plant and associated engine test cells, Propulsion Wind Tunnel Plant and associated wind tunnels, VKF Plant Core and associated test cells, arc heaters, rocket test facility, space chambers, and hypersonic engine test facilities, along with associated infrastructure that supports all test operations. Plan and execute project to disassemble, inspect, evaluate, refurbish and/or repair and test one helium rotary screw compressor unit for the cryogenic cooling system for space chambers. ***FY 2015 Plans:*** Perform calendar based scheduled preventative maintenance on Engine Test Facility Plant and associated engine test cells, Propulsion Wind Tunnel Plant and associated wind tunnels, VKF Plant Core and associated test cells, arc heaters, rocket	22.863	25.517	30.851

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 6: *RDT&E Management Support*	**R-1 Program Element (Number/Name)** PE 0605978F / *Facilities Sustainment - Test and Evaluation Support*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
test facility, space chambers, and hypersonic engine test facilities, along with associated infrastructure that supports all test operations.			
Title: Facility sustainment at the 412 TW. ***Description:*** Facility sustainment at the 412 TW. ***FY 2013 Accomplishments:*** Continued repainting hanger floors with two-part epoxy coatings and restriping floors. Continued boiler and cooling tower chemical treatments. Continued septic tank pumping. Conducted scales maintenance in Building 1030. Completed hanger door maintenance for Building 1030. Continued providing civil engineering in-house and emergency repair work. ***FY 2014 Plans:*** Continue sustainment of test unique infrastructure in 412 TW Electronic Warfare, Range, and other T&E facilities located at Edwards AFB, CA. ***FY 2015 Plans:*** Continue sustainment of test unique infrastructure in 412 TW Electronic Warfare, Range, and other T&E facilities located at Edwards AFB, CA.	1.329	1.349	1.357
Accomplishments/Planned Programs Subtotals	24.986	27.643	32.965

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: BA06: PE 0604256F: *Threat Simulator Development*	22.348	14.841	24.418	-	24.418	24.003	20.020	22.436	22.833	Continuing	Continuing
• RDTE: BA06: PE 0604759F: *Major T&E Investment*	33.968	32.341	47.232	-	47.232	68.755	67.374	68.690	69.998	Continuing	Continuing
• RDTE: BA06: PE 0605807F: *Test & Evaluation Support*	670.586	722.658	689.509	-	689.509	672.427	680.719	688.020	700.796	Continuing	Continuing
• RDTE: BA06: PE 0605976F: *Facility Restoration and Modernization-T&E*	38.854	44.160	46.955	-	46.955	40.787	43.319	44.157	44.723	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 6: *RDT&E Management Support*	**R-1 Program Element (Number/Name)** PE 0605978F / *Facilities Sustainment - Test and Evaluation Support*

E. Acquisition Strategy

N/A

F. Performance Metrics

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

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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 6: *RDT&E Management Support*					R-1 Program Element (Number/Name) PE 0606017F / *Requirements Analysis and Maturation*							
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	-	-	-	13.850	-	13.850	14.116	14.392	14.642	14.921	Continuing	Continuing
666157: *Development Planning*	-	-	-	13.850	-	13.850	14.116	14.392	14.642	14.921	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

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

Note

In FY 2015, Project 666157 Developmental Planning efforts were transferred from PE 0604337F Project 645349 Development Planning to improve alignment with the budget activity.

A. Mission Description and Budget Item Justification

The Requirements Analysis and Maturation (RAM) program funds early systems engineering and pre-acquisition planning and analysis activities. These activities include requirements analysis, capability decomposition and trade space characterization, concept development (system of systems, air, space, and cyber), cost analysis, modeling and simulation of representative or prototype systems, and costs associated with these activities to include analytical tools and travel. Outcomes of these activities are fiscally and technologically informed requirements, mature concepts that are technically feasible, and areas for science and technology (S&T) investment to reduce technology risks. These activities provide the analytic basis for cost and capability trades to inform weapon systems requirements and acquisition milestones, decision points, and phases; for example, the Materiel Development Decision (MDD). A number of Department of Defense (DoD), Government Accountability Office (GAO), and independent industry studies point to a need for more disciplined, early-phase systems engineering and pre-systems acquisition planning to produce decision-quality acquisition information that previously did not surface until after the initiation of a program. Early-phase systems engineering and technical planning activities funded by this program provide the foundation for informed investment decisions leading to successful acquisition programs. Specific efforts are determined each year based upon the highest Air Force priorities.

This program is in Budget Activity 6 RDT&E Management Support because this budget activity includes research, development, test and evaluation efforts and funds to sustain and/or modernize the installations or operations required for general research, develpment, test and evaluation.

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 6: *RDT&E Management Support*	**R-1 Program Element (Number/Name)** PE 0606017F / *Requirements Analysis and Maturation*	

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	-	-	13.850	-	13.850
Total Adjustments	-	-	13.850	-	13.850
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-	-	13.850	-	13.850

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Long-range Capability Analyses	-	-	2.216
Description: Conduct long-range capability analyses by analyzing warfighter capability needs and requirements to identify potential materiel shortfalls and opportunities. ***FY 2013 Accomplishments:*** N/A ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** Develop capability roadmaps, advanced concept studies and analyses, and derive technology needs required to realize future materiel solutions to warfighter capability needs.			
Title: Concept Development	-	-	9.280
Description: Conduct concept development activities, including early-phase systems engineering, by devising candidate materiel solution options to address Air Force air, space, and cyber capability needs and shortfalls. ***FY 2013 Accomplishments:*** N/A ***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 6: *RDT&E Management Support*	**R-1 Program Element (Number/Name)** PE 0606017F / *Requirements Analysis and Maturation*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
N/A ***FY 2015 Plans:*** Execute concept development activities, to include requirements support and analysis, early-phase systems engineering, early concept characterization and technical descriptions, market research, budget estimates, and technology assessments.			
Title: Pre-systems Acquisition Planning ***Description:*** Conduct coordinated pre-systems acquisition planning activities that address requirements, schedule, cost, technology, and acquisition strategy. ***FY 2013 Accomplishments:*** N/A ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** Perform pre-systems acquisition planning activities, to include concept refinement, cost estimates, acquisition courses of action, and acquisition milestone documentation.	-	-	2.354
Accomplishments/Planned Programs Subtotals	-	-	13.850

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
• 0604337F: *Requirements Analysis and Maturation*	14.760	11.884	-	-	-	-	-	-	-	-	-

Remarks

Prior to FY 2015 RAM program activities were funded in PE 0604337F.

E. Acquisition Strategy

All contracts funded in this program element will be awarded using competitive procedures.

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.

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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 6: *RDT&E Management Support*					R-1 Program Element (Number/Name) PE 0606116F / *Space Test and Training Range 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	-	-	-	19.512	-	19.512	19.873	20.386	20.785	21.181	Continuing	Continuing
666156: *SPACE TEST AND TRAINING RANGE DEVELOPMENT*	-	-	-	19.512	-	19.512	19.873	20.386	20.785	21.181	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

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

Note

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.

A. Mission Description and Budget Item Justification

This project supports the development of Space Test and Training Range (STTR) capabilities required to support developmental and operational test, training, exercises and tactics development for Space Control systems and related architecture. This includes development, demonstration and delivery of test assets, special test equipment, capabilities and systems required to test, validate, and verify performance of integrated space control systems. The objective of the STTR is to provide a safe, secure, controllable and repeatable environment for the testing and training of Space Control mission systems and operators that is both realistic and relevant. Additionally, this program supports the development of test range assets required to support developmental and operational test, exercises, training, and tactics development for Air Force and Joint-service space control systems/units. Included are both the fixed node Space Range Operation Center (SROC) at Schriever AFB and a deployable capability to support complex Joint and AF exercises. A space range Family of Systems (FoS) called Big Top is being developed to accomplish the STTR mission. The Big Top objective is integration into a Distributed Mission Architecture, tying into both the Information Operations (IO) and Air ranges for increased realism and complexity. This technology will allow for the first-ever use of a realistic signal environment to increase the realism and efficiency of space control squadron training. This program is in Budget Activity 6, RDT&E Management Support, because this budget activity includes research, development, test and evaluation efforts and funds to sustain and modernize the Space Test and Training Range.

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 6: *RDT&E Management Support*	**R-1 Program Element (Number/Name)** PE 0606116F / *Space Test and Training Range Development*

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	-	-	19.512	-	19.512
Total Adjustments	-	-	19.512	-	19.512
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-	-	19.512	-	19.512

Change Summary Explanation

Funding and content for FY15 was transferred from PE 0603438F, Space Control Technology.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Range Control ***Description:*** Development and acquisition of mobile, transportable, and fixed range monitoring and communications capabilities for the space range. ***FY 2015 Plans:*** Complete SROC technical refresh activities for Spiral 0. Continue development and complete initial deliveries of advanced live, virtual and constructive environment and closed loop training capabilities and advanced software simulation tools.	-	-	19.012
Title: Bandwidth Support ***Description:*** Provides for leased SATCOM bandwidth for STTR operations. ***FY 2015 Plans:*** Provide reqired space range satellite communications bandwidth for exercise, testing and training of both offensive and defensive space control systems on the space range.	-	-	0.500
Accomplishments/Planned Programs Subtotals	-	-	19.512

D. Other Program Funding Summary ($ in Millions)

N/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 6: *RDT&E Management Support*	**R-1 Program Element (Number/Name)** PE 0606116F / *Space Test and Training Range Development*

D. Other Program Funding Summary ($ in Millions)

Remarks

E. Acquisition Strategy

All contracts funded in this program element 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.

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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 6: *RDT&E Management Support*					R-1 Program Element (Number/Name) PE 0606323F / *Multi-Service Systems Engineering 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	-	12.367	6.908	-	-	-	-	-	-	-	-	19.275
668101: *MSSE and JIAMD Capability Initiative*	-	12.367	6.908	-	-	-	-	-	-	-	-	19.275
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

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

Note

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. The Air Force will provide FY 2014 PE 0606323F, Multi-Service Systems Engineering (MSSE), funding to MDA. MDA will budget for Integrated Air & Missile Defense engineering and integration as part of the President's Budget 2015 process.

A. Mission Description and Budget Item Justification

The Multi-Service System Engineering Team (MSSET) serves as a joint acquisition effort to build the framework for future work towards achieving near-term Joint Track Management Capability (JTMC) and long-term Joint Integrated Air and Missile Defense (JIAMD) capabilities.

The MSSET will perform systems engineering activities in collaboration with the Missile Defense Agency (MDA), Services, Joint Staff, and OSD. The MSSET will review Service Program of Record (PoRs) and MDA systems based upon operationally validated JIAMD requirements and Prioritized Capabilities List (PCL) needs. It will then recommend engineering changes (e.g., Interface Control Documents (ICDs), common standards, and/or specifications) that can provide incremental improvements in Joint war fighting capability, as described in the Joint Requirements Oversight Council (JROC)-validated Joint IAMD operational requirements, information exchange requirements, as well as other war fighter-approved requirements. The MSSET scope will encompass the collaborative efforts to provide the war fighter the ability to effectively and efficiently utilize all available resources to counter the complete air, cruise missile, and ballistic missile threats. Activities also include studies and analysis to support both current program planning and execution, as well as future program planning.

The objective of the MSSET is to recommend incremental improvements in fielded capabilities within the construct of Service and MDA PoRs. The following list includes several, priority Family of Systems (FOS) engineering tasks. These tasks go beyond the expected scope of engineering efforts conducted by an individual Service and MDA in their POR for IAMD:

- Conduct the engineering activity to develop coordinated Joint IAMD Department of Defense (DoD) Architecture Framework (DODAF) products (e.g., System Views) while maintaining and deriving common standards.
- Develop, recommend, and document as necessary overarching JIAMD technical/performance 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 6: *RDT&E Management Support*	**R-1 Program Element (Number/Name)** PE 0606323F / *Multi-Service Systems Engineering Initiative*

- Perform Joint IAMD FOS engineering and related analyses, and develop recommendations for incrementally implementing Joint IAMD capabilities.
- Develop Joint IAMD FOS engineering and Capability Validation Plans and strategies.
- Recommend updates to the Joint Staff IAMD Operational Views as necessary.
- Ensure that Joint engineering tasks are conducted in a logical sequence and in a timely manner to provide the Services and MDA the most benefit and adequate time to consider engineering recommendations derived by the MSSET.
- JPEO act in the role of Secretariat for the AMD Integration Standing-Committee to Missile Defense Executive Board (MDEB).

This program is in Budget Activity 6, RDT&E Management Support, this budget activity includes research, development, test and evaluation efforts and funds to sustain and/or modernize the installations or operations required for general research, development, test and evaluation.

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	13.964	13.935	-	-	-
Current President's Budget	12.367	6.908	-	-	-
Total Adjustments	-1.597	-7.027	-	-	-
• Congressional General Reductions	-0.018	-0.005			
• Congressional Directed Reductions	-	-7.000			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.396	-0.022			
• Other Adjustments	-1.183	-	-	-	-

Change Summary Explanation

FY 2013: amount in the Other Adjustments row due to sequestration.

FY 2014: Congressional Directed Reductions row due program termination in FY 2015.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Requirements Development	0.885	0.500	-
Description: MSSE Requirements Development			
FY 2013 Accomplishments: Developed, recommended, and documented as necessary overarching JIAMD technical/performance requirements.			
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 6: *RDT&E Management Support*	**R-1 Program Element (Number/Name)** PE 0606323F / *Multi-Service Systems Engineering Initiative*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Develop, recommend, and document as necessary overarching JIAMD technical/performance requirements. ***FY 2015 Plans:*** N/A			
Title: Architecture Development ***Description:*** MSSE Architecture Development ***FY 2013 Accomplishments:*** Conducted the engineering activity that developed coordinated Joint IAMD architecture products (e.g., System Views) that maintained and derived common standards. Recommended updates to the Joint Staff IAMD Operational Views as necessary. ***FY 2014 Plans:*** Conduct engineering activities to develop coordinated Joint IAMD architecture products (e.g., System Views) while maintaining and deriving common standards. Recommend updates to the Joint Staff IAMD Operational Views as necessary. ***FY 2015 Plans:*** N/A	4.574	2.557	-
Title: Engineering ***Description:*** MSSE Systems Engineering ***FY 2013 Accomplishments:*** Performed Joint IAMD FOS engineering and related analyses, and developed recommendations which incrementally implemented Joint IAMD capabilities. Developed Joint IAMD FOS engineering and Capability Validation Plans and strategies. ***FY 2014 Plans:*** Perform Joint IAMD FOS engineering and related analyses, and develop recommendations for incrementally implementing Joint IAMD capabilities. Develop Joint IAMD FOS engineering and Capability Validation Plans and strategies. ***FY 2015 Plans:*** N/A	6.908	3.851	-
Accomplishments/Planned Programs Subtotals	12.367	6.908	-

D. Other Program Funding Summary ($ in Millions)

N/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 6: *RDT&E Management Support*	**R-1 Program Element (Number/Name)** PE 0606323F / *Multi-Service Systems Engineering Initiative*

D. Other Program Funding Summary ($ in Millions)

Remarks

E. Acquisition Strategy

Multi-Service Systems Engineering will support subject matter experts in the Multi-Service Systems Engineering Team's working groups through Military Interdepartmental Purchase Requests in accordance with the JIAMD Joint Enterprise Architecture Plan (JEAP). This is accomplished in a collaborative fashion with the Services, MDA, the JPEO IAMD, Joint Staff, and Office of Secretary of Defense. All contracts are awarded full and open.

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 6: *RDT&E Management Support*					R-1 Program Element (Number/Name) PE 0606392F / *Space and Missile Center (SMC) Civilian Workforce*							
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	-	168.940	172.661	181.727	-	181.727	185.842	191.269	195.020	199.214	Continuing	Continuing
664280: *SMC Civilian Pay*	-	168.940	172.661	181.727	-	181.727	185.842	191.269	195.020	199.214	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 Space and Missile Systems Center (SMC) equips US and allied forces with operational space and missile systems, launch systems, and command and control infrastructure in support of global military and national security operations. SMC operates with over 6,300 people and an annual budget exceeding $8B providing joint warfighters navigation, communication, weather, warning, force application, and space control capabilities. In FY12--as an AF pilot initiative--SMC acquisition workforce civilian personnel funding was transferred from O&M, AF and Section 852 accounts to RDT&E, AF funds.

SMC is authorized to employ approximately 1,560 civilian acquisition professionals. This includes all existing acquisition workforce civilian personnel, continued contractor to civilian conversions and Acquisition Improvement Program hiring. The funding does not include the costs for the base operating support civilian personnel supporting the Los Angeles AFB air base group. Funding SMC civilian payroll from the RDT&E appropriation provides program managers the flexibility to hire additional civilian personnel with program dollars versus additional contractors in concert with Acquisition Workforce Improvement Initiatives.

This program is in Budget Activity 6, RDT&E Management Support because this budget activity includes research, development, test and evaluation efforts and funds to sustain and/or modernize the installations or operations required for general research, development, test and evaluation.

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 6: *RDT&E Management Support*	**R-1 Program Element (Number/Name)** PE 0606392F / *Space and Missile Center (SMC) Civilian Workforce*

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	203.766	192.348	194.358	-	194.358
Current President's Budget	168.940	172.661	181.727	-	181.727
Total Adjustments	-34.826	-19.687	-12.631	-	-12.631
• Congressional General Reductions	-8.560	-			
• Congressional Directed Reductions	-	-19.373			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-11.100	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-15.166	-0.314	-12.631	-	-12.631

Change Summary Explanation

FY13 adjustments: Total -$34.826 due to -$8.0 CGR, -$0.301 Sec8121 CGR, -$0.259 Additional CGR, -$15.166 Sequestration, -$11.1 OMNIBUS ATR. Marks taken due to excess as a result of inability to meet projected personnel hiring due to Stringent Hiring Restrictions, Sequestration and losses due to VERA/VSIP.

FY14 adjustments: -$19.373M Congressional mark for early to need funding and -$0.314M FFRDC reduction.

FY15 adjustments: -$12.631M reduction for higher AF priorities.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: SMC Acquisition Workforce	168.940	172.661	181.727
Description: Provide professional government civilian acquisition workforce in support of all Space and Missile Systems Center programs. ***FY 2013 Accomplishments:*** Provide professional government civilian acquisition workforce in support of all Space and Missile Systems Center programs. ***FY 2014 Plans:*** Provide professional government civilian acquisition workforce in support of all Space and Missile Systems Center programs. ***FY 2015 Plans:*** Provide professional government civilian acquisition workforce in support of all Space and Missile Systems Center programs.			
Accomplishments/Planned Programs Subtotals	168.940	172.661	181.727

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 6: *RDT&E Management Support*	**R-1 Program Element (Number/Name)** PE 0606392F / *Space and Missile Center (SMC) Civilian Workforce*

D. Other Program Funding Summary ($ in Millions)

N/A

Remarks

N/A

E. Acquisition Strategy

N/A

F. Performance Metrics

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

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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 6: *RDT&E Management Support*					R-1 Program Element (Number/Name) PE 0308602F / *ENTEPRISE INFORMATION SERVICES (EIS)*							
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	4.874	4.877	-	-	Continuing	Continuing
66ACSI: *Common Computing Environment*	-	-	-	4.938	-	4.938	4.874	4.877	-	-	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

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

Note

In FY2015, project number 675046, Systems Engineering & Integration, efforts were transferred from PE 0303141F, Global Combat Support Systems (GCSS) to project number 66ACSI, Acquisition and Command Support (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

Enterprise Information Services (EIS) is a portfolio of programs and initiatives to provision common IT services and solutions to reduce IT costs and improve efficiency. Provides the warfighter with timely, accurate, and trusted information thru net-centric concepts.

Common Computing Environment (CCE). Develops a standard framework, platform configurations, migration strategy and security services for hosting AF mission applications compliant with DoD Joint Information Environment (JIE) / Air Force Information Technology (AF IT) baselines. This initiative also includes an enterprise IT lifecycle capability for integration test of CCE services. Effort previously documented in GCSS-AF program element 0303141F

This program is in Budget Activity 6, RDT&E Management Support because this budget activity includes research, development, test and evaluation efforts and funds to sustain and/or modernize the installations or operations required for general research, development, test and evaluation.

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 6: *RDT&E Management Support*	**R-1 Program Element (Number/Name)** PE 0308602F / *ENTEPRISE INFORMATION SERVICES (EIS)*	

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

Change Summary Explanation

Funding previously reflected in PE 0303141f.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Platform Provisioning	-	-	2.000
Description: This task provides funds to build out the initial Common Computing Environment platforms in a DISA MilCloud environment. This task also includes the integration of the automated tools to provision the platforms within the Infrastructure as a Service environments. ***FY 2013 Accomplishments:*** N/A ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** This task provides funds to build out the initial Common Computing Environment platforms in a DISA MilCloud environment. This task also includes the integration of the automated tools to provision the platforms within the Infrastructure as a Service environments.			
Title: Managed Service Office (MSO) / Information Technology Lifecycle Center (ITLC) / Implementation Baseline Process Stand-up	-	-	2.938

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 6: *RDT&E Management Support*	**R-1 Program Element (Number/Name)** PE 0308602F / *ENTEPRISE INFORMATION SERVICES (EIS)*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Description: This task will develop the process flows for engaging with mission application program offices, gathering requirements and determining best hosting platforms for those capabilities. Also includes the development of a Configuration Control Board to manage platform environments from an enterprise perspective. ***FY 2015 Plans:*** This task will develop the process flows for engaging with mission application program offices, gathering requirements and determining best hosting platforms for those capabilities. Also includes the development of a Configuration Control Board to manage platform environments from an enterprise perspective.			
Accomplishments/Planned Programs Subtotals	-	-	4.938

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
• None: *None*	-	-	-	-	-	-	-	-	-	-	-

Remarks

E. Acquisition Strategy

Common Computing Environment will provide enterprise services across multiple hosting environments using an evolutionary acquisition strategy and phased development methodology. Development will emphasize Commercial Off the Shelf products and commercial technology to achieve 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.

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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 6: *RDT&E Management Support*					R-1 Program Element (Number/Name) PE 0702806F / *Acquisition and Management 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**
Total Program Element	-	27.457	21.221	18.644	-	18.644	23.132	20.185	23.880	24.354	Continuing	Continuing
662906: *ELECTRONIC ACQUISITION SERV ENVIRONMENT(EASE)*	-	2.100	5.300	4.000	-	4.000	23.132	20.185	23.880	24.354	Continuing	Continuing
66ACS1: *Acquistion and Command Support*	-	20.439	-	-	-	-	-	-	-	-	Continuing	Continuing
66ACSI: *Common Computing Environment*	-	4.918	15.921	14.644	-	14.644	-	-	-	-	Continuing	Continuing

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

A. Mission Description and Budget Item Justification

In FY2014, Project 66ACS1 efforts were transferred to Project 66ACSI to consolidate and streamline efforts for Performance Measures, Technical and Analytical Support, and Recruiting and Development.

The program funds efforts to meet the Defense Acquisition Workforce Improvement Act (DAWIA), as well as Congressional, SECDEF, and SECAF mandates to provide program management execution tools, systems integration and architectural analysis, information technology infrastructure development, and technical workforce management. Funding also provides the framework for Air Force business and acquisition transformation in developing capabilities-based architectures, re-engineering and enabling technologies, integrating robust systems engineering into early acquisition processes, and developing and managing a technical workforce with the expertise to uniformly implement OSD and Air Force engineering guidance and policies. These efforts provide stability in Air Force Acquisition by integrating major processes to reverse trends toward unpredictable program cost, schedule, and performance to facilitate quick response to urgent operational needs from across the entire spectrum of potential conflicts. These integrated capabilities will provide OSD and AF acquisition leadership insights needed to effectively manage a complex portfolio of acquisition programs through more timely and reliable access to authoritative acquisition data.

This program is in Budget Activity 6, RDT&E Management Support because this budget activity includes research, development, test and evaluation efforts and funds to sustain and/or modernize the installations or operations required for general research, development, test and evaluation.

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 6: *RDT&E Management Support*			R-1 Program Element (Number/Name) PE 0702806F / *Acquisition and Management Support*		
B. Program Change Summary ($ in Millions)	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO**	**FY 2015 Total**
Previous President's Budget	42.430	28.647	34.259	-	34.259
Current President's Budget	27.457	21.221	18.644	-	18.644
Total Adjustments	-14.973	-7.426	-15.615	-	-15.615
• Congressional General Reductions	-0.043	-			
• Congressional Directed Reductions	-5.100	-7.426			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-6.864	-			
• SBIR/STTR Transfer	-0.944	-			
• Other Adjustments	-2.022	-	-15.615	-	-15.615

Change Summary Explanation

FY13: Congressional Directed Reduction of $5.100M includes a decrease of $2.700M for excess growth in Recruiting and Development, and a decrease of $2.400M for unjustified cost growth in Acquisition Systems; decrease of $2.022M in Other Adjustments was due to Sequestration; Reprogramming of $6.864 to support higher Air Force priorities.

FY14: Congressional Directed Reduction of $7.426M due to program decrease

FY15: Decrease due to higher Air Force priorities.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 6	R-1 Program Element (Number/Name) PE 0702806F / *Acquisition and Management Support*	Project (Number/Name) 662906 / *ELECTRONIC ACQUISITION SERV ENVIRONMENT(EASE)*	

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
662906: *ELECTRONIC ACQUISITION SERV ENVIRONMENT(EASE)*	-	2.100	5.300	4.000	-	4.000	23.132	20.185	23.880	24.354	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 FY 2014, this project transfers to PE 0702806F Project 66ACSI, Technical and Analytical Support to consolidate and streamline efforts.

EASE provides a single contract writing solution for 8000 AF contracting professionals supporting base operations, logistics, contingency and weapons system contracting world-wide, enabling strategic sourcing and other acquisition efficiencies by standardizing data, business rules, and milestone tracking.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: EASE	2.100	5.300	4.000
Description: EASE Program ***FY 2013 Accomplishments:*** Initiated start up services involving information technology framework for business and acquisition development ***FY 2014 Plans:*** Continuation of information technology framework and production of prototype development ***FY 2015 Plans:*** Continuation of information technology framework and production of prototype development			
Accomplishments/Planned Programs Subtotals	2.100	5.300	4.000

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 6	**R-1 Program Element (Number/Name)** PE 0702806F / *Acquisition and Management Support*	**Project (Number/Name)** 662906 / *ELECTRONIC ACQUISITION SERV ENVIRONMENT(EASE)*

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-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 6	R-1 Program Element (Number/Name) PE 0702806F / *Acquisition and Management Support*	Project (Number/Name) 66ACS1 / *Acquistion and Command 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
66ACS1: *Acquistion and Command Support*	-	20.439	-	-	-	-	-	-	-	-	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 FY2014, Project 66ACS1 efforts were transferred to Project 66ACSI to consolidate and streamline efforts for Acquisition Mandates,Performance Measures, Technical and Analytical Support, and Recruiting and Development.

The project funded information technology development efforts to meet the Defense Acquisition Workforce Improvement Act (DAWIA), as well as Congressional, SECDEF, and SECAF mandates to provide program management execution and acquisition management tools.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Acquisition Mandates ***Description:*** Supporting Congressional, SECDEF, and SECAF mandates. Program funding provides the framework for Air Force business and acquisition. ***FY 2013 Accomplishments:*** Continued program management and resouce management oversight ***FY 2014 Plans:*** N/A This effort continues under 66ACSI. ***FY 2015 Plans:*** N/A	0.600	-	-
Title: Performance Measurements ***Description:*** Develops and upgrades performance measures for capability-based planning constructs. ***FY 2013 Accomplishments:***	2.306	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 6	**R-1 Program Element (Number/Name)** PE 0702806F / *Acquisition and Management Support*	**Project (Number/Name)** 66ACS1 / *Acquistion and Command Support*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Upgraded performance measures for capability-based planning constructs, aligning relevant science and technology areas with operational requirements to include systems integration modeling and architecture analysis. ***FY 2014 Plans:*** N/A This effort continues under 66ACSI. ***FY 2015 Plans:*** N/A			
Title: Technical and Analytical Support ***Description:*** Supports technical and analytical tools through information technology infrastructure development to provide economic, statistical, and engineering analyses on acquisition programs. ***FY 2013 Accomplishments:*** Continued development of information technology (IT) development. ***FY 2014 Plans:*** N/A This effort continues under 66ACSI. ***FY 2015 Plans:*** N/A	2.465	-	-
Title: System Metric and Reporting Tool (SMART) ***Description:*** Upgrade enterprise tool that assists PMs and acquisition professionals with the day-to-day tasking involved in defining, managing, and reporting health and status information throughout an Acquisition program's lifecycle. ***FY 2013 Accomplishments:*** Completed SMART rehost to the DISA Platform as a Service (PaaS) environment. Completed set up of the acquisition SharePoint capability in the DISA Defense Enterprise Portal Service (DEPS) with Logistics Health Assessment (LHA) IOC and Decision Support Model (DSM) capability. ***FY 2014 Plans:*** N/A	4.284	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 6	**R-1 Program Element (Number/Name)** PE 0702806F / *Acquisition and Management Support*	**Project (Number/Name)** 66ACS1 / *Acquistion and Command Support*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
This effort continues under 66ACSI. ***FY 2015 Plans:*** N/A			
Title: Project Management Resource Tools (PMRT) ***Description:*** Upgrades enterprise tool that provides program/project resource management tool to support the Acquisition community. ***FY 2013 Accomplishments:*** Purchased commercial software licenses. Began study of future enhancement of processes supporting budget submission, program oversight and program control. ***FY 2014 Plans:*** N/A This effort continues under 66ACSI. ***FY 2015 Plans:*** N/A	3.702	-	-
Title: Acquisition Document Development and Management (ADDM) ***Description:*** Upgrades enterprise tool that assists the acquisition community with a standardized acquisition document roadmap based on the most current DoD and AF guidance and regulations. ***FY 2013 Accomplishments:*** Purchased commercial software licenses. Began study of future enhancement of processes supporting budget submission, program oversight and program control. ***FY 2014 Plans:*** N/A This effort continues under 66ACSI. ***FY 2015 Plans:***	2.661	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 6	**R-1 Program Element (Number/Name)** PE 0702806F / *Acquisition and Management Support*	**Project (Number/Name)** 66ACS1 / *Acquistion and Command Support*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
N/A			
Title: Scientific & Technical Enterprise System (STES) ***Description:*** Upgrades enterprise tool managing Scientific and Technical Information (STINFO) activities across all Air Force AF MAJCOMs. ***FY 2013 Accomplishments:*** Completed security updates to the existing system. ***FY 2014 Plans:*** N/A This effort continues under 66ACSI. ***FY 2015 Plans:*** N/A This effort continues under 66ACSI.	0.870	-	-
Title: Capabilities Integration Environment (CIE) ***Description:*** Provides a development, testing and integration environment for Information Technology (IT) system development, prototypes and proofs of concept ***FY 2013 Accomplishments:*** Maintained a secure, scalable environment to support Research and Development (R&D), Development Test/Operational Test (DT/OT), integration, exercises, experimentation, acquisition development and direct Warfighter support. ***FY 2014 Plans:*** N/A This effort continues under 66ACSI. ***FY 2015 Plans:*** N/A	2.051	-	-
Title: Recruiting and Development	1.500	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 6	**R-1 Program Element (Number/Name)** PE 0702806F / *Acquisition and Management Support*	**Project (Number/Name)** 66ACS1 / *Acquistion and Command Support*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Description: Increasing activities to recruit, develop, and manage the technical workforce ***FY 2013 Accomplishments:*** Supported activities to develop, manage, and retain the technical workforce ***FY 2014 Plans:*** N/A This effort continues under 66ACSI. ***FY 2015 Plans:*** N/A			
Accomplishments/Planned Programs Subtotals	20.439	-	-

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Not Applicable

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-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 6	R-1 Program Element (Number/Name) PE 0702806F / *Acquisition and Management Support*	Project (Number/Name) 66ACSI / *Common Computing Environment*	

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
66ACSI: *Common Computing Environment*	-	4.918	15.921	14.644	-	14.644	-	-	-	-	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 FY2014, Project 66ACS1 efforts were transferred to Project 66ACSI to consolidate and streamline efforts for Performance Measures, Technical and Analytical Support, and Recruiting and Development.

The program funds efforts to meet the Defense Acquisition Workforce Improvement Act (DAWIA), as well as Congressional, SECDEF, and SECAF mandates to provide program management execution tools, systems integration and architectural analysis, information technology infrastructure development, and technical workforce management. Funding also provides the framework for Air Force business and acquisition transformation in developing capabilities-based architectures, re-engineering and enabling technologies, integrating robust systems engineering into early acquisition processes, and developing and managing a technical workforce with the expertise to uniformly implement OSD and Air Force engineering guidance and policies. These efforts provide stability in Air Force Acquisition by integrating major processes to reverse trends toward unpredictable program cost, schedule, and performance to facilitate quick response to urgent operational needs from across the entire spectrum of potential conflicts. These integrated capabilities will provide OSD and AF acquisition leadership insights needed to effectively manage a complex portfolio of acquisition programs through more timely and reliable access to authoritative acquisition data.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Acquisition Mandates	4.918	0.683	0.500
Description: Supports Congressional, SECDEF, and SECAF mandates that are directed to improve the overall acquisition process. ***FY 2013 Accomplishments:*** Continued program management and resources management oversight. ***FY 2014 Plans:*** Continue program management and resources management oversight. ***FY 2015 Plans:*** Continue program management and resources management oversight.			
Title: Performance Measurements	-	2.375	2.200

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 6	**R-1 Program Element (Number/Name)** PE 0702806F / *Acquisition and Management Support*	**Project (Number/Name)** 66ACSI / *Common Computing Environment*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Description: Supports performance measures for capability-based planning and execution constructs. Efforts include: Technical and analytical support for program planning/execution, schedule and technical performance risk; and economic, statistical, and engineering analyses of acquisition programs. Develop and implement a capability to provide continuous process improvement that will make USAF acquisition processes more effective and efficient. This effort consists of three components (1) establishing a foundational process definition, (2) leveraging the existing improvement techniques including but not limited to Lean, Six-Sigma and Business process reengineering and (3) investing in enabling technologies that enhance process performance and are interoperable within the overall environment. ***FY 2013 Accomplishments:*** N/A This effort was previously justified under 66ACS1 Technical and Analytical Support ***FY 2014 Plans:*** Develop and analyze acquisition processes to provide process improvements and efficiencies. ***FY 2015 Plans:*** Develop and analyze acquisition processes to provide process improvements and efficiencies.			
Title: Technical and Analytical Support ***Description:*** Supports technical and analytical tools through information technology infrastructure development to provide economic, statistical, and engineering analyses of acquisition programs. Efforts include: - A foundational integrated environment that supports the portfolio of acquisition business systems hardware and software, and implements standards for data management and service-oriented design methodology to facilitate efficiency and interoperability - Existing technologies and data are leveraged to standardize on proven capabilities, and to make existing data stores more accessible and useful across the acquisition domain roles - Focused investments in specific capabilities address critical gaps supporting the efficient operation of the Acquisition Domain, in areas such as: -- Planning and executing on-time acquisition milestone readiness -- Adopting commercial enterprise concept of Product Lifecycle Management for the production of traceable requirements -- Planning and execution of technology development and transition -- Standardizing risk management	-	1.487	1.355

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 6	**R-1 Program Element (Number/Name)** PE 0702806F / *Acquisition and Management Support*	**Project (Number/Name)** 66ACSI / *Common Computing Environment*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
-- Managing access to scientific and technical information -- Increasing industrial base decision-support information ***FY 2013 Accomplishments:*** N/A This effort was previously justified under 66ACS1 Technical and Analytical Support ***FY 2014 Plans:*** Develop acquisition management information technology (IT), leveraging efforts started in project 66ACS1. Efforts include: -- Exposing core business services currently existing in multiple tools and subsequently retiring duplicative capabilities -- Reducing training on multiple acquisitions systems by providing all core functionality through a single common interface -- Consolidating infrastructure to reduce hosting and infrastructure sustainment costs ***FY 2015 Plans:*** Develop acquisition management IT Efforts include: -- Exposing core business services currently existing in multiple tools and subsequently retiring duplicative capabilities -- Reducing training on multiple acquisitions systems by providing all core functionality through a single common interface -- Consolidating infrastructure to reduce hosting and infrastructure sustainment costs			
Title: System Metric and Reporting Tool (SMART) ***Description:*** Upgrade enterprise tool that assists PMs and acquisition professionals with the day-to-day tasking involved in defining, managing, and reporting health and status information throughout an Acquisition programs lifecycle ***FY 2013 Accomplishments:*** N/A This effort was previously justified under 66ACS1 Technical and Analytical Support ***FY 2014 Plans:*** Complete deployment of Logistics Health Assessment with Weapon System Hierarchy and enterprise workflow service in Defense Enterprise Portal Service. Enable SMART services in DISA with identity management. ***FY 2015 Plans:*** Upgrade capability for event-driven reporting with OSD. Provide acquisition document management for all programs.	-	4.473	4.744
Title: PMRT (Project Management Resource Tools)	-	2.084	2.000

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 6	**R-1 Program Element (Number/Name)** PE 0702806F / *Acquisition and Management Support*	**Project (Number/Name)** 66ACSI / *Common Computing Environment*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Description: Upgrade enterprise tool that provides program/project resource management tool to support the Acquisition community. ***FY 2013 Accomplishments:*** N/A This effort was previously justified under 66ACS1 Technical and Analytical Support ***FY 2014 Plans:*** Conduct infrastructure study. Complete study of enhancement of processes supporting budget submission, program oversight and program control. Begin implementation of identified enhancements. ***FY 2015 Plans:*** Complete implementation of identified enhancement to budget submission, program oversight and program control processes.			
Title: Acquisition Document Development and Management (ADDM) ***Description:*** Upgrade enterprise tool that assists the acquisition community with a standardized acquisition document roadmap based on the most current DoD and AF guidance and regulations. ***FY 2013 Accomplishments:*** N/A This effort was previously justified under 66ACS1 Technical and Analytical Support ***FY 2014 Plans:*** Deployment of next increment and initiate development of final increment including integration with SharePoint and Enterprise Workflow. ***FY 2015 Plans:*** Complete development and deployment of final increment including efficiency/supportability improvements, reporting capabilities, linking acquisition roadmaps, interface with records management system, what-if capability.	-	2.026	1.074
Title: Capabilities Integration Environment (CIE) ***Description:*** Provides a development, testing and integration environment for Information Technology (IT) system development, prototypes and proofs of concept	-	1.793	1.771

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 6	**R-1 Program Element (Number/Name)** PE 0702806F / *Acquisition and Management Support*	**Project (Number/Name)** 66ACSI / *Common Computing Environment*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
FY 2013 Accomplishments: N/A This effort was previously justified under 66ACS1 Technical and Analytical Support ***FY 2014 Plans:*** Continues a secure, scalable environment to support Research and Development (R&D), Development Test/Operational Test (DT/OT), integration, exercises, experimentation, acquisition development and direct Warfighter support. ***FY 2015 Plans:*** Continues a secure, scalable environment to support Research and Development (R&D), Development Test/Operational Test (DT/OT), integration, exercises, experimentation, acquisition development and direct Warfighter support.			
Title: Development & Retention ***Description:*** Supports activities to develop, manage, and retain the acquisition workforce. ***FY 2013 Accomplishments:*** N/A This effort was previously justified under 66ACS1 Technical and Analytical Support ***FY 2014 Plans:*** Perform activities to develop, manage, and retain the acquisition workforce by providing training on enhanced business and engineering processes that enable the effective management of complex acquisition processes, and allows continued interface with the academic community. ***FY 2015 Plans:*** Perform activities to develop, manage, and retain the acquisition workforce by providing training on enhanced business and engineering processes that enable the effective management of complex acquisition processes, and allows continued interface with the academic community.	-	1.000	1.000
Accomplishments/Planned Programs Subtotals	4.918	15.921	14.644

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 / 6	**R-1 Program Element (Number/Name)** PE 0702806F / *Acquisition and Management Support*	**Project (Number/Name)** 66ACSI / *Common Computing Environment*

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.

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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 6: *RDT&E Management Support*					R-1 Program Element (Number/Name) PE 0804731F / *General Skill 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	-	-	0.315	1.425	-	1.425	1.323	1.429	1.456	1.484	Continuing	Continuing
665297: *Technical Training Information Systems*	-	-	0.315	1.425	-	1.425	1.323	1.429	1.456	1.484	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

TECHNICAL TRAINING MANAGEMENT SYSTEM (TTMS): TTMS provides AETC organizations with a world class commercial-off-the-shelf (COTS) / government-off-the-shelf (GOTS) learning management system which supports six functions: course design and development; student evaluation; instructor management; student management; data analysis; and resource administration. TTMS is a centralized web-based system which provides productivity enhancements and higher degree of efficiency to AETC. The primary requirement objectives currently under development are: 1) Integration of Basic Training Management System (BTMS) capabilities and student records into the TTMS.

This program is in Budget Activity 6, RDT&E Management Support because this budget activity includes research, development, test and evaluation efforts and funds to sustain and/or modernize the installations or operations required for general research, development, test and evaluation.

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	1.294	0.315	1.443	-	1.443
Current President's Budget	-	0.315	1.425	-	1.425
Total Adjustments	-1.294	-	-0.018	-	-0.018
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-1.294	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-	-	-0.018	-	-0.018

Change Summary Explanation

FY13: Reduction due to excess to need

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 6: *RDT&E Management Support*	**R-1 Program Element (Number/Name)** PE 0804731F / *General Skill Training*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Technical Training Management System (TTMS) ***Description:*** Provide TTMS productivity enhancements and higher degree of efficiency to AETC (i.e., Military Training Leader and Basic Training Management System). ***FY 2013 Accomplishments:*** N/A ***FY 2014 Plans:*** Enhance TTMS productivity focusing on Military Training Leader and Basic Training Management capabilities. ***FY 2015 Plans:*** jContinue to enhance TTMS productivity focusing on Military Training Leader and Basic Training Management capabilities.	-	0.315	1.425
Accomplishments/Planned Programs Subtotals	-	0.315	1.425

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-2, RDT&E Budget Item Justification: PB 2015 Air Force											Date: March 2014	
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 6: *RDT&E Management Support*					R-1 Program Element (Number/Name) PE 1001004F / *International 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	-	3.376	3.785	3.790	-	3.790	3.872	3.944	4.022	4.099	Continuing	Continuing
664645: *International Cooperative Research & Development*	-	3.376	3.785	3.790	-	3.790	3.872	3.944	4.022	4.099	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 mission of this program is to establish, sustain, expand, and enhance mutually beneficial international partnerships through the implementation of air, space, and cyber international armament cooperation (IAC) agreements thereby supporting USAF and DoD goals and objectives. These International Agreements (IAs) will significantly improve US and allied conventional defense capacity and capabilities; accelerate the availability of defense systems; realize solutions to meet capability gaps; acquire, upgrade, sustain, and/or support common or interoperable equipment with our allies; create cooperative acquisition, production, or logistic partnerships; promote mutual and equitable sharing of effort, cost, information, and risk; provide operational access; leverage economies of scale; and promote interoperability and commonality with our allies.

The USAF is party to numerous air, space, and cyber bilateral and multilateral IAs to solve common US and allied military capability gaps, develop materiel solutions, harmonize requirements, and build interoperability with our international partners. This program element funds the USAF to identify, develop, process, negotiate, implement, manage, and conclude IAs in compliance with statutory provisions, legal authorities, fiscal constraints, technology transfer controls, intellectual property rights, third party transfer provisions, equitability criteria, industrial base factors, and political-military interests. Included in this program are air, space, and cyber international armaments cooperation; technology assessment; specialized working groups; Air Senior National Representative (ASNR) activities; IAC program and project reviews; bilateral and multilateral staff talks; activities associated with air, space, and cyber IAs; Engineering and Scientist Exchange Program (ESEP); and Administrative and Professional Exchange Program (APEP). These funds are not to be used for civilian salaries or the construction of permanent facilities.

This program is in Budget Activity 6, Management and Support, because this budget activity includes research, development, test and evaluation efforts and funds to sustain and/or modernize the installations or operations required for general research, development, test and evaluation.

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 6: *RDT&E Management Support*	**R-1 Program Element (Number/Name)** PE 1001004F / *International Activities*	

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	3.851	3.785	3.838	-	3.838
Current President's Budget	3.376	3.785	3.790	-	3.790
Total Adjustments	-0.475	-	-0.048	-	-0.048
• Congressional General Reductions	-0.116	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-0.359	-	-0.048	-	-0.048

Change Summary Explanation

Decrease in FY13 Other Adjustments was due to Sequestration.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Engineer and Scientist Exchange Program/Administrative and Professional Exchange Program (ESEP/APEP)	0.300	0.300	0.300
Description: Funds the USAF execution and management oversight of ESEP and APEP programs and personnel. Funds eight to ten field level military and civilian personnel from Air Force Materiel Command (AFMC) Facilities, Product Centers, Test Centers, and Logistic Centers for tours at selected allied partner government laboratories and facilities. ***FY 2013 Accomplishments:*** Continued USAF execution and management oversight of the ESEP and APEP programs and personnel. ***FY 2014 Plans:*** Continue USAF execution and management oversight of the ESEP and APEP programs and personnel. ***FY 2015 Plans:*** Will continue USAF execution and management oversight of the ESEP and APEP programs and personnel.			
Title: International Partnership Activities	1.547	1.975	1.905
Description: Funds USAF management, support, and oversight of international armament cooperation (IAC) goals and objectives to build global partnerships in support of national security objectives. Funds USAF participation in NATO fora to promote harmonization and interoperability. Funds USAF support and participation in OSD bilateral IAC forums. Funds Secretary of the Air Force/International Affairs (SAF/IA) overseas liaison office. Funds technical assessments and discussions that support			

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 6: *RDT&E Management Support*	**R-1 Program Element (Number/Name)** PE 1001004F / *International Activities*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
technology development activities and interoperability. Funds USAF efforts to enhance existing relationships with: Australia, Canada, Denmark, France, Germany, Israel, Italy, Japan, NATO, Netherlands, Norway, South Korea, Singapore, Spain, Sweden, and UK. Funds USAF efforts to strengthen/build IAC relationships with: Czech Republic, Hungary, Poland, India, Finland, and Turkey. Funds USAF efforts to establish IAC relationships with: South Africa, Egypt, Brazil, Chile, and Taiwan. ***FY 2013 Accomplishments:*** Continued USAF management, support, and oversight of IAC goals and objectives to establish, sustain, expand and enhance mutually beneficial partnerships between the US and coalition partners to meet current and emerging global strategic challenges through optimization of interoperability, integration, and interdependence between coalition forces. ***FY 2014 Plans:*** Continue USAF management, support, and oversight of IAC goals and objectives to establish, sustain, expand and enhance mutually beneficial partnerships between the US and coalition partners to meet current and emerging global strategic challenges through optimization of interoperability, integration, and interdependence between coalition forces. Efforts will have an enhanced focus on mutually beneficial partnerships within Asia. ***FY 2015 Plans:*** Will continue USAF management, support, and oversight of IAC goals and objectives to establish, sustain, expand and enhance mutually beneficial partnerships between the US and coalition partners to meet current and emerging global strategic challenges through optimization of interoperability, integration, and interdependence between coalition forces. Continuing efforts will have an enhanced focus on mutually beneficial partnerships within Asia.			
Title: International Armaments Cooperation (IAC) Agreement Activities	0.750	0.750	0.750
Description: Funds the USAF's ability to identify, develop, process, negotiate, implement, manage, and conclude the increasing number bilateral and multilateral IAC Agreements that meet the goals, objectives, and mission of the USAF and DoD. IAC activities will meet warfighter needs and enhance interoperability by exploring cooperation with our partners in the areas of: materials and composites, human effectiveness, robotics, nanotechnology, coalition information sharing, biometrics, munitions design, hypersonics, alternative energy, improvised explosive devices (IED) defeat, weapons of mass destrcution (WMD) defeat, autonomous control, distributed missions, training systems, lasers, weapon systems, remotely piloted aircraft, armaments interface, intelligence, surveillance and reconnaissance (ISR) capabilities, sustainment, gap analysis, simulators, combined logistics, software updates, mission planning systems, world-wide flight requirements, electronic warfare, safety, aging aircraft, airlift, tankers, trainers, system modifications, directed energy, weapon stores, acquisition, development, co-production, interoperability, maintenance, system development, and upgrades. ***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 6: *RDT&E Management Support*	**R-1 Program Element (Number/Name)** PE 1001004F / *International Activities*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Funded the USAF to negotiate and conclude 32 IAC Agreements with a total value of $68.446M leveraging $35.433M in contributions from 13 partner nations. ***FY 2014 Plans:*** Continued funding for USAF to identify, develop, process, negotiate, implement, manage, and conclude numerous bilateral and multilateral IAs that meet the goals, objectives, and mission of the USAF and DoD. Negotiations will continue on IAs developed but not concluded during FY13. The estimated number of IAC Agreements currently in development is 115. ***FY 2015 Plans:*** Will continue funding for USAF to identify, develop, process, negotiate, implement, and manage the increasing number of bilateral and multilateral IAs that meet the goals, objectives, and mission of the USAF and DoD. Development and negotiation will continue on IAs not concluded during FY14. New agreements and amendments will be initiated.			
Title: Air Force Materiel Command (AFMC) ***Description:*** Funds AFMC's ability to support international armaments cooperation (IAC) research, development, test, and evaluation (RDT&E) activities which directly promote interoperability and international collaboration. Funds field level technical assessments and discussions that support technology identification and development activities in support of interoperability. ***FY 2013 Accomplishments:*** Continued support of AFMC's ability to identify, assess, and develop new and continuing RDT&E activities which support interoperability and relationship building efforts with our international partners. ***FY 2014 Plans:*** Continue support of AFMC's ability to identify, assess, and develop new and continuing RDT&E activities which support interoperability and relationship building efforts with our international partners. ***FY 2015 Plans:*** Will continue support of AFMC's ability to identify, assess, and develop new and continuing RDT&E activities which support interoperability and relationship building efforts with our international partners.	0.150	0.150	0.150
Title: International Space Cooperation ***Description:*** Funds USAF's efforts in the area of space cooperation with our international partners. Space cooperation with our allies enables the USAF access to critical geography for distributed ground systems, and remote test ranges for test and evaluation of space capabilities in electronically challenged environments, joint development and acquisition of space systems, and provides a foundation for long-term, full spectrum operational cooperation. ***FY 2013 Accomplishments:***	0.190	0.190	0.190

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 6: *RDT&E Management Support*	**R-1 Program Element (Number/Name)** PE 1001004F / *International Activities*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Funded the USAF to negotiate and conclude 8 space cooperation agreements with a total value of $108M that leveraged $68M in contributions from 5 Partner nations. ***FY 2014 Plans:*** Continue funding for USAF to identify, develop, process, negotiate, implement, manage, and conclude an escalating number of bilateral and multilateral international agreements (IAs) that meet the goals, objectives, and mission of the USAF's space guidance. Negotiations will continue on space related IAs developed but not concluded during FY13. The estimated number of space cooperation agreements in development is 14. ***FY 2015 Plans:*** Will continue funding for USAF to identify, develop, process, negotiate, implement, manage and conclude the increasing number of bilateral and multilateral space related IAs that meet the goals, objectives, and mission of the USAF and DoD. Development and negotiation will continue on IAs not concluded during FY14. New agreements and amendments will be initiated.			
Title: Cyberspace Cooperation ***Description:*** Funds USAF's ability to establish cooperative relationships with allies in cyberspace missions to ensure interoperability, sharing of information on threats, and developing new capabilities to defeat threats to our critical information systems. Supports integration of air, space, and cyberspace capabilities to create global effects. Cyberspace requires significant research and development efforts and responsiveness to avoid technological surprise. ***FY 2013 Accomplishments:*** Continued USAF efforts to establish cooperative relationships with allies in cyberspace missions initiated in FY12. ***FY 2014 Plans:*** Continue USAF efforts to establish cooperative relationships with allies in cyberspace missions initiated in FY13. ***FY 2015 Plans:*** Will continue USAF efforts to establish cooperative relationships with allies in cyberspace missions initiated in FY14.	0.439	0.420	0.495
Accomplishments/Planned Programs Subtotals	3.376	3.785	3.790

D. Other Program Funding Summary ($ in Millions)

N/A

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 6: *RDT&E Management Support*	**R-1 Program Element (Number/Name)** PE 1001004F / *International Activities*

E. Acquisition Strategy

This program element is the only source of USAF funds to identify, develop, process, negotiate, implement, manage, and conclude international armaments cooperation (IAC) opportunities to: (a) acquire, develop, upgrade, sustain, and support common or interoperable equipment with our allies; (b) leverage USAF resources with our allies through cost sharing and economies of scale; (c) exploit the best US and allied technologies for equipping coalition forces; and (d) foster interoperability and commonality with our allies. We obtain these benefits only after IAC opportunities are identified, explored, assessed, developed and IAs are negotiated and concluded. This PE provides funds to execute up-front IAC responsibilities, realize cooperative opportunities, assess allied technologies and generate sound, cost-effective cooperative programs between the USAF and our international partners. Once international agreemetns (IAs) are concluded they are transferred to the appropriate technology or systems program office and are then funded by the program office.

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.