Department of Defense
Fiscal Year (FY) 2014 President's Budget Submission

April 2013

Air Force

Justification Book Volume 2 of 3

Research, Development, Test & Evaluation, Air Force

Vol-II

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Department of Defense
FY 2014 President's Budget
Exhibit R-1 FY 2014 President's Budget
Total Obligational Authority
(Dollars in Thousands)

28 Mar 2013

Appropriation	FY 2012 (Base & OCO)	FY 2013 Base Request with CR Adj*	FY 2013 OCO Request with CR Adj*	Emergency Disaster Relief Act of 2013	FY 2013 Total Request with CR Adj*	FY 2014 Base
Research, Development, Test & Eval, AF	26,630,843	26,642,260	53,150		26,695,410	25,702,946
Total Research, Development, Test & Evaluation	26,630,843	26,642,260	53,150		26,695,410	25,702,946

R-1C: FY 2014 President's Budget (Published Version), as of March 28, 2013 at 10:18:35
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Department of Defense
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Summary Recap of Budget Activities	FY 2012 (Base & OCO)	FY 2013 Base Request with CR Adj*	FY 2013 OCO Request with CR Adj*	Emergency Disaster Relief Act of 2013	FY 2013 Total Request with CR Adj*	FY 2014 Base
Basic Research	493,609	516,034			516,034	524,770
Applied Research	1,235,584	1,109,053			1,109,053	1,127,893
Advanced Technology Development	662,751	596,737			596,737	617,526
Advanced Component Development & Prototypes	1,494,043	1,181,177			1,181,177	876,709
System Development & Demonstration	3,706,414	4,966,724			4,966,724	5,078,715
Management Support	1,697,349	1,190,349			1,190,349	1,179,791
Operational Systems Development	17,341,093	15,867,972			15,921,122	16,297,542
Undistributed		1,214,214			1,214,214	
Total Research, Development, Test & Evaluation	26,630,843	26,642,260			26,695,410	25,702,946

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Summary Recap of FYDP Programs						
Strategic Forces	440,383	222,582			222,582	254,061
General Purpose Forces	1,882,333	1,820,202			1,820,202	1,825,912
Intelligence and Communications	2,248,279	1,916,639			1,916,639	1,611,731
Mobility Forces	269,125	244,314			244,314	295,056
Research and Development	9,508,419	9,750,681			9,750,681	9,553,906
Central Supply and Maintenance	136,436	179,795			179,795	136,415
Training Medical and Other	1,895	1,760			1,760	1,727
Administration and Associated Activities	94,329	1,330,253			1,330,253	145,825
Support of Other Nations	3,798	3,851			3,851	3,785
Classified Programs	12,045,846	11,172,183	53,150		11,225,333	11,874,528
Total Research, Development, Test & Evaluation	26,630,843	26,642,260	53,150		26,695,410	25,702,946

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

Line No	Program Element Number	Item	Act	FY 2012 (Base & OCO)	FY 2013 Base Request with CR Adj*	FY 2013 OCO Request with CR Adj*	Emergency Disaster Relief Act of 2013	FY 2013 Total Request with CR Adj*	FY 2014 Base	Sec
1	0601102F	Defense Research Sciences	01	347,833	361,787			361,787	373,151	U
2	0601103F	University Research Initiatives	01	131,957	141,153			141,153	138,333	U
3	0601108F	High Energy Laser Research Initiatives	01	13,819	13,094			13,094	13,286	U
	Basic Research			493,609	516,034			516,034	524,770	
4	0602102F	Materials	02	142,417	114,166			114,166	116,846	U
5	0602201F	Aerospace Vehicle Technologies	02	145,392	120,719			120,719	119,672	U
6	0602202F	Human Effectiveness Applied Research	02	93,034	89,319			89,319	89,483	U
7	0602203F	Aerospace Propulsion	02	207,768	232,547			232,547	197,546	U
8	0602204F	Aerospace Sensors	02	136,327	127,637			127,637	127,539	U
9	0602601F	Space Technology	02	117,986	98,375			98,375	104,063	U
10	0602602F	Conventional Munitions	02	60,725	77,175			77,175	81,521	U
11	0602605F	Directed Energy Technology	02	139,769	106,196			106,196	112,845	U
12	0602788F	Dominant Information Sciences and Methods	02	139,980	104,362			104,362	138,161	U
13	0602890F	High Energy Laser Research	02	52,186	38,557			38,557	40,217	U
	Applied Research			1,235,584	1,109,053			1,109,053	1,127,893	
14	0603112F	Advanced Materials for Weapon Systems	03	60,626	47,890			47,890	39,572	U
15	0603199F	Sustainment Science and Technology (S&T)	03	5,618	6,565			6,565	12,800	U
16	0603203F	Advanced Aerospace Sensors	03	119,227	37,657			37,657	30,579	U
17	0603211F	Aerospace Technology Dev/Demo	03	64,544	81,376			81,376	77,347	U
18	0603216F	Aerospace Propulsion and Power Technology	03	115,725	151,152			151,152	149,321	U

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19	0603270F	Electronic Combat Technology	03	21,896	32,941			32,941	49,128	U
20	0603401F	Advanced Spacecraft Technology	03	70,643	64,557			64,557	68,071	U
21	0603444F	Maui Space Surveillance System (MSSS)	03	13,313	29,256			29,256	26,299	U
22	0603456F	Human Effectiveness Advanced Technology Development	03	24,082	21,523			21,523	20,967	U
23	0603601F	Conventional Weapons Technology	03	44,057	36,352			36,352	33,996	U
24	0603605F	Advanced Weapons Technology	03	45,823	19,004			19,004	19,000	U
25	0603680F	Manufacturing Technology Program	03	39,165	37,045			37,045	41,353	U
26	0603788F	Battlespace Knowledge Development and Demonstration	03	36,944	31,419			31,419	49,093	U
27	0603924F	High Energy Laser Advanced Technology Program	03	1,088						U
		Advanced Technology Development		662,751	596,737			596,737	617,526	
28	0603260F	Intelligence Advanced Development	04	4,013	3,866			3,866	3,983	U
29	0603287F	Physical Security Equipment	04	476	3,704			3,704	3,874	U
30	0603430F	Advanced EHF MILSATCOM (SPACE)	04	385,013	229,171			229,171		U
31	0603432F	Polar MILSATCOM (SPACE)	04	103,098	120,676			120,676		U
32	0603438F	Space Control Technology	04	43,553	25,144			25,144	27,024	U
33	0603742F	Combat Identification Technology	04	37,039	32,243			32,243	15,899	U
34	0603790F	NATO Research and Development	04	4,424	4,507			4,507	4,568	U
35	0603791F	International Space Cooperative R&D	04	615	652			652	379	U
36	0603830F	Space Protection Program (SPP)	04	7,074	10,429			10,429	28,764	U

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37	0603850F	Integrated Broadcast Service - Dem/Val	04	19,442	19,938			19,938		U
38	0603851F	Intercontinental Ballistic Missile - Dem/Val	04	71,824	71,181			71,181	86,737	U
39	0603854F	Wideband Global SATCOM RDT&E (Space)	04	12,077	12,027			12,027		U
40	0603859F	Pollution Prevention - Dem/Val	04	2,300	2,054			2,054	953	U
41	0603860F	Joint Precision Approach and Landing Systems - Dem/Val	04	7,076	57,975			57,975		U
42	0604015F	Long Range Strike	04	289,573	291,742			291,742	379,437	U
43	0604283F	Battle Mgmt Com & Ctrl Sensor Development	04	30,362	114,417			114,417		U
44	0604317F	Technology Transfer	04	2,474	2,576			2,576	2,606	U
45	0604327F	Hard and Deeply Buried Target Defeat System (HDBTDS) Program	04	120,838	16,711			16,711	103	U
46	0604330F	Joint Dual Role Air Dominance Missile	04	28,871						U
47	0604337F	Requirements Analysis and Maturation	04	22,794	16,343			16,343	16,018	U
48	0604422F	Weather System Follow-on	04	123,681	2,000			2,000		U
49	0604458F	Air & Space Ops Center	04						58,861	U
50	0604618F	Joint Direct Attack Munition	04						2,500	U
51	0604635F	Ground Attack Weapons Fuze Development	04	23,729	9,423			9,423	21,175	U
52	0604857F	Operationally Responsive Space	04	108,014						U
53	0604858F	Tech Transition Program	04	2,683	37,558			37,558	13,636	U
54	0105921F	Service Support to STRATCOM - Space Activities	04						2,799	U
55	0207455F	Three Dimensional Long-Range Radar (3DELRR)	04						70,160	U

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56	0305164F	NAVSTAR Global Positioning System (User Equipment) (SPACE)	04		96,840			96,840	137,233	U
57	0305178F	National Polar-Orbiting Operational Environmental Satellite System (NPOESS)	04	43,000						U
		Advanced Component Development & Prototypes		1,494,043	1,181,177			1,181,177	876,709	
58	0603260F	Intelligence Advanced Development	05						977	U
59	0603840F	Global Broadcast Service (GBS)	05	5,631	14,652			14,652		U
60	0604222F	Nuclear Weapons Support	05	22,170	25,713			25,713		U
61	0604233F	Specialized Undergraduate Flight Training	05	19,725	6,583			6,583	3,601	U
62	0604270F	Electronic Warfare Development	05	16,397	1,975			1,975	1,971	U
63	0604280F	Joint Tactical Radio	05		2,594			2,594		U
64	0604281F	Tactical Data Networks Enterprise	05	45,104	24,534			24,534	51,456	U
65	0604287F	Physical Security Equipment	05	51	51			51	50	U
66	0604329F	Small Diameter Bomb (SDB) - EMD	05	133,902	143,000			143,000	115,000	U
67	0604421F	Counterspace Systems	05	28,946	28,797			28,797	23,930	U
68	0604425F	Space Situation Awareness Systems	05	216,212	267,252			267,252	400,258	U
69	0604429F	Airborne Electronic Attack	05	31,821	4,118			4,118	4,575	U
70	0604441F	Space Based Infrared System (SBIRS) High EMD	05	621,629	448,594			448,594	352,532	U
71	0604602F	Armament/Ordnance Development	05	7,755	9,951			9,951	16,284	U
72	0604604F	Submunitions	05	2,427	2,567			2,567	2,564	U
73	0604617F	Agile Combat Support	05	7,649	13,059			13,059	17,036	U

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74	0604706F	Life Support Systems	05	8,017	9,720			9,720	7,273	U
75	0604735F	Combat Training Ranges	05	7,869	9,222			9,222	33,200	U
76	0604740F	Integrated Command & Control Applications (IC2A)	05	10						U
77	0604750F	Intelligence Equipment	05	995	803			803		U
78	0604800F	F-35 - EMD	05	1,366,147	1,210,306			1,210,306	816,335	U
79	0604851F	Intercontinental Ballistic Missile - EMD	05	129,728	135,437			135,437	145,442	U
80	0604853F	Evolved Expendable Launch Vehicle Program (SPACE) - EMD	05	14,081	7,980			7,980	27,963	U
81	0604932F	Long Range Standoff Weapon	05		2,004			2,004	5,000	U
82	0604933F	ICBM Fuze Modernization	05		73,512			73,512	129,411	U
83	0605213F	F-22 Modernization Increment 3.2B	05		140,100			140,100	131,100	U
84	0605221F	KC-46	05	818,947	1,815,588			1,815,588	1,558,590	U
85	0605229F	CSAR HH-60 Recapitalization	05	11,113	123,210			123,210	393,558	U
86	0605278F	HC/MC-130 Recap RDT&E	05	21,554	19,039			19,039	6,242	U
87	0605431F	Advanced EHF MILSATCOM (SPACE)	05						272,872	U
88	0605432F	Polar MILSATCOM (SPACE)	05						124,805	U
89	0605433F	Wideband Global SATCOM (SPACE)	05						13,948	U
90	0605931F	B-2 Defensive Management System	05		281,056			281,056	303,500	U
91	0101125F	Nuclear Weapons Modernization	05	91,269	80,200			80,200	67,874	U
92	0207100F	Light Attack Armed Reconnaissance (LAAR) Squadrons	05	11,021						U

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93	0207604F	Readiness Training Ranges, Operations and Maintenance	05		310			310		U
94	0207701F	Full Combat Mission Training	05	28,917	14,861			14,861	4,663	U
95	0305230F	MC-12	05		19,949			19,949		U
96	0401138F	C-27J Airlift Squadrons	05	24,491						U
97	0401318F	CV-22	05	12,836	28,027			28,027	46,705	U
98	0401845F	Airborne Senior Leader C3 (SLC3S)	05		1,960			1,960		U
		System Development & Demonstration		3,706,414	4,966,724			4,966,724	5,078,715	
99	0604256F	Threat Simulator Development	06	26,473	22,812			22,812	17,690	U
100	0604759F	Major T&E Investment	06	60,388	42,236			42,236	34,841	U
101	0605101F	RAND Project Air Force	06	32,057	25,579			25,579	32,956	U
102	0605502F	Small Business Innovation Research	06	346,235						U
103	0605712F	Initial Operational Test & Evaluation	06	17,754	16,197			16,197	13,610	U
104	0605807F	Test and Evaluation Support	06	737,697	722,071			722,071	742,658	U
105	0605860F	Rocket Systems Launch Program (SPACE)	06	146,536	16,200			16,200	14,203	U
106	0605864F	Space Test Program (STP)	06	44,308	10,051			10,051	13,000	U
107	0605976F	Facilities Restoration and Modernization - Test and Evaluation Support	06	44,547	42,597			42,597	44,160	U
108	0605978F	Facilities Sustainment - Test and Evaluation Support	06	27,953	27,301			27,301	27,643	U
109	0606323F	Multi-Service Systems Engineering Initiative	06	13,532	13,964			13,964	13,935	U

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110	0606392F	Space and Missile Center (SMC) Civilian Workforce	06	158,589	203,766			203,766	192,348	U
111	0702806F	Acquisition and Management Support	06	35,830	42,430			42,430	28,647	U
112	0804731F	General Skill Training	06	1,463	1,294			1,294	315	U
113	0909999F	Financing for Cancelled Account Adjustments	06	189						U
114	1001004F	International Activities	06	3,798	3,851			3,851	3,785	U
		Management Support		1,697,349	1,190,349			1,190,349	1,179,791	
115	0603423F	Global Positioning System III - Operational Control Segment	07	352,023	371,595			371,595	383,500	U
116	0604263F	Common Vertical Lift Support Platform	07	5,365						U
117	0604445F	Wide Area Surveillance	07						5,000	U
118	0605018F	AF Integrated Personnel and Pay System (AF-IPPS)	07	78,850	91,697			91,697	90,097	U
119	0605024F	Anti-Tamper Technology Executive Agency	07	35,245	17,037			17,037	32,086	U
121	0101113F	B-52 Squadrons	07	84,171	53,208			53,208	24,007	U
122	0101122F	Air-Launched Cruise Missile (ALCM)	07	782	431			431	450	U
123	0101126F	B-1B Squadrons	07	32,087	16,265			16,265	19,589	U
124	0101127F	B-2 Squadrons	07	201,688	35,970			35,970	100,194	U
125	0101313F	Strat War Planning System - USSTRATCOM	07	22,089	30,889			30,889	37,448	U
126	0101314F	Night Fist - USSTRATCOM	07	2,000	10			10		U
128	0102326F	Region/Sector Operation Control Center Modernization Program	07	6,283	5,609			5,609	1,700	U
129	0102823F	Strategic Aerospace Intelligence System Activities	07	14						U

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Total Obligational Authority
(Dollars in Thousands)

28 Mar 2013

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

Line No	Program Element Number	Item	Act	FY 2012 (Base & OCO)	FY 2013 Base Request with CR Adj*	FY 2013 OCO Request with CR Adj*	Emergency Disaster Relief Act of 2013	FY 2013 Total Request with CR Adj*	FY 2014 Base	Sec
130	0203761F	Warfighter Rapid Acquisition Process (WRAP) Rapid Transition Fund	07	10,280	15,098			15,098	3,844	U
131	0205219F	MQ-9 UAV	07	107,576	147,971			147,971	128,328	U
132	0207040F	Multi-Platform Electronic Warfare Equipment	07	32,431	49,848			49,848		U
133	0207131F	A-10 Squadrons	07	11,006	13,538			13,538	9,614	U
134	0207133F	F-16 Squadrons	07	128,503	190,257			190,257	177,298	U
135	0207134F	F-15E Squadrons	07	184,665	192,677			192,677	244,289	U
136	0207136F	Manned Destructive Suppression	07	8,515	13,683			13,683	13,138	U
137	0207138F	F-22A Squadrons	07	531,767	371,667			371,667	328,542	U
138	0207142F	F-35 Squadrons	07	9,682	8,117			8,117	33,000	U
139	0207161F	Tactical AIM Missiles	07	7,885	8,234			8,234	15,460	U
140	0207163F	Advanced Medium Range Air-to-Air Missile (AMRAAM)	07	75,282	87,041			87,041	84,172	U
141	0207170F	Joint Helmet Mounted Cueing System (JHMCS)	07	1,394	1,472			1,472		U
142	0207224F	Combat Rescue and Recovery	07	2,292	2,095			2,095	2,582	U
143	0207227F	Combat Rescue - Pararescue	07	914	1,119			1,119	542	U
144	0207247F	AF TENCAP	07	20,727	63,853			63,853	89,816	U
145	0207249F	Precision Attack Systems Procurement	07	3,034	1,063			1,063	1,075	U
146	0207253F	Compass Call	07	19,229	12,094			12,094	10,782	U
147	0207268F	Aircraft Engine Component Improvement Program	07	168,390	187,984			187,984	139,369	U
148	0207277F	ISR Innovations	07	16,199						U

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Department of the Air Force
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28 Mar 2013

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149	0207325F	Joint Air-to-Surface Standoff Missile (JASSM)	07	5,654	7,950			7,950	6,373	U
150	0207410F	Air & Space Operations Center (AOC)	07	116,858	76,315			76,315	22,820	U
151	0207412F	Control and Reporting Center (CRC)	07	3,288	8,653			8,653	7,029	U
152	0207417F	Airborne Warning and Control System (AWACS)	07	111,779	65,200			65,200	186,256	U
153	0207418F	Tactical Airborne Control Systems	07	7,931	5,767			5,767	743	U
154	0207423F	Advanced Communications Systems	07	20,715						U
156	0207431F	Combat Air Intelligence System Activities	07	5,428	5,756			5,756	4,471	U
157	0207438F	Theater Battle Management (TBM) C4I	07	15,009						U
158	0207444F	Tactical Air Control Party-Mod	07	8,939	16,226			16,226	10,250	U
159	0207448F	C2ISR Tactical Data Link	07	1,489	1,633			1,633	1,431	U
160	0207449F	Command and Control (C2) Constellation	07	20,075	18,086			18,086	7,329	U
161	0207452F	DCAPES	07		15,690			15,690	15,081	U
162	0207581F	Joint Surveillance/Target Attack Radar System (JSTARS)	07	71,991	24,241			24,241	13,248	U
163	0207590F	Seek Eagle	07	18,599	22,654			22,654	24,342	U
164	0207601F	USAF Modeling and Simulation	07	22,113	15,501			15,501	10,448	U
165	0207605F	Wargaming and Simulation Centers	07	5,617	5,699			5,699	5,512	U
166	0207697F	Distributed Training and Exercises	07	3,147	4,425			4,425	3,301	U
167	0208006F	Mission Planning Systems	07	61,207	69,377			69,377	62,605	U
168	0208021F	Information Warfare Support	07	2,105	7,159			7,159		U

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169	0208059F	Cyber Command Activities	07	680	66,888			66,888	68,099	U
170	0208087F	AF Offensive Cyberspace Operations	07						14,047	U
171	0208088F	AF Defensive Cyberspace Operations	07						5,853	U
179	0301400F	Space Superiority Intelligence	07	8,866	12,056			12,056	12,197	U
180	0302015F	E-4B National Airborne Operations Center (NAOC)	07	5,101	4,159			4,159	18,267	U
181	0303131F	Minimum Essential Emergency Communications Network (MEECN)	07	23,445	20,124			20,124	36,288	U
182	0303140F	Information Systems Security Program	07	88,257	69,133			69,133	90,231	U
183	0303141F	Global Combat Support System	07	435	6,512			6,512	725	U
184	0303150F	Global Command and Control System	07	2,433	4,316			4,316		U
185	0303601F	MILSATCOM Terminals	07	235,769	107,237			107,237	140,170	U
187	0304260F	Airborne SIGINT Enterprise	07	108,313	129,106			129,106	117,110	U
190	0305099F	Global Air Traffic Management (GATM)	07	4,604	4,461			4,461	4,430	U
191	0305103F	Cyber Security Initiative	07	1,920	2,055			2,055	2,048	U
192	0305105F	DoD Cyber Crime Center	07	274	285			285	288	U
193	0305110F	Satellite Control Network (SPACE)	07	17,788	33,773			33,773	35,698	U
194	0305111F	Weather Service	07	29,977	29,048			29,048	24,667	U
195	0305114F	Air Traffic Control, Approach, and Landing System (ATCALS)	07	20,644	43,187			43,187	35,674	U
196	0305116F	Aerial Targets	07	27,708	50,496			50,496	21,186	U
199	0305128F	Security and Investigative Activities	07	355	354			354	195	U

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Line No	Program Element Number	Item	Act	FY 2012 (Base & OCO)	FY 2013 Base Request with CR Adj*	FY 2013 OCO Request with CR Adj*	Emergency Disaster Relief Act of 2013	FY 2013 Total Request with CR Adj*	FY 2014 Base	Sec
200	0305145F	Arms Control Implementation	07		4,000			4,000	1,430	U
201	0305146F	Defense Joint Counterintelligence Activities	07	39	342			342	330	U
203	0305164F	NAVSTAR Global Positioning System (User Equipment) (SPACE)	07	125,935	29,621			29,621		U
204	0305165F	NAVSTAR Global Positioning System (Space and Control Segments)	07	16,820	14,335			14,335		U
206	0305173F	Space and Missile Test and Evaluation Center	07	1,542	3,680			3,680	3,696	U
207	0305174F	Space Innovation, Integration and Rapid Technology Development	07	2,862	2,430			2,430	2,469	U
208	0305179F	Integrated Broadcast Service (IBS)	07						8,289	U
209	0305182F	Spacelift Range System (SPACE)	07	9,245	8,760			8,760	13,345	U
210	0305193F	Cyber Intelligence	07	1,271						U
211	0305202F	Dragon U-2	07		23,644			23,644	18,700	U
212	0305205F	Endurance Unmanned Aerial Vehicles	07	108,021	21,000			21,000	3,000	U
213	0305206F	Airborne Reconnaissance Systems	07	115,471	96,735			96,735	37,828	U
214	0305207F	Manned Reconnaissance Systems	07	13,049	13,316			13,316	13,491	U
215	0305208F	Distributed Common Ground/Surface Systems	07	82,348	63,501			63,501	7,498	U
216	0305219F	MQ-1 Predator A UAV	07	51,642	9,122			9,122	3,326	U
217	0305220F	RQ-4 UAV	07	423,301	236,265			236,265	134,406	U
218	0305221F	Network-Centric Collaborative Targeting	07	7,192	7,367			7,367	7,413	U
219	0305236F	Common Data Link (CDL)	07		38,094			38,094	40,503	U

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220	0305238F	NATO AGS	07		210,109			210,109	264,134	U
221	0305240F	Support to DCGS Enterprise	07		24,500			24,500	23,016	U
222	0305265F	GPS III Space Segment	07	444,840	318,992			318,992	221,276	U
223	0305614F	JSPOC Mission System	07	75,749	54,645			54,645	58,523	U
224	0305881F	Rapid Cyber Acquisition	07		4,007			4,007	2,218	U
225	0305887F	Intelligence Support to Information Warfare	07	13,507	13,357			13,357		U
226	0305913F	NUDET Detection System (SPACE)	07	81,989	64,965			64,965	50,547	U
227	0305940F	Space Situation Awareness Operations	07	29,720	19,586			19,586	18,807	U
228	0307141F	Information Operations Technology Integration & Tool Development	07	23,184						U
229	0308699F	Shared Early Warning (SEW)	07	1,663	1,175			1,175	1,079	U
230	0401115F	C-130 Airlift Squadron	07	6,321	5,000			5,000	400	U
231	0401119F	C-5 Airlift Squadrons (IF)	07	12,941	35,115			35,115	61,492	U
232	0401130F	C-17 Aircraft (IF)	07	81,938	99,225			99,225	109,134	U
233	0401132F	C-130J Program	07	38,345	30,652			30,652	22,443	U
234	0401134F	Large Aircraft IR Countermeasures (LAIRCM)	07	8,838	7,758			7,758	4,116	U
235	0401139F	Light Mobility Aircraft (LiMA)	07		100			100		U
236	0401218F	KC-135s	07	6,161						U
237	0401219F	KC-10s	07	30,868	24,022			24,022		U
238	0401314F	Operational Support Airlift	07	41,346	7,471			7,471	44,553	U

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239	0408011F	Special Tactics / Combat Control	07	5,040	4,984			4,984	6,213	U
240	0702207F	Depot Maintenance (Non-IF)	07	1,531	1,588			1,588	1,605	U
241	0708012F	Logistics Support Activities	07	944	577			577		U
242	0708610F	Logistics Information Technology (LOGIT)	07	47,141	119,327			119,327	95,238	U
243	0708611F	Support Systems Development	07	50,990	15,873			15,873	10,925	U
244	0804743F	Other Flight Training	07	322	349			349	1,347	U
245	0808716F	Other Personnel Activities	07	110	117			117	65	U
246	0901202F	Joint Personnel Recovery Agency	07	2,407	2,018			2,018	1,083	U
247	0901218F	Civilian Compensation Program	07	1,581	1,561			1,561	1,577	U
248	0901220F	Personnel Administration	07	1,010	7,634			7,634	5,990	U
249	0901226F	Air Force Studies and Analysis Agency	07	900	1,175			1,175	786	U
250	0901279F	Facilities Operation - Administrative	07	11,745	3,491			3,491	654	U
251	0901538F	Financial Management Information Systems Development	07	76,207	100,160			100,160	135,735	U
252	0902998F	Management HQ - ADP Support (AF)	07	290						U
9999	9999999999	Classified Programs		12,045,846	11,172,183	53,150		11,225,333	11,874,528	U
		Operational Systems Development		17,341,093	15,867,972			15,921,122	16,297,542	
253	0901560F	Continuing Resolution Programs	20		1,214,214			1,214,214		U
		Undistributed			1,214,214			1,214,214		
Total Research, Development, Test & Eval, AF				26,630,843	26,642,260			26,695,410	25,702,946	

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Budget Activity 03: Advanced Technology Development (ATD)
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26	03	0603788F	Battlespace Knowledge Development and Demonstration	Volume 1 - 309
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Budget Activity 05: System Development & Demonstration (SDD)
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Rapid Cyber Acquisition	0305881F	224	07	Volume 3b - 581
Readiness Training Ranges, Operations and Maintenance	0207604F	93	05	Volume 2 - 843
Region/Sector Operation Control Center Modernization Program	0102326F	128	07	Volume 3a - 171
Requirements Analysis and Maturation	0604337F	47	04	Volume 2 - 243
Rocket Systems Launch Program (SPACE)	0605860F	105	06	Volume 2 - 939

Program Element Title	Program Element Number	Line Item	Budget Activity	Page
Satellite Control Network (SPACE)	0305110F	193	07	Volume 3b - 193
Security and Investigative Activities	0305128F	199	07	Volume 3b - 243
Seek Eagle	0207590F	163	07	Volume 3a - 565
Service Support to STRATCOM - Space Activities	0105921F	54	04	Volume 2 - 315
Shared Early Warning (SEW)	0308699F	229	07	Volume 3b - 627
Small Business Innovation Research	0605502F	102	06	Volume 2 - 921
Small Diameter Bomb (SDB) - EMD	0604329F	66	05	Volume 2 - 467
Space Based Infrared System (SBIRS) High EMD	0604441F	70	05	Volume 2 - 545
Space Control Technology	0603438F	32	04	Volume 2 - 77
Space Innovation, Integration and Rapid Technology Development	0305174F	207	07	Volume 3b - 293
Space Protection Program (SPP)	0603830F	36	04	Volume 2 - 127
Space Situation Awareness Operations	0305940F	227	07	Volume 3b - 607
Space Situation Awareness Systems	0604425F	68	05	Volume 2 - 497
Space Superiority Intelligence	0301400F	179	07	Volume 3b - 1
Space Technology	0602601F	9	02	Volume 1 - 121
Space Test Program (STP)	0605864F	106	06	Volume 2 - 943
Space and Missile Center (SMC) Civilian Workforce	0606392F	110	06	Volume 2 - 963
Space and Missile Test and Evaluation Center	0305173F	206	07	Volume 3b - 285
Spacelift Range System (SPACE)	0305182F	209	07	Volume 3b - 307

Program Element Title	Program Element Number	Line Item	Budget Activity	Page
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Specialized Undergraduate Flight Training	0604233F	61	05	Volume 2 - 389
Strat War Planning System - USSTRATCOM	0101313F	125	07	Volume 3a - 137
Strategic Aerospace Intelligence System Activities	0102823F	129	07	Volume 3a - 179
Submunitions	0604604F	72	05	Volume 2 - 595
Support Systems Development	0708611F	243	07	Volume 3b - 807
Support to DCGS Enterprise	0305240F	221	07	Volume 3b - 531
Sustainment Science and Technology (S&T)	0603199F	15	03	Volume 1 - 197
Tactical AIM Missiles	0207161F	139	07	Volume 3a - 305
Tactical Air Control Party-Mod	0207444F	158	07	Volume 3a - 505
Tactical Airborne Control Systems	0207418F	153	07	Volume 3a - 467
Tactical Data Networks Enterprise	0604281F	64	05	Volume 2 - 439
Tech Transition Program	0604858F	53	04	Volume 2 - 309
Technology Transfer	0604317F	44	04	Volume 2 - 221
Test and Evaluation Support	0605807F	104	06	Volume 2 - 931
Theater Battle Management (TBM) C4I	0207438F	157	07	Volume 3a - 497
Threat Simulator Development	0604256F	99	06	Volume 2 - 897
Three Dimensional Long-Range Radar (3DELRR)	0207455F	55	04	Volume 2 - 323
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Program Element Title	Program Element Number	Line Item	Budget Activity	Page
University Research Initiatives	0601103F	2	01	Volume 1 - 17
WIDEBAND GLOBAL SATCOM (SPACE)	0605433F	89	05	Volume 2 - 805
Warfighter Rapid Acquisition Process (WRAP) Rapid Transition Fund	0203761F	130	07	Volume 3a - 185
Wargaming and Simulation Centers	0207605F	165	07	Volume 3a - 603
Weather Service	0305111F	194	07	Volume 3b - 201
Weather System Follow-on	0604422F	48	04	Volume 2 - 259
Wide Area Surveillance	0604445F	117	07	Volume 3a - 21
Wideband Global SATCOM RDT&E (Space)	0603854F	39	04	Volume 2 - 187

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Fiscal Year (FY) 2014 Budget Estimates
RDT&E Descriptive Summaries
Budget Activities
April 2013

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 2014 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 2014 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
0301386F	GDIP COLLECTION MANAGEMENT
0304111F	SPECIAL ACTIVITES
0304311F	SELECTED ACTIVITIES
0304348F	ADVANCED GEOSPATIAL INTELLIGENCE (AGI)
0305124F	SPECIAL APPLICATIONS PROGRAM
0305127F	FOREIGN COUNTERINTELLIGENCE ACTIVITES
0305159F	DEFENSE RECONNAISSANCE SUPPORT ACTIVITIES
0305172F	COMBINED ADVANCED APPLICATIONS
0605798F	ANALYSIS SUPPORT GROUP

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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)		
None		
BUDGET ACTIVITY #3: ADVANCED TECHNOLOGY DEVELOPMENT (Volume 1)		
0603270F	ELECTRONIC COMBAT TECHNOLOGY	In FY 2014, Project 632432 activities are transferred to Project 63431G to better align efforts.
BUDGET ACTIVITY #4: ADVANCED COMPONENT DEVELOPMENT AND PROTOTYPE (Volume 2)		
0105921F	SERVICE SUPPORT TO STRATCOM - SPACE ACTIVITIES	In FY 2014, Svc Supt to Stratcom does not include New Start efforts but does reinstate RDT&E funding to the Joint Navigation Warfare Center (JNWC). For FY12 and prior years, funding for JNWC resided in PE0101313F as RDT&E Funds. In the FY13 POM, JNWC requested ~70% of their $9.6M funding be recolored to reflect increased O&M role and 30% remain as RDT&E. Funds to remain as RDT&E were incorrectly zeroed out by AF Panel under assumption that COCOM didn't need RDT&E funding. This is an effort to restore RDT&E funding in FY14 to support RDT&E activities with the right appropriation.
0207455F	THREE DIMEN LONG RANGE RADAR (3DELRR)	In FY 2014, Project 6002, Three Dimensional Expeditionary Long Range Radar (3DELRR), efforts were transferred from PE 0604283F, Battle Management Command and Control (BMC2) Sensor Development, Project 6002, in order to provide this program its own Program Element. Totals include funding for PRCP Program Number (PNO) 393, 3DELRR. In FY 2014, this is a new start.

PROGRAM ELEMENT (BY BUDGET ACTIVITY)

0603430F	ADVANCED (EHF MILSATCOM (SPACE)	In FY 2014, 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.
0603432F	POLAR MILSATCOM (SPACE)	In FY 2014, 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.
0603850F	INTEGRATED BROADCAST SERVICE (DEM/VAL)	In FY 2014, Project 644778, Integrated Broadcast Service, efforts transferred to PE 0305179F, Integrated Broadcast Service, Project Number 674779, Integrated Broadcast Service, in order to realign funds in support of transition to sustainment.
0603854F	WIDEBAND MILSATCOM (SPACE)	In FY 2014, Project 644870, Command and Control System Consolidated (CCS-C), efforts transferred to PE 0605433F, Wideband Global SATCOM (Space), Project 657102, Command and Control System Consolidated (CCS-C), in order to transitions to Budget Activity 5.
0603860F	JOINT PRECISION APPROACH AND LANDING SYSTEMS - DEM/VAL	In FY 2014, JPALS is an Acquisition Category 1D program. System development includes an incremental approach employing a family of Land-Based (fixed and deployable) and Sea-based systems. On 16 March 2007, the Joint Requirements Oversight Council (JROC) approved the Capability Development Document (CDD) for the JPALS family of systems and Increment 1 for the Sea-Based System and designated the Navy as the JPALS lead Department of Defense (DoD) Service and lead Component for the Sea-Based System. On 19 January 2010, the JROC approved Increment 2 CDD for the Land-Based System and designated the Air Force as the lead Component for the Land-Based System. As reflected in the JPALS CDD, JPALS was intended to be the next generation precision approach and landing system which would provide a common interoperable system for both DoD and civil use. A cornerstone of the JPALS implementation strategy was parallel development and implementation with the FAA Local Area Augmentation System (LAAS) which was based on the same GPS Ground Based Augmentation System (GBAS) technology. However, since the CDD was approved, the pace of the FAA LAAS implementation and phase down of the legacy instrument landing system has slowed. This, combined with the several billion dollar cost for aircraft equipage and the need to fund higher Air Force priorities, resulted in the Air Force delaying JPALS implementation for the foreseeable future. The Army has also delayed JPALS implementation beyond the current future years defense plan. As JPALS is now early to need for the Air Force, Land-Based Increment 2 development responsibility is being transferred from the Air Force to the Navy. The Navy has a near term need in FY17 for a shore based system to support Joint Strike Fighter carrier landing training ashore. The Air Force will monitor the progress of

PROGRAM ELEMENT (BY BUDGET ACTIVITY)

		JPALS implementation but, in the interim, continue the use of the legacy Instrument Landing System (ILS). ILS is supportable through the 2030 timeframe and, in its fixed and deployable configuration, will provide an effective and affordable landing system capability. The Air Force will also retain a limited number mobile precision approach radars to provide joint Service interoperability at deployed location as all Navy and Army aircraft are not ILS equipped.
0604283F	BMC2 SENSOR DEVELOPMENT	In FY 2014, Project 6002, Three Dimensional Expeditionary Long Range Radar (3DELRR), transferred to PE 0207455F, Three Dimensional Expeditionary Long Range Radar (3DELRR), Project 6002, in order to provide this pre-Major Defense Acquisition Program its own Program Element.
0604458F	AIR AND SPACE OPERATIONS CENTER (AOC) INCREMENT 10.2	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 for this major program. AOC 10.2 is PRCP Program Number (PNO) N42. In FY 2014, this is a new start.
0604618F	JOINT DIRECT ATTACK MUNITION	In FY 2014, this is a New Start.

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

0401318F	CV-22	In FY 2014, Enhanced Self Deployment Capabilities has been expanded to include new start efforts for Area Navigation (Global Positioning System) [RNAV (GPS)]. In FY 2014, the Improved Inlet Solution project includes new start efforts.
0603260F	INTELLIGENCE ADVANCED DEVELOPMENT	In FY 2014, Project Number 652053, National Air Intelligence Center, efforts were transferred from PE 0604750F, Intelligence Equipment, Project Number 652053, National Air Intelligence Center, in order to increase management efficiency, reduce administrative actions, and ensure continued minimization of effort duplication. In FY 2014, this is a new start.

PROGRAM ELEMENT (BY BUDGET ACTIVITY)

0604222F	NUCLEAR WEAPONS SUPPORT	In FY 2014, the engineering analysis project is documented in O&M PE 0104222. In FY 2014, radiological and nuclear (RN) efforts were transferred from project 654807 to the Engineering Analysis project in O&M PE 0104222. In FY 2014 the Nuclear Surety and Certification effort was transferred to the Engineering Analysis program code in O&M PE 0104222.
0604280F	JOINT TACTICAL RADIO SYSTEMS (JTRS)	In FY 2014, Project 655068, Joint Tactical Radio System (JTRS) efforts transferred to PE 0605030F, Joint Tactical Network Center, Project 655068, Joint Tactical Radio System in order to better identify Air Force efforts for this program.
0604281F	TACTICAL DATA NETWORKS ENTERPRISE	In FY 2014, Project Number 657003, Airborne Networking Enterprise, received funds for a classified effort. This is a New Start. This is a classified effort. Details provided upon request.
0604425F	SPACE SITUATIONAL AWARENESS SYSTEMS	In FY 2014, Project 65A026, C-Band Radar is a new start effort.
0604602F	ARMAMENT/ORDNANCE DEVELOPMENT	In FY 2014, Project 653134, BLU-109 and BLU-113 Upgrade, includes new start efforts.
0604617F	AGILE COMBAT SUPPORT	In FY 2014, Project 652895, Civil Engineering Readiness, includes a Basic Airfield Expeditionary Resources (BEAR) New Start.
0604706F	LIFE SUPPORT SYSTEMS	In FY 2014, Project 65412A, Life Support Systems, includes a New Start for Aircrew Laser Eye Protection Block III.
0604750F	INTELLIGENCE EQUIPMENT	In FY 2014, Project Number 652053, National Air Intel Center, efforts transferred to PE 0603260F (BA5), Intelligence Advanced Development, Project Number 652053, National Air Intel Center, in order to increase management efficiency, reduce administrative actions, and ensure continued minimization of effort duplication.
0604851F	ICBM - EMD	In FY 2014, Project Number 655037, Support Equipment, includes the new start efforts for the Instrumentation Wafer Replacement Program (IWRP) and the Signal Conditioner Monitor Group (SCMG) replacement.
0605431F	ADVANCED EHF MILSATCOM (SPACE)	In FY 2014, 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. In FY 2014, this is a new start.

PROGRAM ELEMENT (BY BUDGET ACTIVITY)

0605432F	POLAR MILSATCOM (SPACE)	In FY 2014, this is a new Program Element, new start. In FY 2014, 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.
0605433F	WIDEBAND GLOBAL SATCOM RDT&E (SPACE)	In FY 2014, this is a new Program Element, new start. In FY 2014, 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.

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

None

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

0101126F	B-1B SQUADRONS	In FY 2014, this is a New Start to replace EMD LRUs for CITS, FIDL and VSDU on two RDT&E funded test jets.
0207410F	AIR AND SPACE OPERATIONS CENTER WEAPON SYSTEM (AOC WS)	In FY 2014, project number 675117, Integration Development, AOC Increment 10.2 efforts transferred to PE 0604458F, AOC Increment 10.2, project number 644945, AOC Increment 10.2, in order to improve transparency for this major program. AOC Inc. 10.2 is PRCP Program Number (PNO) N42. In FY 2014, the Personnel Recovery Command and Control (PRC2) efforts transferred from project number 675218, Applications Development, to project number 675221, Personnel Recovery Command and Control (PRC2), in order to improve transparency for this Joint use application.

PROGRAM ELEMENT (BY BUDGET ACTIVITY)

0207449F	C2 CONSTELLATION	In FY 2014, Project 675140, Joint Expeditionary Force Experiments (JEFX), was terminated and $9.479M was reprogrammed to meet Air Force higher priority needs.
0208006F	MISSION PLANNING SYSTEMS	In FY 2014, All MPS Modernization efforts will be centralized in project 675380 starting in FY14, including efforts previously found in project 673858.
0208021F	INFORMATION WARFARE SUPPORT	In FY 2014, 670374, Tech & Spt efforts, 670374, were transferred to PE 0305221F, Network Centric Collaborative Targeting, 675197, NCCT Core Technology, to better support and align with the Suter Program System (SPS).
0208087F	AF OFFENSIVE CYBERSPACE OPERATIONS	In FY 2014, 670374, Tech & Spt, efforts will transfer from PE 0305887F, Electronic Combat Intel Support, to PE 0208087F, Offensive Cyber Operations, 670375, Network Warfare Systems and Support, in order to align offensive cyber programs and projects under one program element. In FY 2014, this is a new start.
0208088F	AF DEFENSIVE CYBERSPACE OPERATIONS	In FY 2014, Information Systems Security Program 667820 RDTE: Firestarter efforts transferred to PE 0208088F, AF Defensive Cyberspace Operations, 667820, Computer Security RDTE: Firestarter, in order to align defensive cyber programs and projects. In FY 2014, this is a new start.
0302015F	E-4B NATIONAL AIRBORNE OPERATIONS CENTER	In FY 2014, PE 0302015F, E-4B National Airborne Operations Center includes new start efforts.
0303131F	MINIMUM ESSENTIAL EMERGENCY COMMUNICATIONS NETWORK (MEECN)	In FY 2014, Funding for this exhibit 667820 contained in PE 0208088F.
0303601F	MILSATCOM TERMINALS	In FY 2014, FY12 Congressional Add funding of $42M for FAB-T Alternative is executed from project 672489 within this program element. FY13 funding for FAB-T continues in project 672487 within this program element. FY14 funding for FAB-T continues in project 672490 within this program element. This project was funded prior to FY14 in project 672487 and 672489 within this program.
0304260F	AIRBORNE SIGINT ENTERPRISE (JMIP)	In FY 2014, 675184, RQ-4, efforts were transferred to 675181, High Altitude SIGINT, to provide visibility into all activities for both manned and unmanned high altitude platforms. PMA costs for this project will be covered under Common Development, 675183.

PROGRAM ELEMENT (BY BUDGET ACTIVITY)

0305145F	ARMS CONTROL IMPLEMENTATION	In FY 2014, 675063, Open Skies Sensors includes new start efforts. In FY14 funding totals include $1.430M. The Open Skies Sensor program is per the direction of the Presidential Policy Directive-15 (PPD-15).
0305179F	INTEGRATED BROADCAST SERVICE	In FY 2014, Project 674779, Integrated Broadcast Service, efforts were transferred from PE 0603850F, Integrated Broadcast Service (Dem/Val), Project Number 644778, Integrated Broadcast Service, in order to realign funds in support of transition to sustainment. In FY 2014, this is a new start.
0305205F	ENDURANCE UNMANNED AERIAL VEHICLES	In FY 2014, Reduction of $5M in FY 2014 due to higher Department priorities.
0305206F	AIRBORNE RECONNAISSANCE SYSTEMS	In FY 2014, reduction of $7.889M due to higher Department priorities.
0305208F	DISTRIBUTED COMMON GROUND SYSTEMS	In FY 2014, Project 676028, Dynamic Time Critical Warfighting Capability, is being terminated because the technology development has not met objective requirements and thus has not been fielded in an operational capacity.
0305221F	NETWORK CENTRIC COLLABORATIVE TARGETING	In FY 2014, and through the FYDP, RDT&E funding for Information Operations Battle Management/SUTER Program System software (IOBM/SPS) is embedded in the Network Centric Collaborative Targeting (NCCT) Core Technology project. The funding in the Network Centric Collaborative Targeting (NCCT) RDT&E appropriation associated with Information Operations Battle Management/SUTER Program System software (IOBM/SPS BPAC 675274) is as follows: $2.235M in FY 2014, $2.265M in FY 2015, $2.331M in FY 2016, $2.540M in FY 2017, and $2.586M in FY 2018. The remaining RDT&E funding is associated with Core Technology (BPAC 675197) is as follows: $7.458M in FY 2014, $7.602M in FY 2015, $7.814M in FY 2016, $8.112M in FY 2017, and $8.258M in FY 2018.
0305887F	ELECTRONIC COMBAT INTELLIGENCE SUPPORT	In FY 2014, 670374, Tech & Spt, efforts will transfer from PE 0305887F, Electronic Combat Intel Support, to PE 0208087F, Offensive Cyber Operations, 670375, Network Warfare Systems and Support, in order to align offensive cyber programs and projects under one program element.
0604445F	WIDE AREA SURVEILLANCE	In FY 2014, Project 675895, Wide Area Surveillance includes new start efforts.
0708610F	LOGISTICS INFORMATION TECHNOLOGY (LOGIT)	In FY 2014, Project 675207, Logistics IT System Modernization includes New Start efforts.

PROGRAM ELEMENT (BY BUDGET ACTIVITY)

0708611F	SUPPORT SYSTEMS DEVELOPMENT	In FY 2014, project 673318, Product Data Systems Modernization (PDSM), efforts were transferred from PE 0708012F, Logistics Support Activities, project 673318, Product Data Systems Modernization (PDSM), to PE 0708611F, Support Systems Development (SSD), to better align with RDT&E activities supported by PE 0708611F, Support Systems Development (SSD).
0804743F	OTHER FLIGHT TRAINING	In FY 2014, Project 675304, Aviation Resource Management System (ARMS) is a new start effort.
0901538F	FIRST	In FY 2014, project 675177, Cost Estimating Modeling (CEM) includes new start efforts.

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force											DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*					R-1 ITEM NOMENCLATURE PE 0603260F: *Intelligence Advanced Development*							
COST ($ in Millions)	**All Prior Years**	**FY 2012**	**FY 2013#**	**FY 2014 Base**	**FY 2014 OCO ##**	**FY 2014 Total**	**FY 2015**	**FY 2016**	**FY 2017**	**FY 2018**	**Cost To Complete**	**Total Cost**
Total Program Element	-	4.013	3.866	3.983	-	3.983	4.352	4.334	8.814	8.973	Continuing	Continuing
643479: *Advanced Sensor Exploitation*	-	0.773	0.401	0.552	-	0.552	0.569	0.734	1.750	1.782	Continuing	Continuing
643480: *Automated Imagery Exploitation*	-	0.919	2.452	1.575	-	1.575	1.200	0.990	2.006	2.042	Continuing	Continuing
643481: *Knowledge Based Tech For Intelligence*	-	1.596	0.542	0.790	-	0.790	1.200	1.740	3.520	3.583	Continuing	Continuing
643482: *Science & Tech Intelligence Methodology*	-	0.725	0.471	1.066	-	1.066	1.383	0.870	1.538	1.566	Continuing	Continuing

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 OCO Request will be submitted at a later date

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 into 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) into 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 (AF ISR Agency). 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 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 2014 Air Force					DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*			R-1 ITEM NOMENCLATURE PE 0603260F: *Intelligence Advanced Development*		
B. Program Change Summary ($ in Millions)	**FY 2012**	**FY 2013**	**FY 2014 Base**	**FY 2014 OCO**	**FY 2014 Total**
Previous President's Budget	4.013	3.866	3.983	-	3.983
Current President's Budget	4.013	3.866	3.983	-	3.983
Total Adjustments	0.000	0.000	0.000	-	0.000
• Congressional General Reductions	-	0.000			
• Congressional Directed Reductions	-	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	-	0.000			
• Congressional Directed Transfers	-	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	0.000	0.000	0.000	-	0.000

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603260F: *Intelligence Advanced Development*	PROJECT 643479: *Advanced Sensor Exploitation*	

COST ($ in Millions)	All Prior Years	FY 2012	FY 2013#	FY 2014 Base	FY 2014 OCO ##	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
643479: *Advanced Sensor Exploitation*	-	0.773	0.401	0.552	-	0.552	0.569	0.734	1.750	1.782	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 OCO Request will be submitted at a later date

Note

In FY2014 643479, Advanced Sensor Exploitation includes a new start effort.

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 needs 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 replace 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 2012	FY 2013	FY 2014
Title: Smart Target Folders	0.765	0.395	0.150
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 2012 Accomplishments: Released prototype 1.0; initiated new prototype Development based on user evaluation of prototype release 1.0.			
FY 2013 Plans: Continuing prototype development and refinement.			
FY 2014 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603260F: *Intelligence Advanced Development*	PROJECT 643479: *Advanced Sensor Exploitation*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Will release prototype 1.1 to users for evaluation in realistic operating environment; will incorporate user feedback and complete development of final prototype			
Title: ELINT Synchronization ***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 2012 Accomplishments:*** N/A ***FY 2013 Plans:*** N/A ***FY 2014 Plans:*** Will initiate prototype development of a software capability that provides automated screening of technical ELINT data through further development of applications in signals characterization and database matching algorithms.	0.000	0.000	0.394
Title: PMA ***Description:*** PMA costs (including supplies and travel) support management with engineering and technical support for development and implementation. ***FY 2012 Accomplishments:*** PMA costs (including supplies and travel) supported management with engineering and technical support for development and implementation. ***FY 2013 Plans:*** PMA costs (including supplies and travel) support management with engineering and technical support for development and implementation. ***FY 2014 Plans:*** PMA costs (including supplies and travel) will support management with engineering and technical support for development and implementation.	0.008	0.006	0.008
Accomplishments/Planned Programs Subtotals	0.773	0.401	0.552

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603260F: *Intelligence Advanced Development*	PROJECT 643479: *Advanced Sensor Exploitation*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• None: *N/A*	0.000	0.000	0.000		0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

Remarks

D. Acquisition Strategy

Requirements for new advanced sensor exploitation technologies are gathered 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 the 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-3, RDT&E Project Cost Analysis: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603260F: *Intelligence Advanced Development*	PROJECT 643479: *Advanced Sensor Exploitation*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Initiate Smart Target Folders	C/CPFF	Intelligent Software Solutions:Colorado Springs, CO	-	0.765	Nov 2011	0.395	Nov 2012	0.150	Nov 2013	-		0.150	Continuing	Continuing	TBD
ELINT Sync	C/TBD	TBD:TBD,	-	0.000		0.000		0.394	Nov 2013	-		0.394	Continuing	Continuing	TBD
		Subtotal	0.000	0.765		0.395		0.544		0.000		0.544			

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
PMA	Various	Air Force Research Laboratory - Information Directorate:Rome, NY	-	0.008	Oct 2011	0.006	Oct 2012	0.008	Oct 2013	-		0.008	Continuing	Continuing	TBD
		Subtotal	0.000	0.008		0.006		0.008		0.000		0.008			

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603260F: *Intelligence Advanced Development*	PROJECT 643479: *Advanced Sensor Exploitation*	

	All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	0.773		0.401		0.552		0.000		0.552			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603260F: *Intelligence Advanced Development*	PROJECT 643479: *Advanced Sensor Exploitation*

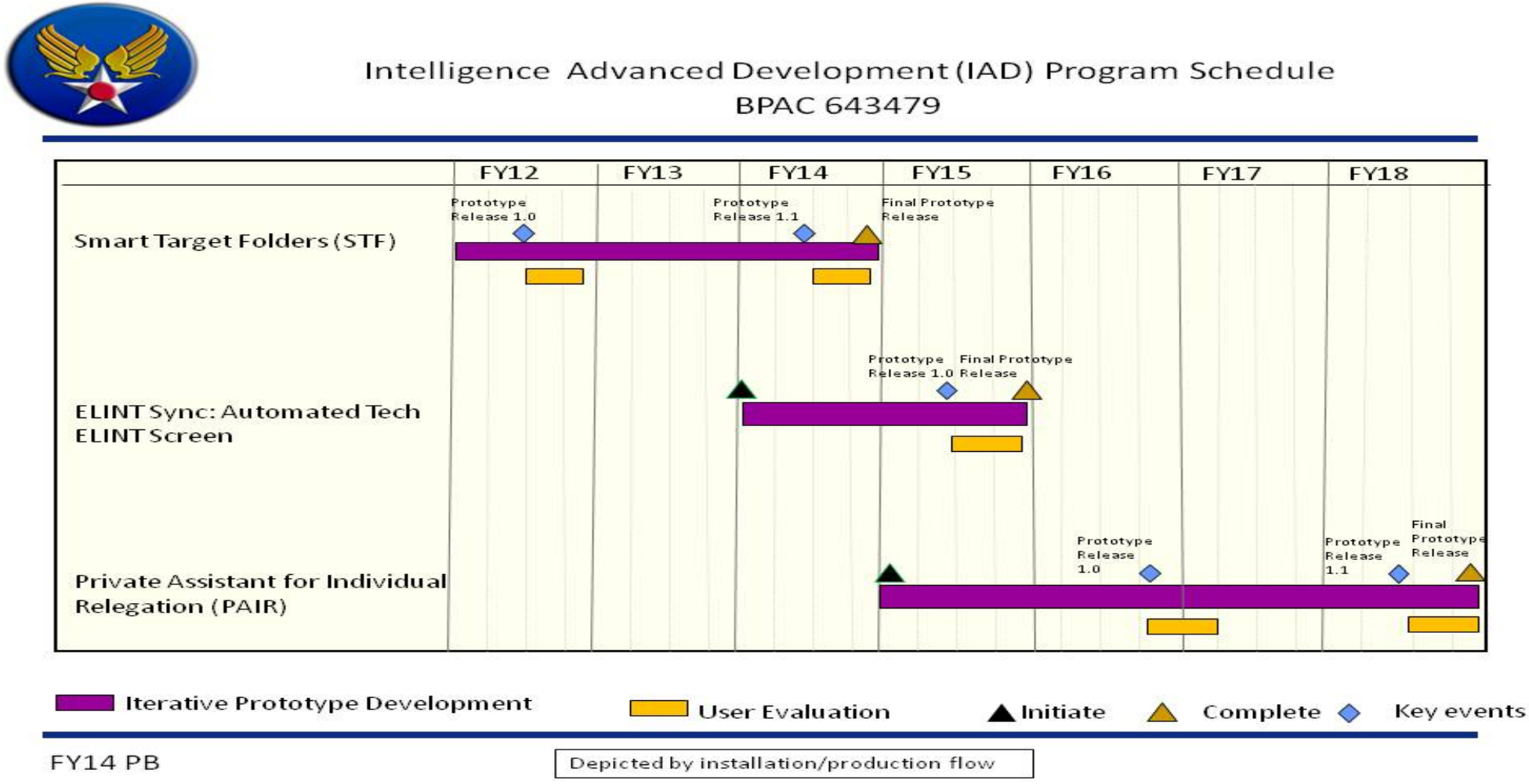


Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603260F: *Intelligence Advanced Development*	PROJECT 643479: *Advanced Sensor Exploitation*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Smart Target Folders (STF) Prototype Development	1	2012	4	2014
STF Prototype Release 1.0	2	2012	2	2012
Conduct User Evaluation STF Prototype 1.0	3	2012	4	2012
STF Prototype Release 1.1	2	2014	2	2014
Conduct User Evaluation STF Prototype 1.1	3	2014	4	2014
Release Final STF Prototype	4	2014	4	2014
ELINT Synchronization Prototype Development	1	2014	4	2015
ELINT Synchronization Prototype Release 1.0	2	2015	2	2015
ELINT Sychronization Prototype User Evaluation	2	2015	4	2015
ELINT Synchronization Final Prototype Release	4	2015	4	2015
Private Assistant for Individual Relegation (PAIR) Development	1	2015	4	2018
PAIR Prototype Release 1.0	4	2016	4	2016
PAIR Prototype User Evaluation	4	2016	1	2017
PAIR Prototype Release 1.1	2	2018	2	2018
PAIR User Evaluation - Prototype 1.1	2	2018	4	2018
PAIR Final Prototype Release	4	2018	4	2018

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603260F: *Intelligence Advanced Development*	PROJECT 643480: *Automated Imagery Exploitation*	

COST ($ in Millions)	All Prior Years	FY 2012	FY 2013#	FY 2014 Base	FY 2014 OCO ##	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
643480: *Automated Imagery Exploitation*	-	0.919	2.452	1.575	-	1.575	1.200	0.990	2.006	2.042	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 OCO Request will be submitted at a later date

Note

In FY2014, 643480, Automated Imagery Exploitation includes a new start effort.

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; all 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 2012	FY 2013	FY 2014
Title: Persistent Surveillance (PS) ***Description:*** Integrates emerging technologies to seamlessly mesh and optimize various ISR sources to achieve persistent surveillance over the battlefield. ***FY 2012 Accomplishments:*** Continued prototype development. ***FY 2013 Plans:*** Release prototype 1.2 to users for evaluation in realistic operating environment; incorporate user feedback into final prototype. ***FY 2014 Plans:*** N/A	0.111	0.750	0.000
Title: Digital Library Input Processing System (DLIPS) ***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.	0.111	0.894	0.754

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603260F: *Intelligence Advanced Development*	PROJECT 643480: *Automated Imagery Exploitation*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
FY 2012 Accomplishments: Continued prototype development. ***FY 2013 Plans:*** Releasing prototype 1.1 and conducting user evaluation. ***FY 2014 Plans:*** Will release prototype 1.2, will conduct user evaluation; will incorporate user feedback and complete development of final prototype.			
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 2012 Accomplishments:*** Continued prototype development. ***FY 2013 Plans:*** Releasing prototype 1.0 and conducting user evaluation in realistic operating environment. ***FY 2014 Plans:*** Will release prototype 1.1 to users for evaluation in realistic operating envirnonment; will incorporate user feedback and complete development of final prototype.	0.388	0.499	0.297
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 2012 Accomplishments:*** Continued development of prototype. ***FY 2013 Plans:*** Releasing prototype 1.0 and conducting user evaluation. ***FY 2014 Plans:***	0.300	0.300	0.300

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603260F: *Intelligence Advanced Development*	PROJECT 643480: *Automated Imagery Exploitation*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Will release prototype 1.1 to users for evaluation in realistic operating environment; will incorporate user feedback and complete development of final prototype.			
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 2012 Accomplishments:*** N/A ***FY 2013 Plans:*** N/A ***FY 2014 Plans:*** Will initiate prototype development of 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.	0.000	0.000	0.215
Title: PMA ***Description:*** PMA costs (including supplies and travel) support management with engineering and technical support for development and implementation. ***FY 2012 Accomplishments:*** PMA costs (including supplies and travel) supported management with engineering and technical support for development and implementation. ***FY 2013 Plans:*** PMA costs (including supplies and travel) support management with engineering and technical support for development and implementation. ***FY 2014 Plans:*** PMA costs (including supplies and travel) will support management with engineering and technical support for development and implementation.	0.009	0.009	0.009
Accomplishments/Planned Programs Subtotals	0.919	2.452	1.575

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603260F: *Intelligence Advanced Development*	PROJECT 643480: *Automated Imagery Exploitation*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• None: *N/A*	0.000	0.000	0.000		0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

Remarks

None

D. Acquisition Strategy

Requirements for new computer assisted techniques for interpretation of digital imagery and video are gathered and prioritized by the Air Force Intelligence, Surveillance, and Reconnaissance Agency (AFISRA), formerly the Air Intelligence Agency. 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.

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 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603260F: *Intelligence Advanced Development*	PROJECT 643480: *Automated Imagery Exploitation*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Persistent Surveillance	C/CPFF	Sierra Nevada:Sparks, NV	-	0.111	Oct 2011	0.750	Mar 2013	0.000		-		0.000	0.000	0.861	0.984
Digital Library Input Processing System (DLIPS)	C/CPFF	Northrop Grumman:Dayton, OH	-	0.111	Oct 2011	0.900	Oct 2012	0.754	Oct 2013	-		0.754	Continuing	Continuing	TBD
Emitter Location Systems Modeling (ELSM)	C/CPFF	Information Systems Laboratory:San Diego, CA	-	0.397	Oct 2011	0.502	Oct 2012	0.297	Oct 2013	-		0.297	Continuing	Continuing	TBD
REAPER	C/CPFF	SAIC:McLean, VA	-	0.291	Oct 2011	0.291	Oct 2012	0.300	Oct 2013	-		0.300	Continuing	Continuing	TBD
Electronics Exploitation	C/TBD	TBD:TBD,	-	0.000		0.000		0.215	Oct 2013	-		0.215	Continuing	Continuing	TBD
		Subtotal	0.000	0.910		2.443		1.566		0.000		1.566			

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
PMA	Various	AFRL - Information Directorate:Rome, NY	-	0.009	Oct 2011	0.009	Oct 2012	0.009	Oct 2013	-		0.009	Continuing	Continuing	TBD

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603260F: *Intelligence Advanced Development*	PROJECT 643480: *Automated Imagery Exploitation*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.009		0.009		0.009		0.000		0.009			

	All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	0.919		2.452		1.575		0.000		1.575			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603260F: *Intelligence Advanced Development*	PROJECT 643480: *Automated Imagery Exploitation*

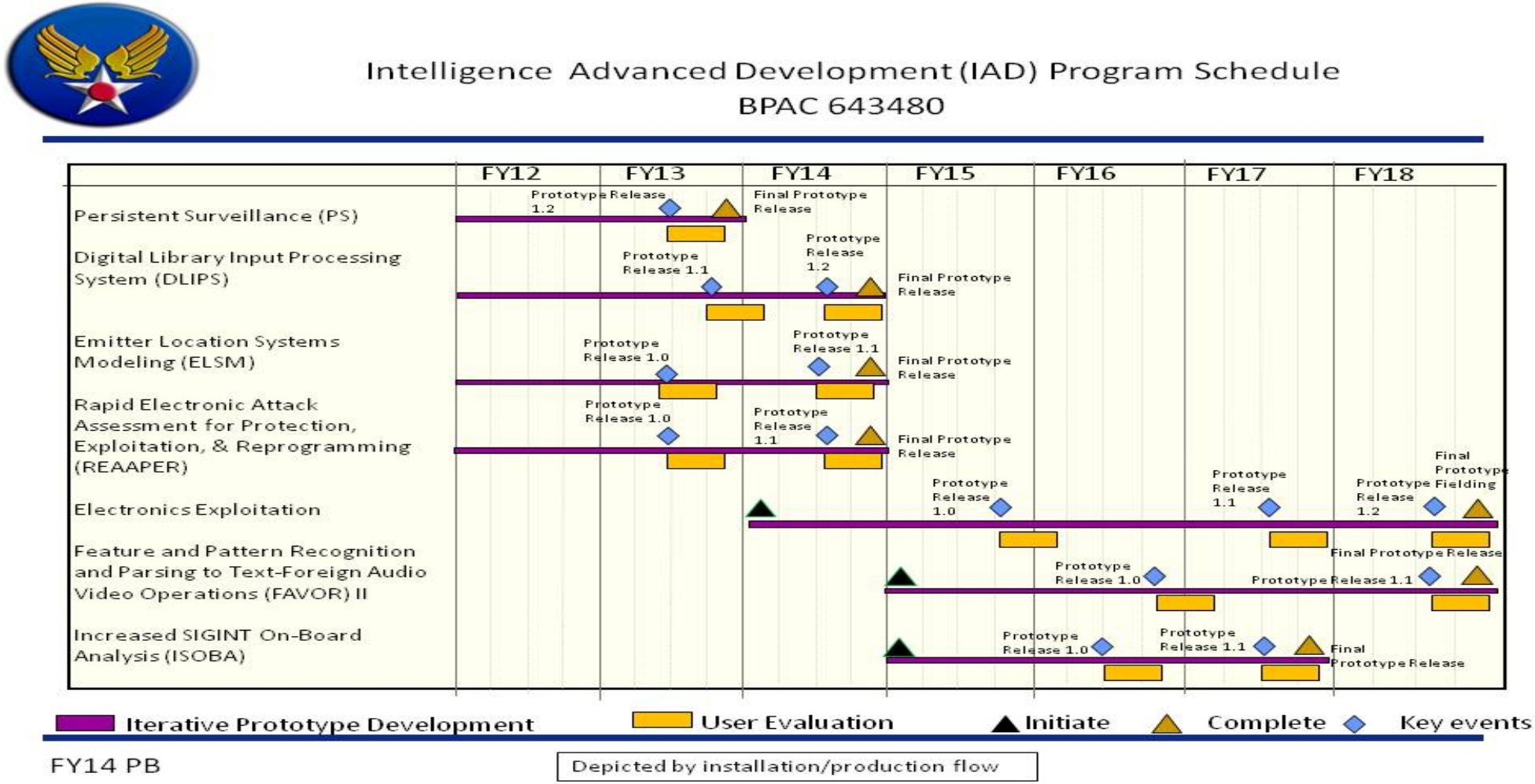


Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0603260F: *Intelligence Advanced Development*	**PROJECT** 643480: *Automated Imagery Exploitation*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Persistent Surveillance (PS) Prototype Development	1	2012	4	2013
Releasing PS Prototype 1.2	2	2013	2	2013
Conducting User Evaluation PS Spiral Prototype 1.2	2	2013	4	2013
Releasing Final PS Prototype	4	2013	4	2013
Digital Library Input Processing System (DLIPS) Prototype Development	1	2012	4	2014
Releasing DLIPS Prototype 1.1	4	2013	4	2013
Conducting User Evaluation of DLIPS Prototype 1.1	4	2013	1	2014
Releasing DLIPS Prototype 1.2	3	2014	3	2014
Will conduct user evaluation DLIPS Prototype 1.2	3	2014	4	2014
Will release Final DLIPS Prototype	4	2014	4	2014
Emitter Location Systems Modeling (ELSM) Prototype Development	1	2012	4	2014
Releasing ELSM Prototype 1.0	2	2013	2	2013
Conducting User Evaluation ELSM Prototype 1.0	2	2013	4	2013
Releasing ELSM Prototype 1.1	3	2014	3	2014
Will conduct ELSM Prototype 1.1 User Evaluation	3	2014	4	2014
Will release Final ELSM Prototype	4	2014	4	2014
Rapid Electronic Attack Assessment for Protection, Exploitation, and Reprogramming (REAAPER) Prototype Development	1	2012	4	2014
Releasing REAAPER Prototype 1.0	2	2013	2	2013
Conducting REAAPER Prototype 1.0 User Evaluation	2	2013	4	2013
Will release REAAPER Prototype 1.1	3	2014	3	2014
Will conduct REAAPER Prototype 1.1 User Evaluation	3	2014	4	2014

Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603260F: *Intelligence Advanced Development*	PROJECT 643480: *Automated Imagery Exploitation*

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Will release Final REAAPER Prototype	4	2014	4	2014
Electronics Exploitation Prototype Development	1	2014	4	2018
Will release Electronics Exploitation Prototype 1.0	4	2015	4	2015
Will conduct Electronics Exploitation Prototype 1.0 User Evaluation	4	2015	1	2016
Will release Electronics Exploitation Prototype 1.1	3	2017	3	2017
Will conduct Electronics Exploitation Prototype 1.1 User Evaluation	3	2017	4	2017
Will release Electronics Exploitation Prototype 1.2	3	2018	3	2018
Will conduct Electronics Exploitation Prototype 1.2 User Evaluation	3	2018	4	2018
Will release Final Electronics Exploitation Prototype	4	2018	4	2018
Feature and Pattern Recognition and Parsing to Text-Foreign Audio Video Operations (FAVOR) II Prototype Development	1	2015	4	2018
Will release FAVOR Prototype 1.0	4	2016	4	2016
Will conduct FAVOR Prototype 1.0 User Evaluation	4	2016	1	2017
Will release FAVOR Prototype 1.1	3	2018	3	2018
Will conduct FAVOR Prototype 1.1 User Evaluation	3	2018	4	2018
Will release Final FAVOR Prototype	4	2018	4	2018
Increased SIGINT On-Board Analysis (ISOBA) Product Development	1	2015	4	2017
Will release ISOBA Prototype 1.0	2	2016	2	2016
Will conduct ISOBA Prototype 1.0 User Evaluation	3	2016	4	2016
Will release ISOBA Prototype 1.1	3	2017	3	2017
Will conduct ISOBA Prototype 1.1 User Evaluation	3	2017	4	2017
Will release Final ISOBA Prototype	4	2017	4	2017

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603260F: *Intelligence Advanced Development*	PROJECT 643481: *Knowledge Based Tech For Intelligence*	

COST ($ in Millions)	All Prior Years	FY 2012	FY 2013#	FY 2014 Base	FY 2014 OCO ##	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
643481: *Knowledge Based Tech For Intelligence*	-	1.596	0.542	0.790	-	0.790	1.200	1.740	3.520	3.583	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 OCO Request will be submitted at a later date

Note

In FY2014, 643481, Knowledge Based Tech for Intelligence includes new start efforts.

A. Mission Description and Budget Item Justification

This project improves Global Awareness, Dynamic Planning, and Execution by providing knowledge bases and inference engines to exploit collected data for nine major commands and Air Force (AF) intelligence organizations. The development of the analytical aids is based on artificial intelligence techniques. The increased timeliness, efficiency and effectiveness derived 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 2012	FY 2013	FY 2014
Title: Dynamic ISR for Non-Traditional Adversarial Methods (DINTAM) ***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 2012 Accomplishments:*** Continued prototype development. ***FY 2013 Plans:*** Releasing prototype to users for evaluation in realistic operating environment; incorporating user feedback and completing development of final prototype. ***FY 2014 Plans:*** N/A	1.580	0.525	0.000
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.	0.000	0.000	0.485

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603260F: *Intelligence Advanced Development*	PROJECT 643481: *Knowledge Based Tech For Intelligence*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
FY 2012 Accomplishments: N/A ***FY 2013 Plans:*** N/A ***FY 2014 Plans:*** Will initiate prototype development of MMACPED system.			
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 2012 Accomplishments:*** N/A ***FY 2013 Plans:*** N/A ***FY 2014 Plans:*** Will initiate the 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.	0.000	0.000	0.288
Title: PMA ***Description:*** PMA costs (including supplies and travel) support management with engineering and technical support for development and implementation. ***FY 2012 Accomplishments:*** PMA costs (including supplies and travel) supported management with engineering and technical support for development and implementation. ***FY 2013 Plans:*** PMA costs (including supplies and travel) support management with engineering and technical support for development and implementation. ***FY 2014 Plans:***	0.016	0.017	0.017

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603260F: *Intelligence Advanced Development*	PROJECT 643481: *Knowledge Based Tech For Intelligence*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
PMA costs (including supplies and travel) will support management with engineering and technical support for development and implementation.			
Accomplishments/Planned Programs Subtotals	1.596	0.542	0.790

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• None: *N/A*	0.000	0.000	0.000		0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

Remarks

None

D. Acquisition Strategy

Requirements for new / improved analytical aids to exploit collected intelligence data are gathered and prioritized by the Air Force Intelligence, Surveillance and Reconnaissance Agency (AFISRA), formerly the Air Intelligence Agency. Development of new / improved capabilities to meet the 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-3, RDT&E Project Cost Analysis: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603260F: *Intelligence Advanced Development*	PROJECT 643481: *Knowledge Based Tech For Intelligence*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Dynamic ISR for Non-Traditional Adversarial Methods	C/Various	Northrop-Grumman Corp:Bellevue, NE	-	1.580	Oct 2011	0.525	May 2013	0.000		-		0.000	0.000	2.105	4.200
Multi-Source, Multi-Modal Analytical Collect, Process, Exploit and Disseminate (MMACPED) System	C/TBD	TBD:TBD,	-	0.000		0.000		0.485	Oct 2013	-		0.485	Continuing	Continuing	TBD
C2 Surrogate System Build Spec	C/TBD	TBD:TBD,	-	0.000		0.000		0.288	Oct 2013	-		0.288	Continuing	Continuing	TBD
		Subtotal	0.000	1.580		0.525		0.773		0.000		0.773			

Remarks

Both are IDIQ

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603260F: *Intelligence Advanced Development*	PROJECT 643481: *Knowledge Based Tech For Intelligence*

Management Services ($ in Millions)

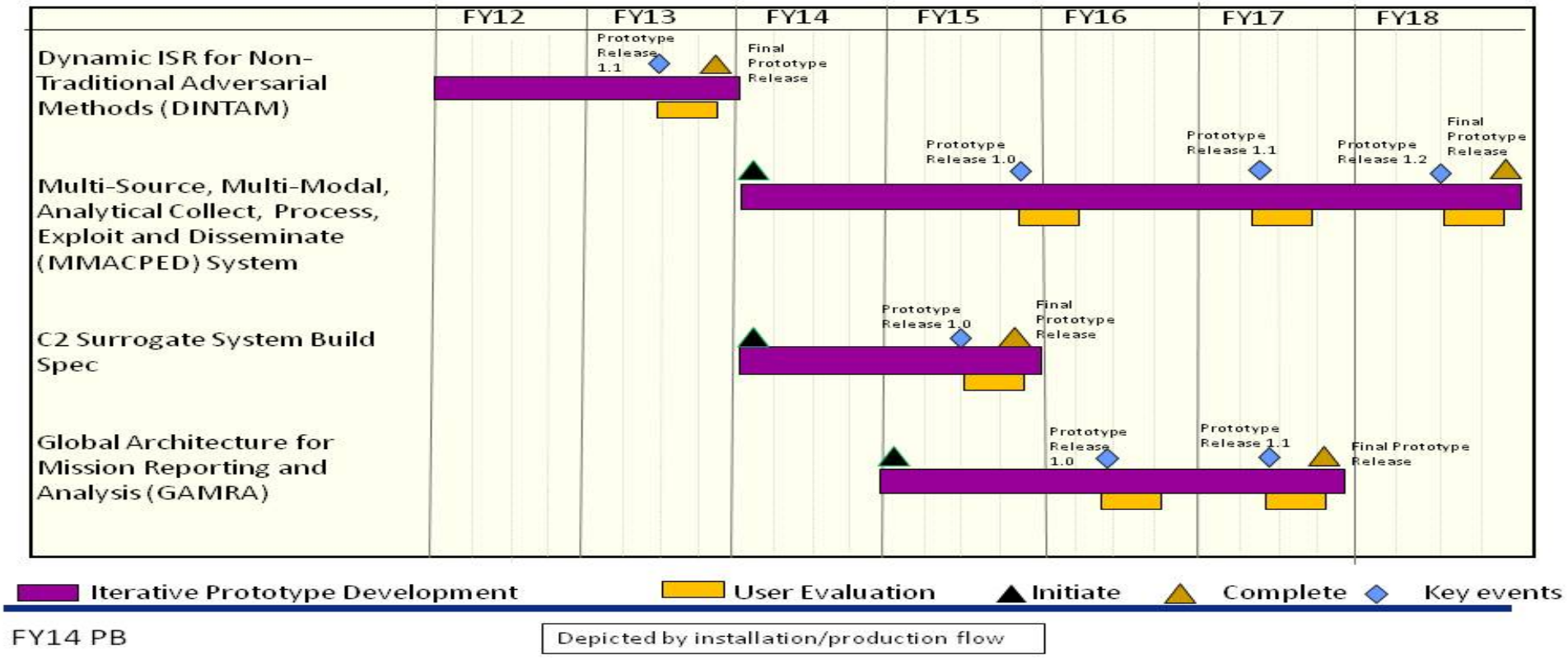
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
PMA	Various	AFRL - Information Directorate:Rome, NY	-	0.016	Oct 2011	0.017	Oct 2012	0.017	Oct 2013	-		0.017	Continuing	Continuing	TBD
		Subtotal	0.000	0.016		0.017		0.017		0.000		0.017			

	All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	1.596		0.542		0.790		0.000		0.790			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603260F: *Intelligence Advanced Development*	PROJECT 643481: *Knowledge Based Tech For Intelligence*

Intelligence Advanced Development (IAD) Program Schedule
BPAC 643481



FY14 PB

Depicted by installation/production flow

Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0603260F: *Intelligence Advanced Development*	**PROJECT** 643481: *Knowledge Based Tech For Intelligence*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Dynamic ISR for Non-Traditional Adversarial Methods (DINTAM) Prototype Development	1	2012	4	2013
Releasing DINTAM Prototype 1.1	2	2013	2	2013
Conducting User Evaluation DINTAM Prototype 1.1	2	2013	4	2013
Releasing Final DINTAM Prototype	4	2013	4	2013
Development of MMACPED Prototype	1	2014	4	2018
Will release MMACPED Prototype 1.0	4	2015	4	2015
Will conduct User Evaluation MMACPED Prototype 1.0	4	2015	2	2016
Will release MMACPED Prototype 1.1	2	2017	2	2017
Will conduct MMACPED Prototype 1.1 User Evaluation	2	2017	3	2017
Will release MMACPED Prototype 1.2	3	2018	3	2018
Will conduct User Evaluation MMACPED Prototype 1.2	3	2018	4	2018
Will release Final MMACPED Prototype	4	2018	4	2018
C2 Surrogate System Build Spec Prototype Development	1	2014	4	2015
Will release C2 Surrogate System Prototype 1.0	3	2015	3	2015
Will conduct C2 Surrogate System Prototype 1.0 User Evaluation	3	2015	4	2015
Will release Final C2 Surrogate System Prototype	4	2015	4	2015
Global Architecture for Mission Reporting and Analysis (GAMRA) Prototype Development	1	2015	4	2017
Will release GAMRA Prototype 1.0	2	2016	2	2016
Will conduct GAMRA Prototype 1.0 User Evaluation	2	2016	4	2016
Will release GAMRA Prototype 1.1	2	2017	2	2017
Will conduct GAMRA Prototype 1.1 User Evaluation	2	2017	4	2017

Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603260F: *Intelligence Advanced Development*	PROJECT 643481: *Knowledge Based Tech For Intelligence*

	Start		End	
Events	Quarter	Year	Quarter	Year
Will release Final GAMRA Prototype	4	2017	4	2017

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603260F: *Intelligence Advanced Development*	PROJECT 643482: *Science & Tech Intelligence Methodology*	

COST ($ in Millions)	All Prior Years	FY 2012	FY 2013#	FY 2014 Base	FY 2014 OCO ##	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
643482: *Science & Tech Intelligence Methodology*	-	0.725	0.471	1.066	-	1.066	1.383	0.870	1.538	1.566	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 OCO Request will be submitted at a later date

Note

In FY2014, 643482, Science & Tech Intelligence Methodology includes a new start effort.

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 will help AFISRA improve their 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 2012	FY 2013	FY 2014
Title: Real Time Intelligence Situational Awareness (RTISA) ***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 2012 Accomplishments:*** Continued prototype development. ***FY 2013 Plans:*** Releasing prototype to users in realistic operating environment; incorporating user feedback and completing development of final prototype. ***FY 2014 Plans:*** N/A	0.718	0.464	0.000
Title: Enabling Discovery through Automated Content Extraction (EDACE)	0.000	0.000	1.059

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603260F: *Intelligence Advanced Development*	PROJECT 643482: *Science & Tech Intelligence Methodology*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
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. ***FY 2012 Accomplishments:*** N/A ***FY 2013 Plans:*** N/A ***FY 2014 Plans:*** Will initiate 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, conference papers, etc.			
Title: PMA ***Description:*** PMA costs (including supplies and travel) support management with engineering and technical support for development and implementation. ***FY 2012 Accomplishments:*** PMA costs (including supplies and travel) supported management with engineering and technical support for development and implementation. ***FY 2013 Plans:*** PMA costs (including supplies and travel) support management with engineering and technical support for development and implementation. ***FY 2014 Plans:*** PMA costs (including supplies and travel) will support management with engineering and technical support for development and implementation.	0.007	0.007	0.007
Accomplishments/Planned Programs Subtotals	0.725	0.471	1.066

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• None: *N/A*	0.000	0.000	0.000		0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603260F: *Intelligence Advanced Development*	PROJECT 643482: *Science & Tech Intelligence Methodology*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost

Remarks

D. Acquisition Strategy

Requirements for new / improved techniques for operational employment of simulation models are gathered 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 the 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-3, RDT&E Project Cost Analysis: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603260F: *Intelligence Advanced Development*	PROJECT 643482: *Science & Tech Intelligence Methodology*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Real Time Intelligence Situational Awareness (RTISA)	C/CPFF	Northrop Grumman:Fairborn, OH	-	0.718	Oct 2011	0.464	May 2013	0.000		-		0.000	0.000	1.182	2.605
Enabling Discovery through Automated Content Extraction (EDACE)	C/TBD	TBD:TBD,	-	0.000		0.000		1.059	Oct 2013	-		1.059	Continuing	Continuing	TBD
		Subtotal	0.000	0.718		0.464		1.059		0.000		1.059			

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
PMA	Various	AFRL - Information Directorate:Rome, NY	-	0.007	Oct 2011	0.007	Oct 2012	0.007	Oct 2013	-		0.007	Continuing	Continuing	TBD
		Subtotal	0.000	0.007		0.007		0.007		0.000		0.007			

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603260F: *Intelligence Advanced Development*	PROJECT 643482: *Science & Tech Intelligence Methodology*	

	All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	0.725		0.471		1.066		0.000		1.066			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603260F: *Intelligence Advanced Development*	PROJECT 643482: *Science & Tech Intelligence Methodology*

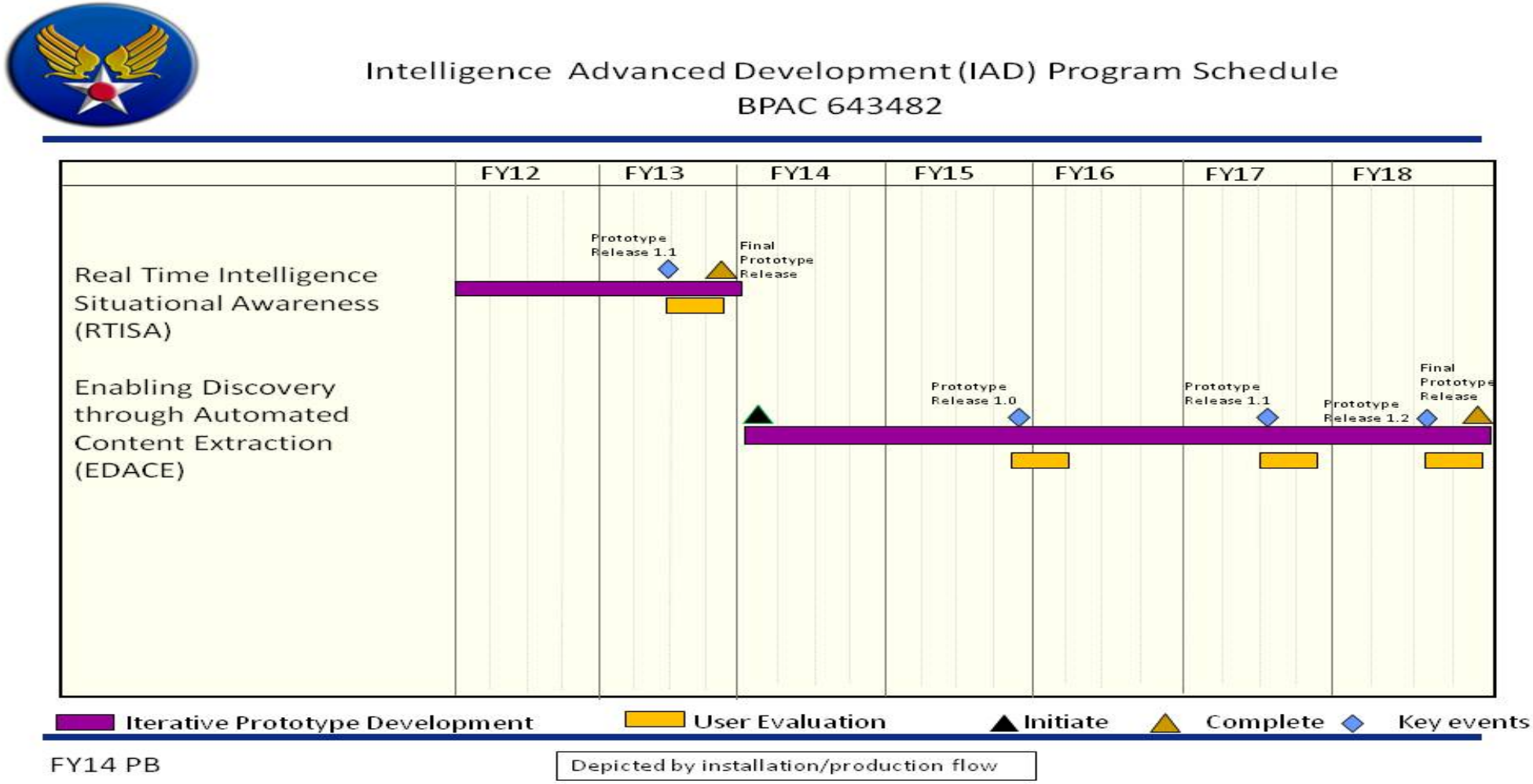


Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603260F: *Intelligence Advanced Development*	PROJECT 643482: *Science & Tech Intelligence Methodology*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Real Time Intelligence Situational Awareness (RTISA) Prototype Development	1	2012	4	2013
Releasing RTISA Prototype 1.2	2	2013	2	2013
Conducting RTISA Prototype 1.2 User Evaluation	2	2013	4	2013
Releasing Final RTISA Prototype	4	2013	4	2013
Enabling Discovery through Automated Content Extraction (EDACE) Prototype Development	1	2014	4	2018
Will release EDACE Prototype 1.0	4	2015	4	2015
Will conduct EDACE Prototype 1.0 User Evaluation	4	2015	2	2016
Will release EDACE Prototype 1.1	3	2017	3	2017
Will conduct EDACE Prototype 1.1 User Evaluation	3	2017	4	2017
Will release EDACE Prototype 1.2	3	2018	3	2018
Will conduct EDACE Prototype 1.2 User Evaluation	3	2018	4	2018
Will release Final EDACE Prototype	4	2018	4	2018

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force											DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*					R-1 ITEM NOMENCLATURE PE 0603287F: *Physical Security Equipment*							
COST ($ in Millions)	**All Prior Years**	**FY 2012**	**FY 2013#**	**FY 2014 Base**	**FY 2014 OCO ##**	**FY 2014 Total**	**FY 2015**	**FY 2016**	**FY 2017**	**FY 2018**	**Cost To Complete**	**Total Cost**
Total Program Element	-	0.476	3.704	3.874	-	3.874	3.975	4.084	4.197	4.272	Continuing	Continuing
645121: *Physical Security Equipment*	-	0.476	3.704	3.874	-	3.874	3.975	4.084	4.197	4.272	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 OCO Request will be submitted at a later date

A. Mission Description and Budget Item Justification

This program is a budget activity level 4 based on the concept/technology development activities ongoing within the program. The purpose of this program is to develop, demonstrate, and test 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 RF frequency and communication security (cyber) requirements. This Program Element also includes funding for Force Protection Commercial-Off-The-Shelf (FP COTS) evaluation and testing. The FP COTS testing applies to all available technologies, 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 46TW as a Major Range and Test facility, conducting developmental and operational testing as the primary mission.

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603287F: *Physical Security Equipment*

B. Program Change Summary ($ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	3.586	3.704	3.874	-	3.874
Current President's Budget	0.476	3.704	3.874	-	3.874
Total Adjustments	-3.110	0.000	0.000	-	0.000
• Congressional General Reductions	-	0.000			
• Congressional Directed Reductions	-	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	-	0.000			
• Congressional Directed Transfers	-	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	-0.110	0.000			
• Other Adjustments	-3.000	0.000	0.000	-	0.000

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Title: PHYSICAL SECURITY EQUIPMENT	0.476	3.704	3.874

Description: FORCE PROTECTION/TACTICAL SECURITY EQUIPMENT - Develop, demonstrate, and test Physical Security Equipment (PSE) systems, to include Force Protection.

FY 2012 Accomplishments:

Refined, researched, and tested technology for automated entry control systems.
- Continued TASS P3I efforts including improvements to the annunciator.
- Continued to manage, develop, evaluate, and test Delay/Denial products.
- Continued to manage sensor and assessment product developments and tests.
- Continued to research technological advances at DoD, DoE, University Labs, DARPA, within industry, etc., with PSE utility.
- Continued to prepare operational systems improvement plans; develop technology roadmap, update system architecture.
- Continued to test, develop, and integrate equipment to improve security and access to facilities.
- Developed a Security Forces Management Information System (SFMIS)module.
- Conducted System Effectiveness Assessment (SEA) of the Nuclear Environment.
- Continued Integrated Defense Command and Control Common Operating Picture (IDC2COP).
- Developed Physical Security Alarm Systems.
- Force Protection Commercial Off The Shelf (COTS) evaluation and testing.
- Developed internal delay, denial, and detection options for the Nuclear Storage environment.
- Developed external delay, denial, and detection options for the Nuclear Storage environment.

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603287F: *Physical Security Equipment*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
- Supported 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. ***FY 2013 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. - Continue to manage sensor and assessment product developments and tests. - 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. - Develop a Security Forces Management Information System (SFMIS)module - Conduct System Effectiveness Assessment (SEA) of the Nuclear Environment - Continue Integrated Defense Command and Control Common Operating Picture (IDC2COP). - Develop Physical Security Alarm Systems. - Force Protection Commercial Off The Shelf (COTS) evaluation and testing. - Develop internal delay, denial, and detection options for the Nuclear Storage environment. - Develop external delay, denial, and detection options for the Nuclear Storage environment. - 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 46TW as a Major Range and Test facility, conducting developmental and operational testing as the primary mission. ***FY 2014 Plans:*** 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.			

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0603287F: *Physical Security Equipment*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
- 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. - 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	0.476	3.704	3.874

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• Not Applicable: *N/A*	0.000	0.000	0.000		0.000	0.000	0.000	0.000	0.000	0.000	0.000

Remarks

E. Acquisition Strategy

Not Applicable

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603287F: *Physical Security Equipment*

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 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603287F: *Physical Security Equipment*	PROJECT 645121: *Physical Security Equipment*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
HQ ESC (Air Force)	Various	Various:Various,	-	0.189		3.304		3.470		-		3.470	Continuing	Continuing	
		Subtotal	0.000	0.189		3.304		3.470		0.000		3.470			

Remarks

The $189K in the Product Development line is incorrect. The actual # is $2.828M. This error is due to the incorrect # ($476K) being shown in PRCP versus the correct overall FY12 amount of $3.115M.

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
HQ ESC (Air Force)	Various	Various:,	-	0.287		0.400		0.404		-		0.404	Continuing	Continuing	
		Subtotal	0.000	0.287		0.400		0.404		0.000		0.404			

Remarks

The support funding is planned at the above amounts. If the support contracts are less, the available funds will be transitioned to the Product Development line.

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603287F: *Physical Security Equipment*	PROJECT 645121: *Physical Security Equipment*	

	All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	0.476		3.704		3.874		0.000		3.874			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603287F: *Physical Security Equipment*	PROJECT 645121: *Physical Security Equipment*

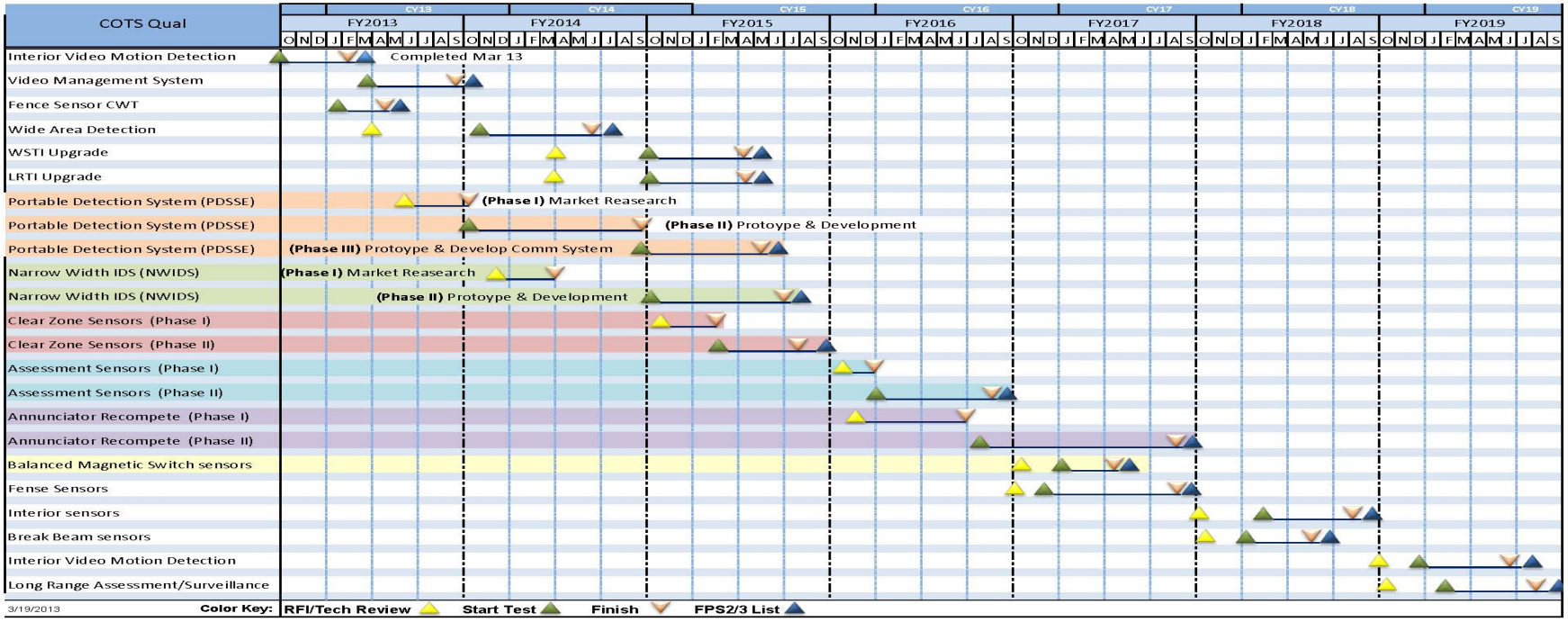


Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603287F: *Physical Security Equipment*	PROJECT 645121: *Physical Security Equipment*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Continue TASS P3I efforts including the annunciator	1	2012	4	2014
Portable Detection System (PDSNE)	1	2013	4	2016
Foliage Penetrating Radar	1	2013	4	2016
Conduct a Leap Ahead assessment of current PSE technology	1	2012	4	2012
COTS Testing (WSTI/LRTI/Narrow beam line sensor/active denial, etc	1	2012	4	2018
Develop SFMIS Module	1	2012	4	2013
Common Operational Picture	1	2012	4	2015
Develop Physical Security Alarm Systems	1	2012	4	2014
Conduct System Effectiveness Assessment of Nuclear Environment	1	2012	4	2014
Maintain C-3 and Cold Weather Test Site (RDT&E Testing Facility)	1	2012	4	2015
Develop Internal and External Delay/Denial/Detection options for Nuclear Storage environment	1	2012	4	2015

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force												DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*					R-1 ITEM NOMENCLATURE PE 0603430F: *Advanced EHF MILSATCOM (SPACE)*							
COST ($ in Millions)	**All Prior Years**	**FY 2012**	**FY 2013#**	**FY 2014 Base**	**FY 2014 OCO ##**	**FY 2014 Total**	**FY 2015**	**FY 2016**	**FY 2017**	**FY 2018**	**Cost To Complete**	**Total Cost**
Total Program Element	6,371.245	385.013	229.171	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	6,985.429
644050: *Advanced MILSATCOM*	6,371.245	276.675	175.578	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	6,823.498
64A030: *Evolved AEHF MILSATCOM*	0.000	108.338	53.593	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	161.931
MDAP/MAIS Code(s): 261												

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 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. Future AEHF satellites will be 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

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603430F: *Advanced EHF MILSATCOM (SPACE)*

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.

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, since it funds Advanced EHF technology validation and modeling.

B. Program Change Summary ($ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	397.446	229.171	153.857	-	153.857
Current President's Budget	385.013	229.171	0.000	-	0.000
Total Adjustments	-12.433	0.000	-153.857	-	-153.857
• Congressional General Reductions	-	0.000			
• Congressional Directed Reductions	-	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	-	0.000			
• Congressional Directed Transfers	-	0.000			
• Reprogrammings	-5.769	0.000			
• SBIR/STTR Transfer	-6.664	0.000			
• Other Adjustments	0.000	0.000	-153.857	-	-153.857

Change Summary Explanation

FY12: Reprogrammings row: -$5.769M for higher Department priorities
FY12: Small Business Innovation Research (SBIR) row: -$6.664M
FY14: Other Adjustment row: -$153.857M, due to change in Budget Activity from 4 to 5, funds have been transferred to PE 0605431F, Project 657103 and Project 657104.

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603430F: *Advanced EHF MILSATCOM (SPACE)*	PROJECT 644050: *Advanced MILSATCOM*	

COST ($ in Millions)	All Prior Years	FY 2012	FY 2013#	FY 2014 Base	FY 2014 OCO ##	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
644050: *Advanced MILSATCOM*	6,371.245	276.675	175.578	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	6,823.498
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 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 2012	FY 2013	FY 2014
Title: AEHF SVs 1-2, MCS	164.328	24.032	0.000
Description: Develop and acquire AEHF MILSATCOM satellites, mission control segment, and cryptography			
FY 2012 Accomplishments: In FY 2012, completed SV-1 on-orbit test. Completed SV-2 launch readiness, launch, and initiated on-orbit test. Continued program office support and related activities, and conducted studies/analyses, as required.			
FY 2013 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603430F: *Advanced EHF MILSATCOM (SPACE)*	PROJECT 644050: *Advanced MILSATCOM*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
In FY 2013, continue SV-2 on-orbit test. Continue program office support and related activities, and conduct studies/analyses, as required. ***FY 2014 Plans:*** In FY14, funds transfer to PE 0605431F, Project 657103.			
Title: AEHF Interim Contractor Support (ICS) ***Description:*** Funds Interim Contractor Support for AEHF satellites, Mission Control Segment (MCS), Cryptography, AEHF Calibration Facility (ACF), and Interim Command and Control (IC2) antenna until Initial Operational Capability declaration ***FY 2012 Accomplishments:*** In FY 2012, conducted ICS for SV-1 on-orbit support, MCS sustainment, and AEHF Key Management Architecture (KMA) sustainment. Conducted ICS for the ACF and the IC2 antenna. ***FY 2013 Plans:*** In FY 2013, conduct ICS for SV-1 and SV-2 on-orbit support, MCS sustainment, including Increment 7 delivery, and AEHF KMA sustainment. Conduct Multiservice Operational Test and Evaluation. Conduct ICS for the ACF and the IC2 antenna. ***FY 2014 Plans:*** In FY14, funds transfer to PE 0605431F, Project 657103.	112.347	136.546	0.000
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 2012 Accomplishments:*** Not applicable. ***FY 2013 Plans:*** Funds preliminary design for transition of AEHF Crypto KMA from EKMS to KMI. ***FY 2014 Plans:*** Not applicable.	0.000	15.000	0.000
Accomplishments/Planned Programs Subtotals	276.675	175.578	0.000

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603430F: *Advanced EHF MILSATCOM (SPACE)*	PROJECT 644050: *Advanced MILSATCOM*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• RDT&E: BA05: PE 0605431F: *Advanced EHF MILSATCOM (Space)*	0.000	0.000	183.372		183.372	136.067	64.600	21.700	0.000	0.000	405.739
• MPAF: BA05: Line Item # ADV555: *Advanced EHF*	551.458	557.205	379.586		379.586	302.175	594.362	973.711	852.740	3,399.700	7,610.937
• RDT&E: BA04: PE 0603854F: *Wideband Global SATCOM RDT&E (Space)*	12.077	12.027	0.000		0.000	0.000	0.000	0.000	0.000	0.000	24.719

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 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603430F: *Advanced EHF MILSATCOM (SPACE)*	PROJECT 644050: *Advanced MILSATCOM*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Cryptographic Development	MIPR	NSA:Camden, NJ	252.730	0.000		0.000		0.000		-		0.000	0.000	252.730	252.730
Crypto Interim Contractor Support	MIPR	CPSG:San Antonio, TX	9.713	11.367	Mar 2012	10.942	Mar 2013	0.000		-		0.000	0.000	32.022	
AEHF Key Management Infrastructure transition	Various	Not specified.:,	0.000	0.000		15.000	May 2013	0.000		-		0.000	0.000	15.000	
Terminals Engineering	C/CPFF	JTEO:San Diego, CA	15.491	0.000		0.000		0.000		-		0.000	0.000	15.491	15.491
MILSATCOM Technology Validation SE&I	SS/CPAF	MIT/LL:Lexington, MA	21.538	0.000		0.000		0.000		-		0.000	0.000	21.538	21.538
AEHF Capabilities Insertion Program	Various	Various:Various,	39.700	0.000		0.000		0.000		-		0.000	0.000	39.700	
Technical Support	SS/CPAF	MITRE:Bedford, MA	0.779	0.000		0.000		0.000		-		0.000	0.000	0.779	0.779
Processing Subsystem Engineering Model	Various	Hughes:El Segundo, CA	67.175	0.000		0.000		0.000		-		0.000	0.000	67.175	67.175
Processing Subsystem Engineering Model (2)	Various	TRW:Redondo Beach, CA	62.083	0.000		0.000		0.000		-		0.000	0.000	62.083	62.083
Technical Projects	Various	Various:Various,	66.659	0.000		0.000		0.000		-		0.000	0.000	66.659	66.659
Pre-Engineering Manufacturing and Development	Various	Lockheed Martin:Sunnyvale, CA	225.011	0.000		0.000		0.000		-		0.000	0.000	225.011	225.011
System Development and Demonstration	Various	Lockheed Martin:Sunnyvale, CA	4,887.647	129.233	Dec 2011	0.000		0.000		-		0.000	0.000	5,016.880	4,979.010
AEHF Interim Contractor Support	SS/CPIF	Lockheed Martin:Sunnyvale, CA	143.997	73.815	Dec 2011	115.000	Dec 2012	0.000		-		0.000	0.000	332.812	
GFP	Various	Various:Various,	35.856	27.165	Dec 2011	10.604	Dec 2012	0.000		-		0.000	0.000	73.625	
Command and Control System - Consolidated	SS/CPAF	Kratos:San Diego, CA	0.000	2.342	Aug 2012	0.000		0.000		-		0.000	0.000	2.342	
Radiation Hardened parts developers	Various	Various:Various	117.480	0.000		0.000		0.000		-		0.000	0.000	117.480	
		Subtotal	5,945.859	243.922		151.546		0.000		0.000		0.000	0.000	6,341.327	

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603430F: *Advanced EHF MILSATCOM (SPACE)*	PROJECT 644050: *Advanced MILSATCOM*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 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	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Various	Various	Various:Various,	123.696	0.000		0.000		0.000		-		0.000	0.000	123.696	123.696
AEHF Systems Engineering & Integration (SE&I)	C/FFP	Linquest:Los Angeles, CA	68.131	9.923	Dec 2011	0.000		0.000		-		0.000	0.000	78.054	
AEHF SE&I	C/TBD	TBD:TBD,	0.000	0.000		5.421	Apr 2013	0.000		-		0.000	0.000	5.421	
Advanced Concepts Directorate technology needs forecasting FFRDC (PMA)	Various	Various:Various,	9.698	0.000		0.000		0.000		-		0.000	0.000	9.698	
Advanced Concepts Directorate technology needs forecasting Program Office Support (PMA)	Various	Various:Various,	13.727	0.000		0.000		0.000		-		0.000	0.000	13.727	
		Subtotal	215.252	9.923		5.421		0.000		0.000		0.000	0.000	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	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Development Test and Evaluation support	Various	Various:Various,	22.814	4.838	Dec 2011	2.567	Dec 2012	0.000		-		0.000	0.000	30.219	30.219

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603430F: *Advanced EHF MILSATCOM (SPACE)*	PROJECT 644050: *Advanced MILSATCOM*

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	22.814	4.838		2.567		0.000		0.000		0.000	0.000	30.219	30.219

Remarks

FY14 funds transferred to PE 0605431F, Project 657103.

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
AEHF FFRDC (PMA)	Various	Various:Various,	118.072	13.494	Dec 2011	6.400	Dec 2012	0.000		-		0.000	0.000	137.966	
AEHF Program Office Support (PMA)	Various	Various:Various,	69.248	4.498	Dec 2011	5.644	Dec 2012	0.000		-		0.000	0.000	79.390	
Business Operating Support Services & Acquisition Mission Support (PMA)	Various	Various:Various,	0.000	0.000		4.000	Dec 2012	0.000		-		0.000	0.000	4.000	4.000
		Subtotal	187.320	17.992		16.044		0.000		0.000		0.000	0.000	221.356	

Remarks

FY14 funds transferred to PE 0605431F, Project 657103.

	All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	6,371.245	276.675		175.578		0.000		0.000		0.000	0.000	6,823.498	

Remarks

FY14 funds transferred to PE 0605431F, Project 657103.

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603430F: *Advanced EHF MILSATCOM (SPACE)*	PROJECT 644050: *Advanced MILSATCOM*

These efforts are funded in Project 644050 through FY13. Beginning FY14 these efforts are funded in Project 657103.

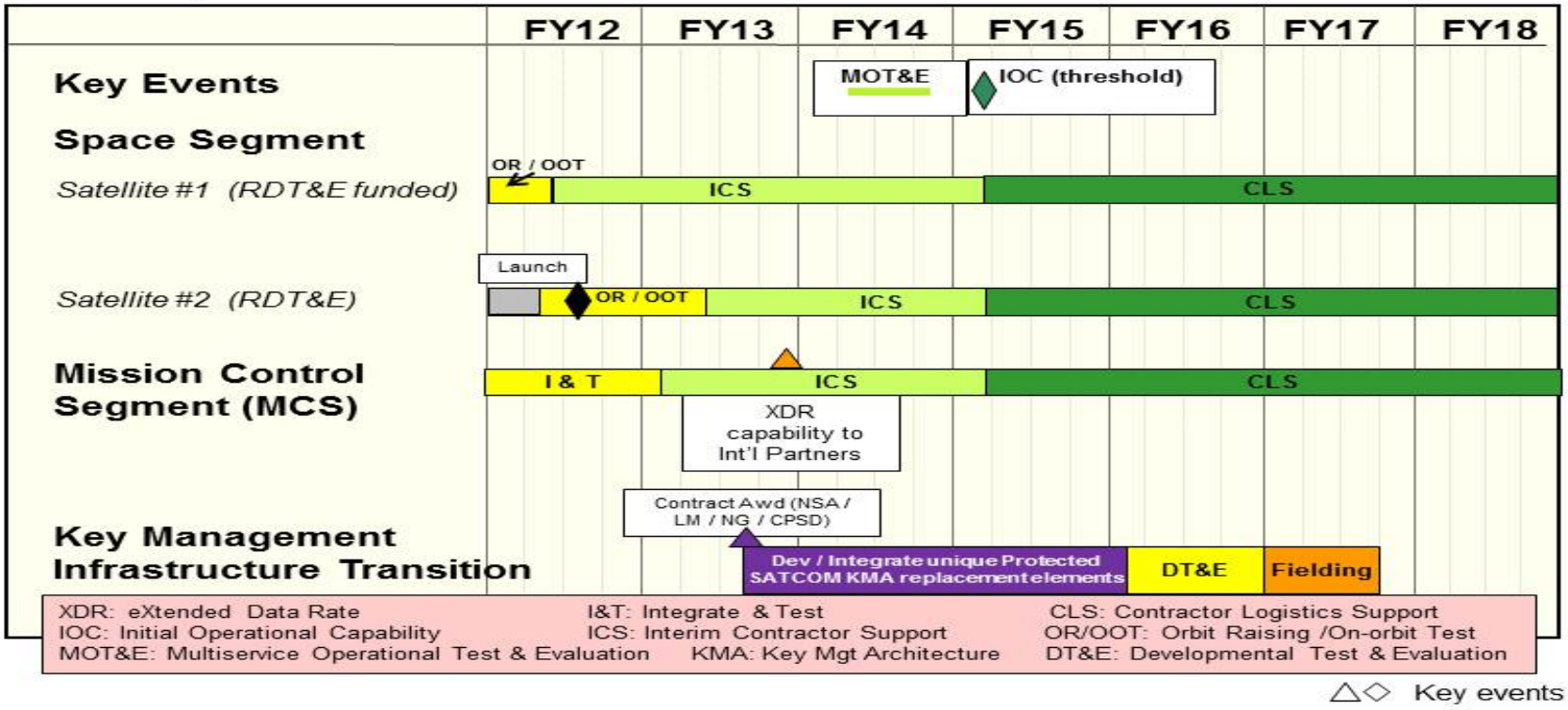


Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603430F: *Advanced EHF MILSATCOM (SPACE)*	PROJECT 644050: *Advanced MILSATCOM*

Schedule Details

	Start		End	
Events	Quarter	Year	Quarter	Year
Launch second AEHF satellite	3	2012	3	2012
First delivery of Ground Segment Software Increment 7 (eXtended Data Rate capability to International Partners)	4	2013	4	2013

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603430F: *Advanced EHF MILSATCOM (SPACE)*	PROJECT 64A030: *Evolved AEHF MILSATCOM*	

COST ($ in Millions)	All Prior Years	FY 2012	FY 2013#	FY 2014 Base	FY 2014 OCO ##	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
64A030: *Evolved AEHF MILSATCOM*	0.000	108.338	53.593	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	161.931
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 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 2012	FY 2013	FY 2014
Title: AEHF SV-6 Flight Crypto & Future AEHF Parts Obsolescence Mitigation	0.000	19.479	0.000
Description: AEHF SV-6 flight cryptographic equipment redesign effort and future AEHF parts obsolescence mitigation effort			
FY 2012 Accomplishments: Not applicable.			
FY 2013 Plans: Funds 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:			

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603430F: *Advanced EHF MILSATCOM (SPACE)*	PROJECT 64A030: *Evolved AEHF MILSATCOM*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
In FY2014, Project 64A030 funds transfer to PE 0605431F, Project 65104.			
Title: AEHF Capabilities Insertion Program (CIP) 1a ***Description:*** AEHF capacity improvement: Software development/implementation increases capacity by 10% and operational flexibility to constellation ***FY 2012 Accomplishments:*** Conducted AEHF CIP Phase B extension risk reduction for CIP 1a software enhancement. ***FY 2013 Plans:*** Release sole source AEHF CIP 1a Request for Proposal 3QFY13, contract award 4QFY13. ***FY 2014 Plans:*** In FY2014, Project 64A030 funds transfer to PE 0605431F, Project 657104.	10.000	1.738	0.000
Title: Radiation Hardened parts ***Description:*** Qualification and productization of radiation-hardened components ***FY 2012 Accomplishments:*** Funded qualification and productization of radiation-hardened components for USAF/DOD space programs. ***FY 2013 Plans:*** Not applicable. ***FY 2014 Plans:*** Not applicable.	19.750	0.000	0.000
Title: Remotely Piloted Aircraft (RPA) Concept Definition ***Description:*** Demonstrate architecture and design concepts to support future RPA communications needs for current assets, to include higher frequency bands, high data rate protected ISR, and other protected communications ***FY 2012 Accomplishments:*** Developed space and ground architecture, design concepts and requirements for RPA. Included requirements as a contract option within an onging solicitation. ***FY 2013 Plans:***	2.700	0.000	0.000

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603430F: *Advanced EHF MILSATCOM (SPACE)*	PROJECT 64A030: *Evolved AEHF MILSATCOM*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Not applicable. ***FY 2014 Plans:*** In FY2014, Project 64A030 funds transfer to PE 0605431F, Project 657104.			
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, and anti-jam enhanced theater antennas to significantly reduce the cost of protected SATCOM. ***FY 2012 Accomplishments:*** A Broad Area Announcement (BAA) was released in April 2012. A local competitive evaluation team selected and awarded 17 Phase 1 contracts in September 2012 to various companies that met the BAA requirements. Efforts include architecture and system design to include Space, Ground, Terminal, Information Assurance, performance trades, affordability assessments, waveform development, and demonstrations. ***FY 2013 Plans:*** Complete Phase 1 efforts. Four of the 17 contracts awarded late 2012 have Phase 2 options. These options will be awarded to further efforts from FY12 that will 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.	56.171	10.363	0.000
Title: Hosted Payload Concept Definition ***Description:*** Validate affordable business approaches and reduce risk for commercial/hosted payload alternatives such as commercial-based free-flyer satellites, increased military wideband coverage and capacity, and other candidate system designs for hosted payloads on commercial satellites. Conduct risk reduction efforts to provide DoD operating locations for future bandwidth in the V (71-76 GHz) and W (81-86 GHz) range leading towards a commercial or hosted payload demonstration. ***FY 2012 Accomplishments:*** Develop overarching architectural design for hosted payload concept and address spectrum filing considerations for new bandwidths. Collaborate with Air Force Research Laboratory (AFRL) on payload development. ***FY 2013 Plans:***	2.000	0.000	0.000

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603430F: *Advanced EHF MILSATCOM (SPACE)*	PROJECT 64A030: *Evolved AEHF MILSATCOM*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Not applicable. ***FY 2014 Plans:*** In FY2014, Project 64A030 funds transfer to PE 0605431F, Project 657104.			
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 2012 Accomplishments:*** Funded efforts such as refining the ongoing MILSATCOM architectures, Remote Piloted Aircraft study, and Resilient Basis for SATCOM (RBS) in Joint Operations study products including affordable Information Assurance approaches, supportive terminal payload concepts, and commercial product contributions. Funded program office support and FFRDC support for above efforts. ***FY 2013 Plans:*** Funds efforts such as refining the ongoing MILSATCOM architectures including affordable Information Assurance approaches, protected MILSATCOM analysis of alternatives (AoA), and commercial product contributions. Funds the development of the Government Protected MILSATCOM testbed which will provide consistent protected tactical waveform (PTW) interoperability testing across multiple Protected "Design for Affordability" (DFA) BAA contractors. Develop functional and interoperable PTW requirements, construct testbed hardware/software and build modeling and verification test. Funds 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%. Funds Program Management to include program office support, FFRDC analyses, SETA, and SE&I to support and execute the MILSATCOM SMI efforts (i.e., CIP 1a capacity improvement and Protected DFA Phases 1 & 2 risk reduction). ***FY 2014 Plans:*** In FY2014, Project 64A030 funds transfer to PE 0605431F, Project 657104.	17.717	22.013	0.000
Accomplishments/Planned Programs Subtotals	108.338	53.593	0.000

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603430F: *Advanced EHF MILSATCOM (SPACE)*	PROJECT 64A030: *Evolved AEHF MILSATCOM*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• RDT&E: BA05: PE 0605431F: *Advanced EHF MILSATCOM (Space)*	0.000	0.000	89.500		89.500	100.867	120.365	100.087	101.889	Continuing	Continuing
• MPAF: BA05: Line Item # ADV555: *Advanced EHF*	551.458	557.205	379.586		379.586	302.175	594.362	973.711	852.740	3,399.700	7,610.937

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.

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 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603430F: *Advanced EHF MILSATCOM (SPACE)*	PROJECT 64A030: *Evolved AEHF MILSATCOM*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 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	0.000		19.479	Dec 2012	0.000		-		0.000	0.000	19.479	
AEHF Capabilities Insertion Program (CIP) 1a	SS/ Various	Lockheed Martin:Sunnyvale, CA	0.000	10.000	Sep 2012	1.738	Apr 2013	0.000		-		0.000	0.000	11.738	
Radiation Hardened Parts developers	Various	Various:Various,	0.000	19.750	Feb 2012	0.000		0.000		-		0.000	0.000	19.750	
Remotely Piloted Aircraft Concept Definition	Various	Various:Various,	0.000	2.700	Feb 2012	0.000		0.000		-		0.000	0.000	2.700	
Protected MILSATCOM "Design for Affordability" Phase 1 BAA #1	C/FFP	The Boeing Company:El Segundo, CA	0.000	11.675	Sep 2012	0.000		0.000		-		0.000	0.000	11.675	
Protected MILSATCOM "Design for Affordability" Phase 1 BAA #2	C/FFP	Loral:Palo Alto, CA	0.000	10.125	Sep 2012	0.000		0.000		-		0.000	0.000	10.125	
Protected MILSATCOM "Design for Affordability" Phase 1 BAA #3	C/FFP	Raytheon:Marlborough, MA	0.000	8.733	Sep 2012	0.000		0.000		-		0.000	0.000	8.733	
Protected MILSATCOM "Design for Affordability" Phase 1 BAA #4	C/FFP	L3 COM - West:Salt Lake City, UT	0.000	7.896	Sep 2012	0.000		0.000		-		0.000	0.000	7.896	
Protected MILSATCOM "Design for Affordability" Phase 1 BAA #5	C/FFP	Hughes Network:Germantown, MD	0.000	1.776	Sep 2012	0.000		0.000		-		0.000	0.000	1.776	
Protected MILSATCOM "Design for Affordability" Phase 1 BAA #6	C/FFP	L3 COM - East:Camden, NJ	0.000	1.200	Sep 2012	0.000		0.000		-		0.000	0.000	1.200	
Protected MILSATCOM "Design for Affordability" Phase 1 BAA #7	C/FFP	Northrop-Grumman Aerospace Systems:Redondo Beach, CA	0.000	11.036	Sep 2012	0.000		0.000		-		0.000	0.000	11.036	

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603430F: *Advanced EHF MILSATCOM (SPACE)*	PROJECT 64A030: *Evolved AEHF MILSATCOM*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Protected MILSATCOM "Design for Affordability" Phase 1 BAA #8	C/FFP	Viasat:Germantown, MD	0.000	1.444	Sep 2012	0.000		0.000		-		0.000	0.000	1.444	
Protected MILSATCOM "Design for Affordability" Phase 1 BAA #9-17	C/FFP	Various:Various,	0.000	2.286	Sep 2012	0.000		0.000		-		0.000	0.000	2.286	
Protected MILSATCOM "Design for Affordability" Phase 2 BAA #1	C/FFP	The Boeing Company:El Segundo, CA	0.000	0.000		2.495	Aug 2013	0.000		-		0.000	0.000	2.495	
Protected MILSATCOM "Design for Affordability" Phase 2 BAA #2	C/FFP	Loral:Palo Alto, CA	0.000	0.000		4.150	Aug 2013	0.000		-		0.000	0.000	4.150	
Protected MILSATCOM "Design for Affordability" Phase 2 BAA #3	C/FFP	Raytheon:Marlborough, MA	0.000	0.000		1.933	Aug 2013	0.000		-		0.000	0.000	1.933	
Protected MILSATCOM "Design for Affordability" Phase 2 BAA #4	C/FFP	L3 COM - West:Salt Lake City, UT	0.000	0.000		1.785	Aug 2013	0.000		-		0.000	0.000	1.785	
Hosted Payload Concept Definition	Various	Various:Various,	0.000	2.000	May 2012	0.000		0.000		-		0.000	0.000	2.000	
		Subtotal	0.000	90.621		31.580		0.000		0.000		0.000	0.000	122.201	

Remarks

FY14 funds transferred to PE 0605431F, Project 657104.

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Systems Engineering & Integration	C/FFP	Linquest:Los Angeles, CA	0.000	1.723	Mar 2012	3.925	Jan 2013	0.000		-		0.000	0.000	5.648	
		Subtotal	0.000	1.723		3.925		0.000		0.000		0.000	0.000	5.648	

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603430F: *Advanced EHF MILSATCOM (SPACE)*	PROJECT 64A030: *Evolved AEHF MILSATCOM*	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract

Remarks

FY14 funds transferred to PE 0605431F, Project 657104.

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 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,	0.000	15.013	Feb 2012	13.872	Dec 2012	0.000		-		0.000	0.000	28.885	
Program Office Support & Other Related Activities (PMA)	Various	Various:Various,	0.000	0.981	Feb 2012	0.328	Dec 2012	0.000		-		0.000	0.000	1.309	
Business Operating Support Services & Acquisition Mission Support (PMA)	Various	Various:Various,	0.000	0.000		3.888	Dec 2012	0.000		-		0.000	0.000	3.888	
		Subtotal	0.000	15.994		18.088		0.000		0.000		0.000	0.000	34.082	

Remarks

FY14 funds transferred to PE 0605431F, Project 657104.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603430F: *Advanced EHF MILSATCOM (SPACE)*	PROJECT 64A030: *Evolved AEHF MILSATCOM*	

	All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	108.338		53.593		0.000		0.000		0.000	0.000	161.931	

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0603430F: *Advanced EHF MILSATCOM (SPACE)*	**PROJECT** 64A030: *Evolved AEHF MILSATCOM*

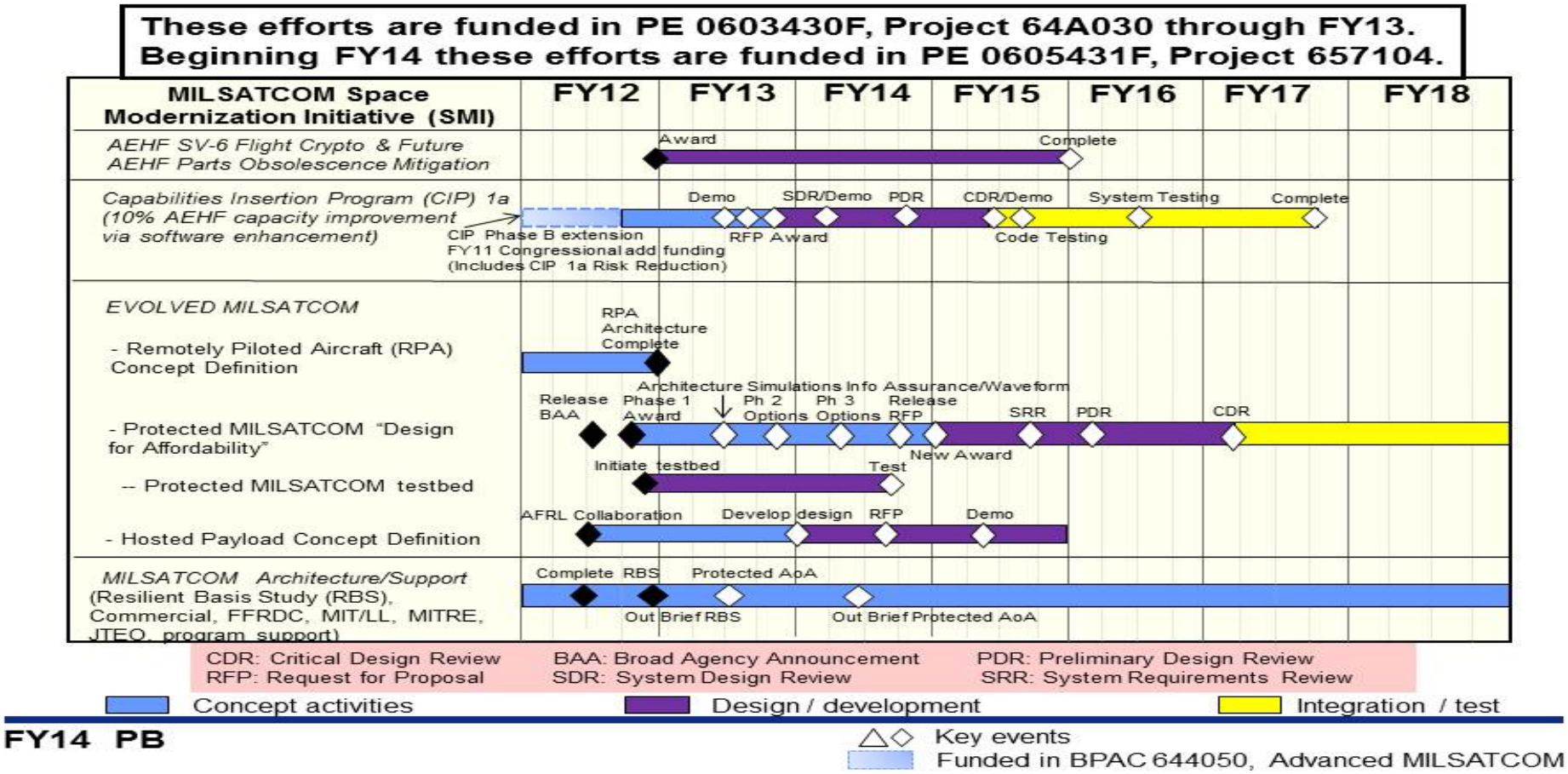


Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0603430F: *Advanced EHF MILSATCOM (SPACE)*	**PROJECT** 64A030: *Evolved AEHF MILSATCOM*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Release Broad Area Announcement (BAA) for Protected MILSATCOM "Design for Affordability"	3	2012	3	2012
Award contracts for Protected MILSATCOM "Design for Affordability"	4	2012	4	2012
Resilient Basis for SATCOM in Joint Operations Study Outbrief	4	2012	4	2012
Initiate Protected MILSATCOM AoA	3	2013	3	2013
Award Phase 2 options on selected Protected MILSATCOM "Design for Affordability" contracts	4	2013	4	2013
Award AEHF Capabilities Insertion Program (CIP) 1a contract	4	2013	4	2013

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force												DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*					R-1 ITEM NOMENCLATURE PE 0603432F: *Polar MILSATCOM (SPACE)*							
COST ($ in Millions)	**All Prior Years**	**FY 2012**	**FY 2013#**	**FY 2014 Base**	**FY 2014 OCO ##**	**FY 2014 Total**	**FY 2015**	**FY 2016**	**FY 2017**	**FY 2018**	**Cost To Complete**	**Total Cost**
Total Program Element	1,110.351	103.098	120.676	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	1,334.125
644052: *Polar Satellite Communications*	1,110.351	103.098	120.676	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	1,334.125
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		
MDAP/MAIS Code(s): 121												

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 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 will conduct a CAPS Preliminary Design Review (PDR) and a Gateway Segment Critical Design Review late FY13. An EPS system-level PDR will be held 4QFY2013.

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0603432F: *Polar MILSATCOM (SPACE)*

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

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 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	101.348	120.676	124.805	-	124.805
Current President's Budget	103.098	120.676	0.000	-	0.000
Total Adjustments	1.750	0.000	-124.805	-	-124.805
• Congressional General Reductions	-	0.000			
• Congressional Directed Reductions	-	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	-	0.000			
• Congressional Directed Transfers	-	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	1.750	0.000			
• Other Adjustments	0.000	0.000	-124.805	-	-124.805

Change Summary Explanation

FY12: The SBIR reduction to the program was inadvertently added in a database error. The program paid $1.750M in SBIR, and as such, has a baseline to execute of $99.598M, rather than the amount reflected in the R1 and R2 of $103.098M.

FY14: Other Adjustment row: -$124.805M, due to change in Budget Activity from 4 to 5, funds have been transferred to PE 0605432F, Project 657105.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Title: EPS	99.598	120.676	0.000
Description: Develop and acquire EPS MILSATCOM			
FY 2012 Accomplishments: In FY2012: Delivered two payloads to the host and initiated integration of payloads onto host satellites. Conducted the CAPS source selection. Continued development of the Gateway segment and conducted the Preliminary Design Review.			
FY 2013 Plans:			

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0603432F: *Polar MILSATCOM (SPACE)*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
In FY2013: Will continue integration of the two EPS payloads onto the host satellites. Awarded CAPS contract. Will conduct the Preliminary Design Review; and will conduct the Gateway segment Critical Design Review. Will conduct an EPS system-level Preliminary Design Review. ***FY 2014 Plans:*** In FY2014, funds transfer to PE 0605432F, Project 657105.			
Title: Database error ***Description:*** Funds inadvertently added to Air Force accounting system ***FY 2012 Accomplishments:*** The $1.750M SBIR reduction to the program was inadvertently added in a database error resulting in a $3.500M error. The program paid $1.750M in SBIR, and as such, has a baseline to execute of $99.598M, rather than the amount reflected in the R1 and R2 of $103.098M." ***FY 2013 Plans:*** Not applicable. ***FY 2014 Plans:*** Not applicable	3.500	0.000	0.000
Accomplishments/Planned Programs Subtotals	103.098	120.676	0.000

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• RDT&E: BA05: PE 0605432F: *Polar MILSATCOM (Space)*	0.000	0.000	124.805		124.805	96.782	73.402	52.244	25.140	0.000	372.373

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

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603432F: *Polar MILSATCOM (SPACE)*

the EPS payloads. The MILSATCOM System Directorate will procure the 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 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603432F: *Polar MILSATCOM (SPACE)*	PROJECT 644052: *Polar Satellite Communications*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Classified	TBD	TBD:TBD,	299.594	0.000		0.000		0.000		-		0.000	0.000	299.594	
EPS Requirement Analyses and Design Trade Studies	Various	Various:Various,	76.187	0.000		0.000		0.000		-		0.000	0.000	76.187	
Mission Control Segment Design Trade Studies	SS/CPAF	Lockheed Martin:Sunnyvale, CA	29.509	0.000		0.000		0.000		-		0.000	0.000	29.509	
Ground study and Emulator development	MIPR	Johns Hopkins University/ Applied Physics Lab:Columbia, MD	11.146	0.000		0.000		0.000		-		0.000	0.000	11.146	
Control and Planning Segment	C/CPIF	Northrop Grumman Information Systems:Redondo Beach, CA,	0.000	0.000		42.344	Nov 2012	0.000		-		0.000	0.000	42.344	
Gateway architecture development	MIPR	Space and Naval Warfare Systems Command (SPAWAR) Systems Center - Pacific:San Diego, CA	5.400	12.396	Dec 2011	14.295	Dec 2012	0.000		-		0.000	0.000	32.091	
EPS Payload Design/ Development Contract	SS/CPAF	NGAS:Redondo Beach, CA	553.053	58.297	Dec 2011	27.622	Dec 2012	0.000		-		0.000	0.000	638.972	
Cryptographic Modifications	MIPR	NSA:Camden, NJ	6.845	1.129	Dec 2011	3.724	Dec 2012	0.000		-		0.000	0.000	11.698	
		Subtotal	981.734	71.822		87.985		0.000		0.000		0.000	0.000	1,141.541	

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 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603432F: *Polar MILSATCOM (SPACE)*	PROJECT 644052: *Polar Satellite Communications*

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Systems Engineering & Integration	Various	Linquest:Los Angeles, CA	0.000	8.263	Dec 2011	7.984	Dec 2012	0.000		-		0.000	0.000	16.247	
Govt Furnished Property	Various	Various:Various,	10.957	0.000		0.420	Dec 2012	0.000		-		0.000	0.000	11.377	
Systems Integration/ Ground Software Support	MIPR	Johns Hopkins University/ Applied Physics Lab:Columbia, MD	0.000	1.179	Sep 2012	2.408	May 2013	0.000		-		0.000	0.000	3.587	
Ground Control Software Support	MIPR	Software Engineering Institute, Carnegie Mellon University:Pittsburgh, PA	0.000	0.218	Mar 2012	0.472	Feb 2013	0.000		-		0.000	0.000	0.690	
		Subtotal	10.957	9.660		11.284		0.000		0.000		0.000	0.000	31.901	

Remarks

FY14 funds transferred to PE 0605432F, Project 657105.

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 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	0.557	Dec 2011	0.696	Dec 2012	0.000		-		0.000	0.000	1.253	
		Subtotal	0.000	0.557		0.696		0.000		0.000		0.000	0.000	1.253	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Office FFRDC engineering (PMA)	Various	Various:Various,	47.567	10.549	Dec 2011	9.461	Dec 2012	0.000		-		0.000	0.000	67.577	

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603432F: *Polar MILSATCOM (SPACE)*	PROJECT 644052: *Polar Satellite Communications*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Office Support	Various	Various:Various,	12.967	0.761	Dec 2011	1.286	Dec 2012	0.000		-		0.000	0.000	15.014	
Travel/Business Ops Support Services/ Acquisition Mission Support (PMA)	Various	Various:Various,	57.126	6.249	Dec 2011	9.964	Dec 2012	0.000		-		0.000	0.000	73.339	
Database error - SBIR	TBD	Not specified.:,	0.000	3.500		0.000		0.000		-		0.000	0.000	3.500	
		Subtotal	117.660	21.059		20.711		0.000		0.000		0.000	0.000	159.430	

Remarks

FY12: The $1.750M SBIR reduction to the program was inadvertently added in a database error resulting in a $3.500M error.

FY14 funds transferred to PE 0605432F, Project 657105.

	All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	1,110.351	103.098		120.676		0.000		0.000		0.000	0.000	1,334.125	

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603432F: *Polar MILSATCOM (SPACE)*	PROJECT 644052: *Polar Satellite Communications*

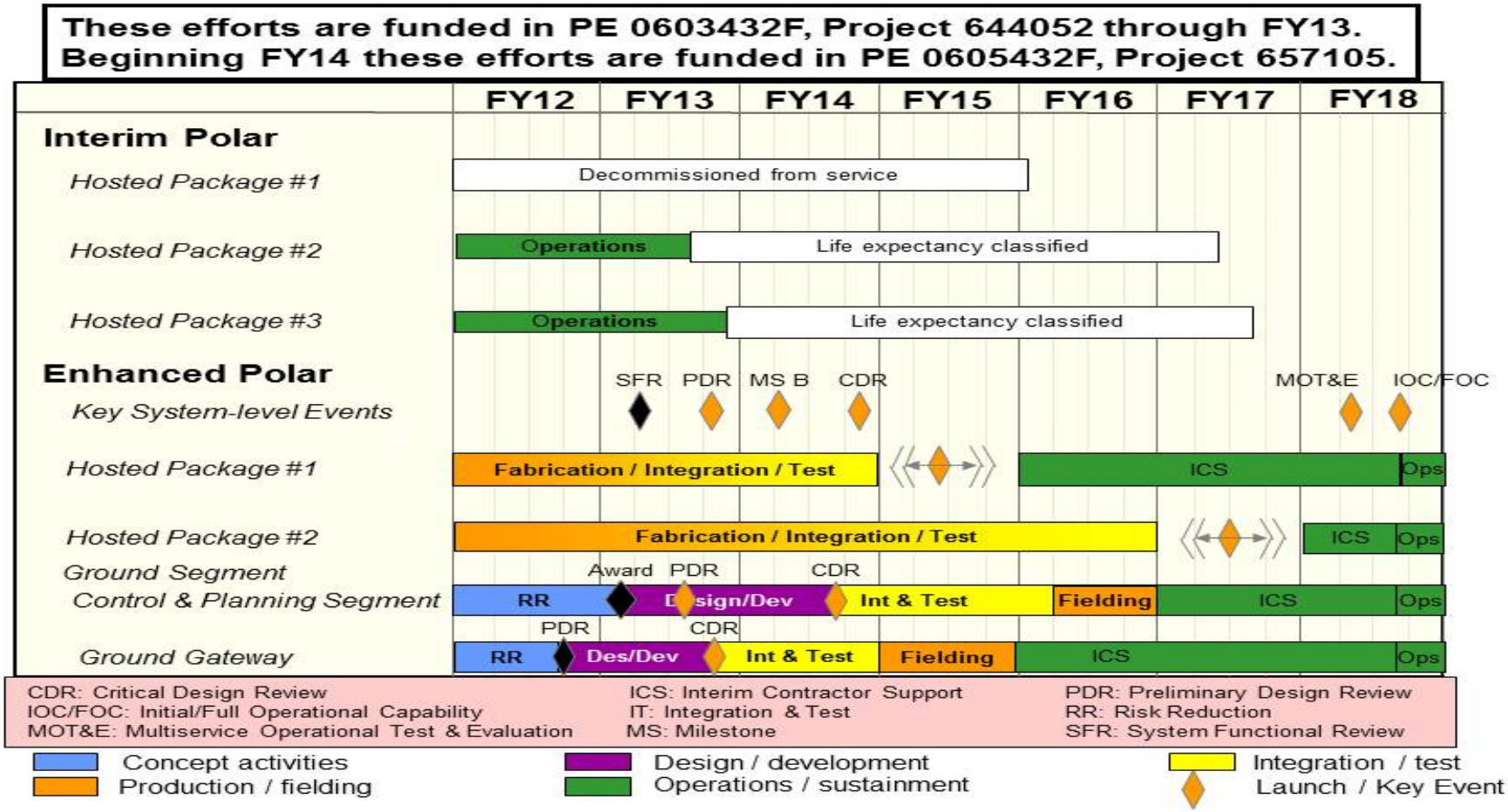


Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603432F: *Polar MILSATCOM (SPACE)*	PROJECT 644052: *Polar Satellite Communications*

Schedule Details

	Start		End	
Events	Quarter	Year	Quarter	Year
Delivered payload #1 and began integration onto host satellite	4	2012	4	2012
Deliver payload #2 and begin integration onto host satellite	2	2013	2	2013
Ground Gateway Preliminary Design Review	4	2012	4	2012
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

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force											DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*					R-1 ITEM NOMENCLATURE PE 0603438F: *Space Control Technology*							
COST ($ in Millions)	**All Prior Years**	**FY 2012**	**FY 2013#**	**FY 2014 Base**	**FY 2014 OCO ##**	**FY 2014 Total**	**FY 2015**	**FY 2016**	**FY 2017**	**FY 2018**	**Cost To Complete**	**Total Cost**
Total Program Element	-	43.553	25.144	27.024	-	27.024	25.907	26.514	27.568	28.065	Continuing	Continuing
642611: *Technology Insertion Planning and Analysis*	-	25.595	5.799	5.560	-	5.560	6.151	6.410	6.978	7.104	Continuing	Continuing
64A007: *Space Range*	-	17.958	19.345	21.464	-	21.464	19.756	20.104	20.590	20.961	Continuing	Continuing

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 OCO Request will be submitted at a later date

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 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 in the Space Control mission area.

Funding also supports the development of the technology and infrastructure for space control elements of the Space Test and Training Range (STTR). This includes development and demonstration of 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. A collaborative command & control capability will be integrated into several range systems to provide real time communications during test event scenarios.

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 2014 Air Force					DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*			R-1 ITEM NOMENCLATURE PE 0603438F: *Space Control Technology*		
B. Program Change Summary ($ in Millions)	**FY 2012**	**FY 2013**	**FY 2014 Base**	**FY 2014 OCO**	**FY 2014 Total**
Previous President's Budget	44.635	25.144	25.159	-	25.159
Current President's Budget	43.553	25.144	27.024	-	27.024
Total Adjustments	-1.082	0.000	1.865	-	1.865
• Congressional General Reductions	-	0.000			
• Congressional Directed Reductions	-	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	-	0.000			
• Congressional Directed Transfers	-	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	-1.082	0.000			
• Other Adjustments	0.000	0.000	1.865	-	1.865

Change Summary Explanation

FY2012: -$1.082M for SBIR

FY2014: +$2.00M for Joint Force closed loop trainer
- $0.135 for higher Department priorities

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603438F: *Space Control Technology*	PROJECT 642611: *Technology Insertion Planning and Analysis*	

COST ($ in Millions)	All Prior Years	FY 2012	FY 2013#	FY 2014 Base	FY 2014 OCO ##	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
642611: *Technology Insertion Planning and Analysis*	-	25.595	5.799	5.560	-	5.560	6.151	6.410	6.978	7.104	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 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 2012	FY 2013	FY 2014
Title: SSA ***Description:*** Space Situational Awareness efforts such as key space situational awareness enabling technologies, space sensor value modeling and architecture analysis for responsive and resilient SSA. ***FY 2012 Accomplishments:*** Continued optical sensor evaluations to augment the Space Surveillance Network, and Space Object identification missions. Developed proximity Indications and Warning prototypes. Planned for qualification and flight testing.	14.274	0.000	0.000
Title: Survivability ***Description:*** Analysis to support vulnerability and survivability studies and projects. ***FY 2012 Accomplishments:*** Developed and delivered vulnerability report database.	2.096	0.000	0.000
Title: DCS ***Description:*** Provides asymmetric threat vulnerability and analysis in support of Space and Missile Center and partnered acquisition developments. ***FY 2012 Accomplishments:***	0.612	0.000	0.000

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603438F: *Space Control Technology*	PROJECT 642611: *Technology Insertion Planning and Analysis*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Completed risk reduction for a laser indications and warning (I&W) technology concept.			
Title: C2 ***Description:*** Develop techniques and technologies for integrated Space Control C2. ***FY 2012 Accomplishments:*** Analyzed space control mission needs for continued C2 efforts in support of Electronic Systems Command (ESC) mission transition. Delivered protype satellite tracking and orbit determination software.	0.050	0.000	0.000
Title: Rapid Reaction Branch (RRB) ***Description:*** Develops advanced capabilities in response to the 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 in response to warfighter urgent needs. ***FY 2012 Accomplishments:*** Developed advanced capabilities in response to warfighter JUONs. Integrated and tested new advanced techniques and technologies. Evaluated methods and techniques to answer new USSTRATCOM Evaluation Request Messages (EReqMs). Developed techniques and technologies for further expansion of current warfighter capabilities. ***FY 2013 Plans:*** Developing and testing quick reaction capabilities to satify the UONs, JUONs and EReqMs received from USSTRATCOM and other warfighting commands. ***FY 2014 Plans:*** Develop and test quick reaction capabilities to satify the UONs, JUONs and EReqMs received from USSTRATCOM and other warfighting commands.	8.154	3.799	3.560
Title: STINGER ***Description:*** Spacetrack Integration Node Global Enhanced Reporting (STINGER). Conversion of enhanced processing capability, developed for missile warning radar to use for the Space Situational Awareness program radars. ***FY 2012 Accomplishments:*** Converted enhanced processing capability developed for missile warning radar to use for the Space Situational Awareness program radars.	0.409	0.000	0.000
Title: Responsive, Resilient Space Architecture Support	0.000	2.000	2.000

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603438F: *Space Control Technology*	PROJECT 642611: *Technology Insertion Planning and Analysis*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
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. ***FY 2013 Plans:*** Assisting 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 2014 Plans:*** 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.			
Accomplishments/Planned Programs Subtotals	25.595	5.799	5.560

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• None: *None*	0.000	0.000	0.000		0.000	0.000	0.000	0.000	0.000	0.000	0.000

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-3, RDT&E Project Cost Analysis: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603438F: *Space Control Technology*	PROJECT 642611: *Technology Insertion Planning and Analysis*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Survivability	C/CPFF	DTIC:,	-	2.262	Jan 2012	0.000		0.000		-		0.000	0.000	2.262	11.386
SSA Development	Various	Various:Various,	-	13.563	Jan 2012	0.000		0.000		-		0.000	0.000	13.563	26.047
DCS Activities	Various	Various:Various,	-	0.660	Jan 2012	0.000		0.000		-		0.000	0.000	0.660	81.970
Counterspace C2	Various	Various:Various,	-	0.050	Jan 2012	0.000		0.000		-		0.000	0.000	0.050	6.906
Counterspace Technology Prototyping/Rapid Reaction Branch	Various	Various:Various,	-	6.773	Jan 2012	3.440	Jan 2013	3.195	Jan 2014	-		3.195	Continuing	Continuing	TBD
STINGER	Various	Various:Various,	-	0.409	Jan 2012	0.000		0.000		-		0.000	0.000	0.409	2.335
Space Control Architecture Products (ORS Concepts)	C/CPAF	TASC:Redondo Beach, CA	-	0.000		2.000	Jan 2013	2.000	Jan 2014	-		2.000	Continuing	Continuing	TBD
		Subtotal	0.000	23.717		5.440		5.195		0.000		5.195			

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Support	Various	Space and Missile Systems Center:El Segundo, CA	-	0.220	Jan 2012	0.154	Jan 2013	0.155	Jan 2014	-		0.155	Continuing	Continuing	TBD
		Subtotal	0.000	0.220		0.154		0.155		0.000		0.155			

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603438F: *Space Control Technology*	PROJECT 642611: *Technology Insertion Planning and Analysis*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Administration	Various	SMC:El Segundo, CA	-	1.658	Nov 2011	0.205	Nov 2012	0.210	Nov 2013	-		0.210	Continuing	Continuing	TBD
		Subtotal	0.000	1.658		0.205		0.210		0.000		0.210			

	All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	25.595		5.799		5.560		0.000		5.560			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603438F: *Space Control Technology*	PROJECT 642611: *Technology Insertion Planning and Analysis*

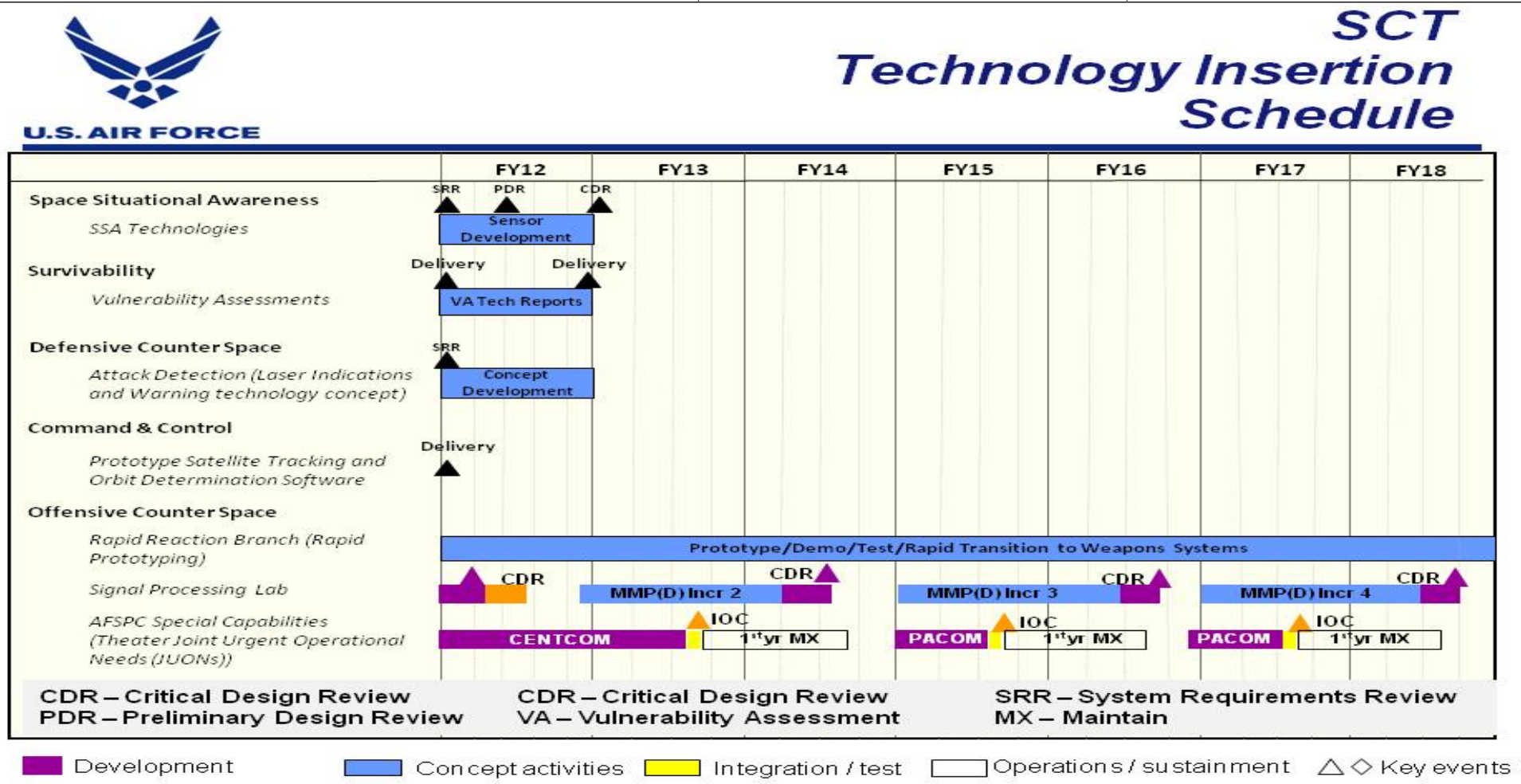


Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0603438F: *Space Control Technology*	**PROJECT** 642611: *Technology Insertion Planning and Analysis*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
SSA - Continue sensor development	1	2012	4	2012
SSA - Sensor development Critical Design Review	1	2013	1	2013
Survivability - Vulnerability Assessments and Technical Analysis	1	2012	4	2012
DCS - Attack Detection (Laser indications and warnings technology)	1	2012	4	2012
Command and Control Software Delivery	1	2012	1	2012
Rapid Prototyping	1	2012	4	2018
Signal Processing Lab (MMP(D) Increments 2 - 4)	4	2012	4	2018
AFSPC Special Capabilies Development	1	2012	3	2018

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603438F: *Space Control Technology*	PROJECT 64A007: *Space Range*	

COST ($ in Millions)	All Prior Years	FY 2012	FY 2013#	FY 2014 Base	FY 2014 OCO ##	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
64A007: *Space Range*	-	17.958	19.345	21.464	-	21.464	19.756	20.104	20.590	20.961	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 OCO Request will be submitted at a later date

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.

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

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Title: Range Control	16.216	17.698	17.629
Description: Development and acquisition of mobile, transportable, and fixed range monitoring and communications capabilities for the space range.			
FY 2012 Accomplishments: Successfully integrated initial Space Range Operations Center (iSROC) system into the Schriever AFB Space Range Operations Facility. Conducted DT and prepared for OT. Delivered the Space Common Scheduling Enterprise (S-CSE) range event scheduling tool. Conducted Signal Monitoring Unit (SMU) DT and prepared the SMU for OT. Began the SROC Spiral 1 upgrade.			
FY 2013 Plans: Operational acceptance of both iSROC and SMU to meet STTR IOC criteria. Finalize and deliver S-CSE Spiral-2 for Operational Test and Acceptance. Continue execution of SROC Spiral-1 upgrades. Award "Big Top" range family of systems contract for			

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603438F: *Space Control Technology*	PROJECT 64A007: *Space Range*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
capability development of world-wide distributed capability, analysis and scoring toolsets, scripted scenarios, with emulation and playback capability. Transfer Government Furnished Equipment prototypes to sustainable capabilities. ***FY 2014 Plans:*** 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 emulators.			
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 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.	0.000	0.000	2.000
Title: Bandwidth Support ***Description:*** Provides for leased SATCOM bandwidth for STTR operations. ***FY 2012 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 2013 Plans:*** Providing 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:*** Will acquire deployable range antenna/hardware required for OCONUS support of classified programs. Begin tech refresh of iSROC and SMU systems. Perform combined DT/OT of SROC Spiral-1. Continue executing SROC Spiral-3 (Virtual) Big Top capability. Deliver Big Top increment-1.	1.742	1.647	1.835
Accomplishments/Planned Programs Subtotals	17.958	19.345	21.464

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603438F: *Space Control Technology*	PROJECT 64A007: *Space Range*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• N/A: *None*	0.000	0.000	0.000		0.000	0.000	0.000	0.000	0.000	0.000	0.000

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-3, RDT&E Project Cost Analysis: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603438F: *Space Control Technology*	PROJECT 64A007: *Space Range*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Leased Bandwidth	SS/FFP	DISA:Arlington, VA	-	1.742	Feb 2012	1.500	Jan 2013	1.530	Jan 2014	-		1.530	Continuing	Continuing	TBD
Space Range Operations Center	C/CPAF	Harris Corp:Melbourne, FL	-	5.389	Feb 2012	4.228	Feb 2013	4.500	Feb 2014	-		4.500	Continuing	Continuing	TBD
Joint Closed Loop Trainer	TBD	TBD:TBD,	-	0.000		0.000		2.000	Jan 2014	-		2.000	Continuing	Continuing	TBD
STTR Transportable	C/TBD	TBD:TBD,	-	0.000		3.900	Jan 2013	3.100	Jan 2014	-		3.100	Continuing	Continuing	TBD
Signal Generation, Monitoring and Collection	Various	SMC:Los Angeles AFB, CA	-	4.015	Nov 2011	0.000		0.000		-		0.000	0.000	4.015	15.000
Range Scheduling Tool	Various	Various:Various,	-	0.200	Nov 2012	0.000		0.000		-		0.000	0.000	0.200	1.000
Advanced Capabilities Environment (ACE)	C/CPAF	Harris Corp:Melbourne, FL	-	0.000		4.260	Jan 2013	5.886	Jan 2014	-		5.886	Continuing	Continuing	TBD
Training Systems Requirements Analysis	C/CPAF	Spiral Solutions Tech:Omaha, NE	-	0.150	Apr 2011	0.200	Nov 2013	0.000		-		0.000	0.000	0.350	0.808
Interim Contractor Support	C/CPAF	Harris Corp:Melbourne, FL	-	2.357	Jan 2012	1.995	Nov 2013	0.000		-		0.000	0.000	4.352	4.300
Managment Operations	Various	TBD:TBD,	-	0.000		1.326	May 2013	1.806	May 2014	-		1.806	Continuing	Continuing	TBD
		Subtotal	0.000	13.853		17.409		18.822		0.000		18.822			

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Support	Various	SMC:El Segundo, CA	-	0.190	Jan 2012	0.189	Jan 2012	0.196	Jan 2014	-		0.196	Continuing	Continuing	TBD
		Subtotal	0.000	0.190		0.189		0.196		0.000		0.196			

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603438F: *Space Control Technology*	PROJECT 64A007: *Space Range*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Administration	Various	Space and Missile Systems Center:El Segundo, CA	-	2.436	Nov 2012	0.673	Jan 2013	0.505	Jan 2014	-		0.505	Continuing	Continuing	TBD
Logistics Support	C/CPAF	AT&T:El Segundo, CA	-	1.234	Mar 2012	0.889	Nov 2013	0.971	Nov 2014	-		0.971	Continuing	Continuing	TBD
Engineering and Technical Services	C/CPAF	AT&T:El Segundo, CA	-	0.245	Mar 2012	0.185	May 2013	0.970	May 2014	-		0.970	Continuing	Continuing	TBD
		Subtotal	0.000	3.915		1.747		2.446		0.000		2.446			

	All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	17.958		19.345		21.464		0.000		21.464			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603438F: *Space Control Technology*	PROJECT 64A007: *Space Range*

U.S. AIR FORCE

STTR Program Schedule

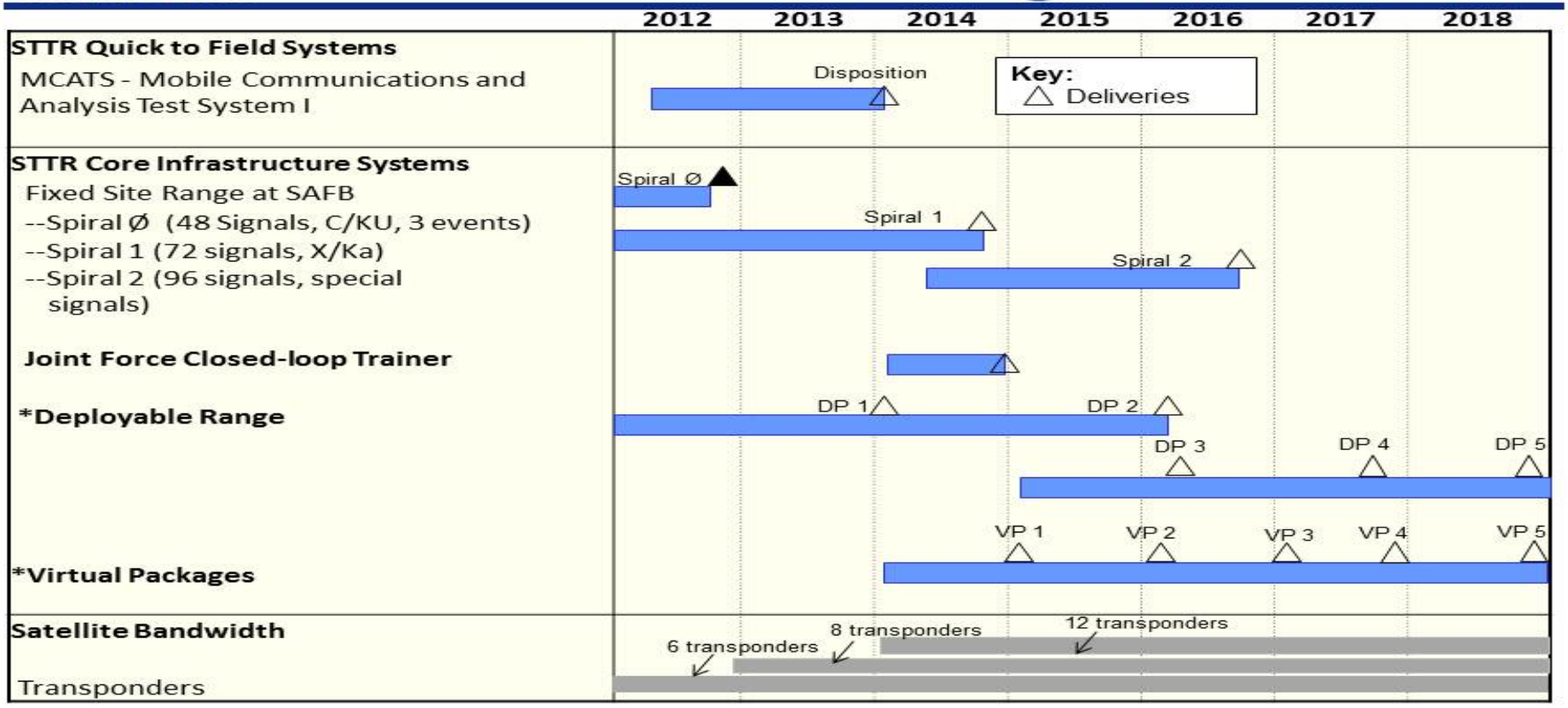


Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603438F: *Space Control Technology*	PROJECT 64A007: *Space Range*

Schedule Details

	Start		End	
Events	Quarter	Year	Quarter	Year
Operate Mobile Communications and Analysis Test System (MCATS) 1	1	2012	4	2013
Space Test and Training Range (STTR) Core Fixed Site development Spiral 0	1	2012	3	2012
STTR Core Fixed Site development Spiral 1	1	2012	4	2014
STTR Core Fixed Site development Spiral 2	2	2014	4	2016
Joint Closed Loop Trainer	1	2014	4	2014
Deployable Range Development	1	2012	3	2017
Deployable Range 1 Delivery	4	2013	4	2013
Deployable Range 2 Delivery	1	2016	1	2016
Deployable Range 3 Delivery	1	2016	1	2016
Deployable Range 4 Delivery	3	2017	3	2017
Deployable Range 5 Delivery	4	2018	4	2018
Virtual Package Development	1	2014	4	2018
Virtual Package 1 Delivery	1	2015	1	2015
Virtual Package 2 Delivery	1	2016	1	2016
Virtual Package 3 Delivery	1	2017	1	2017
Virtual Package 4 Delivery	4	2017	4	2017
Virtual Package 5 Delivery	4	2018	4	2018
Purchase Commercial Satellite Bandwidth	1	2012	4	2018

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force											DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*					R-1 ITEM NOMENCLATURE PE 0603742F: *Combat Identification Technology*							
COST ($ in Millions)	**All Prior Years**	**FY 2012**	**FY 2013#**	**FY 2014 Base**	**FY 2014 OCO ##**	**FY 2014 Total**	**FY 2015**	**FY 2016**	**FY 2017**	**FY 2018**	**Cost To Complete**	**Total Cost**
Total Program Element	-	37.039	32.243	15.899	-	15.899	29.116	28.203	26.298	26.771	Continuing	Continuing
642597: *Non-cooperative Identification Subsystems*	-	34.948	22.879	14.025	-	14.025	27.217	26.271	24.333	24.771	Continuing	Continuing
642599: *Cooperative Identification Techniques*	-	2.091	9.364	1.874	-	1.874	1.899	1.932	1.965	2.000	Continuing	Continuing

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 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). Numerous joint needs statements, 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 a Mode 5 IFF (Identify 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.

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 2014 Air Force					DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*			R-1 ITEM NOMENCLATURE PE 0603742F: *Combat Identification Technology*		
B. Program Change Summary ($ in Millions)	**FY 2012**	**FY 2013**	**FY 2014 Base**	**FY 2014 OCO**	**FY 2014 Total**
Previous President's Budget	38.447	32.243	25.052	-	25.052
Current President's Budget	37.039	32.243	15.899	-	15.899
Total Adjustments	-1.408	0.000	-9.153	-	-9.153
• Congressional General Reductions	-	0.000			
• Congressional Directed Reductions	-	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	-	0.000			
• Congressional Directed Transfers	-	0.000			
• Reprogrammings	-0.273	0.000			
• SBIR/STTR Transfer	-1.135	0.000			
• Other Adjustments	0.000	0.000	-9.153	-	-9.153

Change Summary Explanation

FY14 funding reduced to support higher AF priorities.

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603742F: *Combat Identification Technology*	PROJECT 642597: *Non-cooperative Identification Subsystems*	

COST ($ in Millions)	All Prior Years	FY 2012	FY 2013#	FY 2014 Base	FY 2014 OCO ##	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
642597: *Non-cooperative Identification Subsystems*	-	34.948	22.879	14.025	-	14.025	27.217	26.271	24.333	24.771	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 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; (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 is scheduled to be a new start in FY14; and (5) X-Patch, a validated set of prediction codes and analysis tools that predicts realistic far-field radar signatures from 3D 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 2012	FY 2013	FY 2014
Title: Laser Vision/3D Ladar	0.431	1.600	0.000
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 imaging laser radar (Ladar) and exploration of advanced concepts.			
FY 2012 Accomplishments:			

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603742F: *Combat Identification Technology*	PROJECT 642597: *Non-cooperative Identification Subsystems*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Completed plan for 3-D Ladar efforts. Established 3-D measures of performance and conducted a CID signature study. Continued advanced concept exploration. ***FY 2013 Plans:*** Continue 3-D Ladar development by evaluating candidate sensors and selecting a demonstration system. Provide a laboratory demonstration of 3D visualization. Continue advanced concept exploration. ***FY 2014 Plans:*** N/A			
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 2012 Accomplishments:*** Completed system description and requirements review. Initiated sensor design. ***FY 2013 Plans:*** Conduct design reviews and procure long lead items. Initiate vibrometry aided target recognition (ATR) development. ***FY 2014 Plans:*** Will continue fabrication of the demonstration system and lab testing. Will continue ATR development.	3.053	4.564	5.030
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 2012 Accomplishments:*** Performed final airborne demonstration of real-time combined fixed and moving target combat identification capability. Continued denied target development. Initiated project to develop technologies that can utilize new wide area radar sensors and signal processing for improved all weather day and night combat identification. ***FY 2013 Plans:***	5.358	1.000	0.000

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603742F: *Combat Identification Technology*	PROJECT 642597: *Non-cooperative Identification Subsystems*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Complete detailed final performance evaluation of combined fixed and moving target combat identification capability including algorithms and real sensor data. Complete denied target development and demonstration. Complete development and implemention of technologies that will utilize wide area radar identification. ***FY 2014 Plans:*** N/A			
Title: Passive RF ID ***Description:*** Develop passive RF target ID capability for denied access environment utilizing passive RF and EW information for non- traditional ISR. Passive RF ID is a new start in FY14. ***FY 2012 Accomplishments:*** N/A ***FY 2013 Plans:*** N/A ***FY 2014 Plans:*** Will explore concepts for RF-based CID to include bistatic / multi-static, passive incorporation of electronic warfare techniques and multi-mode applications.	0.000	0.000	0.200
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 2012 Accomplishments:*** Air to Air: conducted data collections and completed an operational database. Air to Ground: efforts integrated ATR fusion elements into a complete system. Initiated planning for a lab demonstration. ***FY 2013 Plans:*** Air to Air: continue ATR development and preparation for a real time demonstration. Air to Ground: complete a lab and flight demonstration as well as ATR performance evaluation. Initiate Compact ATR and sustainable environments (CASE) technology analysis efforts in compact feature and missionized ATR. ***FY 2014 Plans:***	5.801	8.506	2.921

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603742F: *Combat Identification Technology*	PROJECT 642597: *Non-cooperative Identification Subsystems*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Air to Air: will continue to refine fusion algorithms to maximize performance. Will demonstrate 2 feature fusion with ground based radar. Air to Ground: will complete ATR performance evaluation and plan for an operational demonstration.			
Title: Compact ATR and Sustainable Environment (CASE) / Missionized ATR (MATR) ***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) Utilizes battlefield knowledge to improve CID capability by optimizing algorithm performance using real time mission data. (Missionized ATR / MATR) ***FY 2012 Accomplishments:*** N/A ***FY 2013 Plans:*** N/A ***FY 2014 Plans:*** Will begin technology development in compact feature and missionized ATR initiated in Hydra Vision. Will analyze feature extraction / uncertainty using low fidelity / physical feature target models. Will create compact feature ATR database and assess saliency and target discrimination utility. Will establish intelligence data paths into ATR and insert context reasoning and adaptive tuning into ATR. Will develop on-the-fly database insertion.	0.000	0.000	1.474
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 2012 Accomplishments:*** Determined approach and selected EADSIM (Extended Air Defense Simulation) as the baseline M&S tool. ***FY 2013 Plans:*** Develop and refine M&S tools. Define mission scenarios to exercise and evaluate analysis capability. ***FY 2014 Plans:***	1.000	1.500	0.900

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603742F: *Combat Identification Technology*	PROJECT 642597: *Non-cooperative Identification Subsystems*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Will apply M&S capability to real world CID technology evaluation.			
Title: Studies ***Description:*** Conduct CID-related studies/demos. ***FY 2012 Accomplishments:*** Continued AFIT related CID projects and studies. Funded Anomalies in Hyper Spectral Imaging (HSI) and Improved Hyperspectral Image Processing Algorithm Testing Using Synthetic Imagery as two of our AFIT studies. ***FY 2013 Plans:*** Continue study projects leading to new concepts for non-cooperative and cooperative CID efforts. ***FY 2014 Plans:*** N/A	1.178	1.548	0.000
Title: X-Patch ***Description:*** X-Patch consists of software code refinement based on feedback from the X-Patch user community. ***FY 2012 Accomplishments:*** Continued funding X-Patch RDT&E tool development and sustainment. ***FY 2013 Plans:*** Continue funding X-Patch RDT&E tool development and sustainment. ***FY 2014 Plans:*** Will continue funding X-Patch RDT&E tool development and sustainment.	2.868	3.161	2.500
Title: Automatic Dependent Surveillance-Broadcast (ADS-B) ***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 (Identify 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 2012 Accomplishments:*** Continued ADS-B TIP development of hardware and software into the APX-119 transponder. Awarded contracts Phase 1A and 1B. ***FY 2013 Plans:***	13.960	0.000	0.000

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
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B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
N/A ***FY 2014 Plans:*** N/A			
Title: Program Management Activity ***Description:*** Program costs for program offices support contractor, travel and overhead costs. ***FY 2012 Accomplishments:*** Funded program costs for contractors, travel, and overhead costs. ***FY 2013 Plans:*** Fund program costs for contractors, travel, and overhead costs. ***FY 2014 Plans:*** Will fund program costs for contractors, travel, and overhead costs.	1.299	1.000	1.000
Accomplishments/Planned Programs Subtotals	34.948	22.879	14.025

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).

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 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603742F: *Combat Identification Technology*	PROJECT 642597: *Non-cooperative Identification Subsystems*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Radar Vision (Denied Target/Increment 5) & Hydra Vision (Air to Air)	C/CPFF	Northrop Grumman:Linthicum Heights, MD	-	3.610	Nov 2011	0.500	Nov 2012	1.000	Dec 2013	-		1.000	Continuing	Continuing	TBD
Radar Vision (Increment 5) & Hydra Vision	C/CPFF	Raytheon Company:El Segundo, CA	-	2.727	Dec 2011	1.550	May 2013	0.760	Mar 2014	-		0.760	Continuing	Continuing	TBD
SIREN	C/CPFF	Northrop Grumman:Rowling Meadows, IL	-	3.553	Nov 2011	4.000	Jan 2013	4.700	Feb 2014	-		4.700	Continuing	Continuing	TBD
SIREN VAMP - ALTAR	C/CPFF	SAIC:McLean, VA	-	0.000	Nov 2012	0.300	May 2013	0.330	Jan 2014	-		0.330	Continuing	Continuing	TBD
Laser Vision - 3D Ladar AMP	C/CPFF	DRS RSTA Inc.:Dallas, TX	-	0.431	Sep 2012	1.500	Jan 2013	0.000	Feb 2014	-		0.000	Continuing	Continuing	TBD
Signature Center, Hydra Vision	C/CPFF	SAIC:Mclean, VA	-	0.705	Jan 2012	0.755	May 2013	0.000	Feb 2014	-		0.000	Continuing	Continuing	TBD
Radar Vision & Hydra Vision	C/CPFF	General Dynamics:Beavercreek, OH	-	0.757	Dec 2011	0.250	May 2013	0.000	Jan 2014	-		0.000	Continuing	Continuing	TBD
Compase Center - Evaluation	C/CPFF	Jacobs:Ft. Walton Beach, FL	-	0.575	Dec 2011	0.375	Jan 2013	0.000	Jan 2014	-		0.000	Continuing	Continuing	TBD
Target Recognition & Tracking Technology	MIPR	Sandia:Albuquerque, NM	-	1.400	Dec 2011	1.330	May 2013	0.000		-		0.000	Continuing	Continuing	TBD
Studies	MIPR	AFIT, NASIC:Dayton, OH	-	0.050	Apr 2012	0.050	Jul 2013	0.000		-		0.000	Continuing	Continuing	TBD
Studies - ECID	MIPR	Booz Allen Hamilton:McLean, VA	-	1.000	Mar 2012	2.000	Jun 2013	0.900	Apr 2014	-		0.900	Continuing	Continuing	TBD
Hydra Vision - Air to Ground	C/CPFF	BAE Systems:Burlington, MA	-	1.981	Jan 2012	1.000	May 2013	0.000	Feb 2014	-		0.000	Continuing	Continuing	TBD
Hydra Vision- Ops Demo	C/CPFF	General Atomics:San Diego, CA	-	0.240	Nov 2012	0.800	May 2013	1.161	Feb 2014	-		1.161	Continuing	Continuing	TBD

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603742F: *Combat Identification Technology*	PROJECT 642597: *Non-cooperative Identification Subsystems*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Hydra Vision - SCEPTIC	C/CPFF	Intelligent Software Solutions:Colorado Springs, CA	-	0.275	Jan 2012	0.050	Feb 2013	0.000		-		0.000	Continuing	Continuing	TBD
Hydra Vision - Study	C/CPFF	Ohio State University:Columbus, OH	-	0.200	Apr 2012	0.000		0.000		-		0.000	Continuing	Continuing	TBD
X-Patch	MIPR	GSA:Atlanta, GA	-	1.621	Mar 2012	1.554	May 2013	1.200	Jan 2014	-		1.200	Continuing	Continuing	TBD
Radar Vision & Hydra Vision - Core Database	C/CPFF	McAulay Brown:Dayton, OH	-	0.025	Jul 2012	0.050	May 2013	0.000		-		0.000	Continuing	Continuing	TBD
Hydra Vision - MATR Demo & Analysis	C/CPFF	TBD:TBD,	-	0.000		1.000	Jun 2013	0.000		-		0.000	Continuing	Continuing	TBD
Hydra Vision - Compact ATR & Sustainable Environment Analysis	C/CPFF	TBD:TBD,	-	0.000		2.430	Mar 2013	0.000		-		0.000	Continuing	Continuing	TBD
Compact Feature ATR	C/CPFF	TBD:TBD,	-	0.000		0.000		1.474	Jan 2014	-		1.474	Continuing	Continuing	TBD
Missionized ATR	C/CPFF	TBD:TBD,	-	0.000		0.000		0.000	Jan 2014	-		0.000	Continuing	Continuing	TBD
ADS-B Technology Insertion Program: Phase 1A & 1B	SS/CPFF	Raytheon:Baltimore, MD	-	2.149	Jul 2012	0.000		0.000		-		0.000	Continuing	Continuing	TBD
ADS-B Technology Insertion Program: Phase 2 & 3	SS/CPFF	Raytheon:Baltimore, MD	-	10.051	Jan 2013	0.000		0.000		-		0.000	Continuing	Continuing	TBD
Passive RF ID	C/CPFF	TBD:TBD,	-	0.000		0.000		0.200	Aug 2014	-		0.200	Continuing	Continuing	TBD
		Subtotal	0.000	31.350		19.494		11.725		0.000		11.725			

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
System Program Office support	Various	ESC HSJJ:Hanscom AFB, MA	-	0.093	Oct 2011	0.100	Oct 2012	0.000		-		0.000	Continuing	Continuing	TBD

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603742F: *Combat Identification Technology*	PROJECT 642597: *Non-cooperative Identification Subsystems*	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Air Force Research Laboratory	Various	AFRL:Dayton, OH	-	0.017	Oct 2011	0.000		0.000		-		0.000	Continuing	Continuing	TBD
Robins AFB (X-Patch)	MIPR	402 MXW/ OBWB:Robins AFB, GA	-	1.048	Oct 2011	1.661	May 2013	1.300	Dec 2013	-		1.300	Continuing	Continuing	TBD
Providing various technical support and assessing ADS-B capabilities. MITRE	C/T&M	MITRE:Bedford, MA	-	0.323	Oct 2012	0.100	Apr 2013	0.000	Mar 2013	-		0.000	Continuing	Continuing	TBD
		Subtotal	0.000	1.481		1.861		1.300		0.000		1.300			

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Radar Vision & Hydra Vision	MIPR	46th Test Wing:Eglin, FL	-	0.225	May 2012	0.314	Dec 2012	0.000		-		0.000	Continuing	Continuing	TBD
Radar Vision/Denied Target	MIPR	Aberdeen Test Center:Aberdeen, MD	-	0.065	Mar 2012	0.050	Jan 2013	0.000		-		0.000	Continuing	Continuing	TBD
Radar Vision/Hydra Vision	MIPR	MSIC/AMRDEC/ RTTC:Redstone Arsenal, AL	-	0.618	Apr 2012	0.160	Jun 2013	0.000		-		0.000	Continuing	Continuing	TBD
		Subtotal	0.000	0.908		0.524		0.000		0.000		0.000			

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
ESC PMA	Various	Jacobs, Odyssey, MITRE:Hanscom AFB, MA	-	0.473	Oct 2011	0.000		0.000		-		0.000	Continuing	Continuing	TBD
AFRL PMA	MIPR	GSA:Denver, CO	-	0.407	May 2012	1.000	Apr 2013	1.000	Feb 2014	-		1.000	Continuing	Continuing	TBD

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603742F: *Combat Identification Technology*	PROJECT 642597: *Non-cooperative Identification Subsystems*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
AFRL Hydra Vision	C/T&M	SAIC:McLean, MD	-	0.300	Jan 2012	0.000		0.000		-		0.000	Continuing	Continuing	TBD
ADS-B A&AS SCS	C/T&M	Tecolote:Bedford, MA	-	0.029	Aug 2012	0.000		0.000		-		0.000	Continuing	Continuing	TBD
		Subtotal	0.000	1.209		1.000		1.000		0.000		1.000			

	All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	34.948		22.879		14.025		0.000		14.025			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0603742F: *Combat Identification Technology*	**PROJECT** 642597: *Non-cooperative Identification Subsystems*

Non-Cooperative CID Technology Schedule

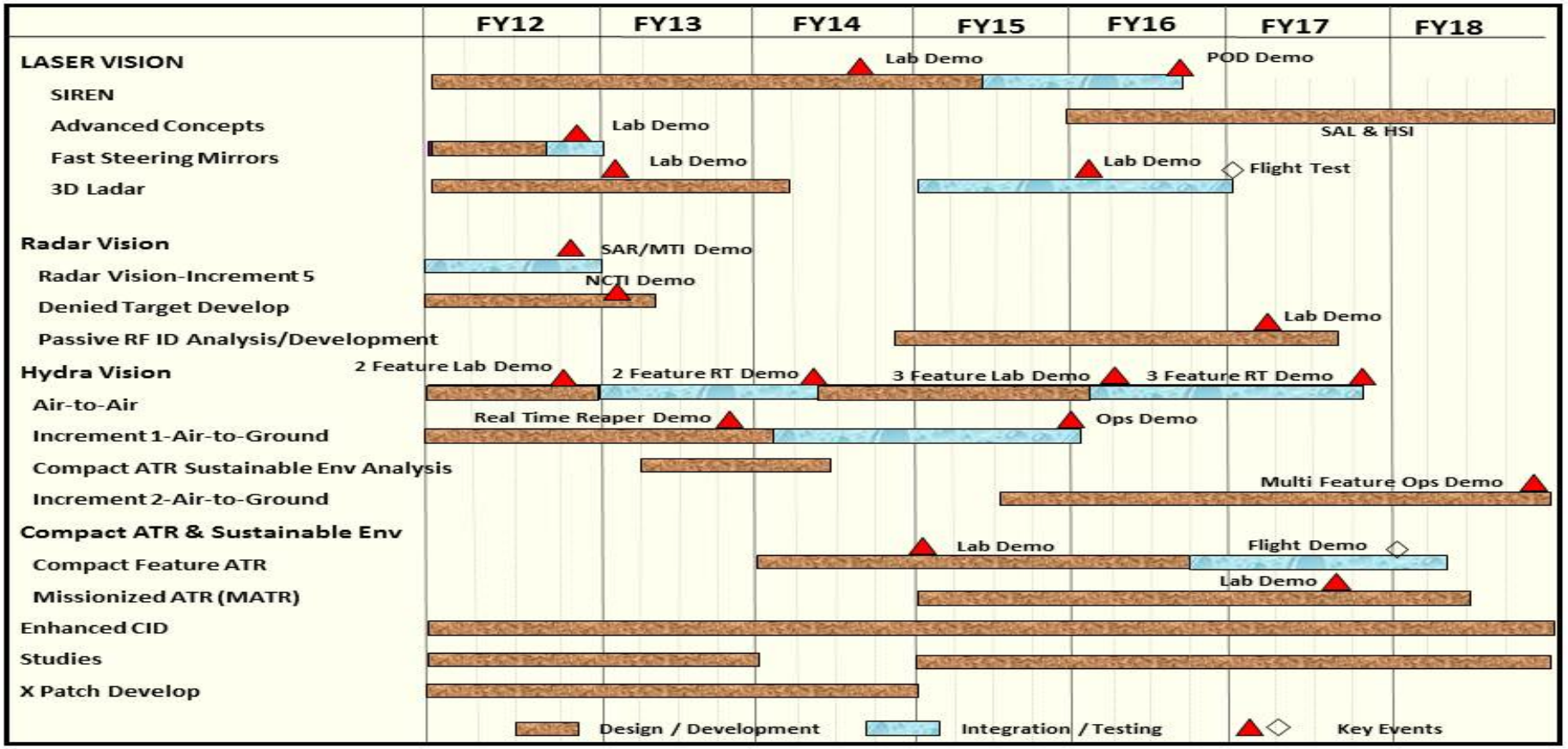


Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0603742F: *Combat Identification Technology*	**PROJECT** 642597: *Non-cooperative Identification Subsystems*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
LASER VISION - Siren	1	2012	3	2016
LASER VISION - Advanced Concepts	1	2016	4	2018
LASER VISION - Fast Mirror Technology Insertion	1	2012	1	2013
LASER VISION - 3D Ladar	1	2012	1	2014
LASER VISION - 3D Ladar - Integration / Testing	1	2015	1	2017
LASER VISION - 3D Ladar - Flight Test	1	2017	1	2017
RADAR VISION - Radar Vision Increment 5	1	2012	4	2012
RADAR VISION - Denied Target Development	1	2012	2	2013
RADAR VISION - Passive RF ID Analysis/Development	4	2014	3	2017
Hydra Vision - Air to Air	1	2012	4	2017
Hydra VISION - Increment 1 - Air-to-Ground	1	2012	1	2016
Hydra VISION - Compact ATR Sustainable Env Analysis	2	2013	2	2014
Hydra VISION - Increment 2 - Air-to-Ground	3	2015	4	2018
Compact ATR - Compact Feature ATR	1	2014	2	2018
Compact ATR- Compact Feature ATR - Flight Demo	1	2018	1	2018
Compact ATR - Missionized ATR (MATR)	1	2015	3	2018
Enhanced CID	1	2012	4	2018
Studies	1	2012	4	2013
Studies (Resumed)	1	2015	4	2018
X-Patch Development	1	2012	4	2014

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force			DATE: April 2013
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COST ($ in Millions)	All Prior Years	FY 2012	FY 2013#	FY 2014 Base	FY 2014 OCO ##	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
642599: *Cooperative Identification Techniques*	-	2.091	9.364	1.874	-	1.874	1.899	1.932	1.965	2.000	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 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:

(1) 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.

(2) Automatic Dependent Surveillance-Broadcast (ADS-B) Technology Insertion Program (TIP): This project performs preliminary integration of ADS-B architecture into the APX-119 Mark XIIA IFF 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.

(3) Digital IFF Control Panel: This project develops a Digital IFF Control Panel (DCP) to support Mode 5 and ADS-B insertion programs into Air Force platforms with an ARINC 429 based avionics architecture. The DCP will provide a standard control panel for AF aircraft with built in capability for IFF support of ADS-B and beyond.

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. Current efforts include investigation of Radio Based Combat Identification; an active challenge reply system leveraging Single Channel Ground and Airborne Radio System (SINCGARS) capable ground and aircraft targeting pod mounted radios for air-to-ground friendly identification.

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
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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 2012	FY 2013	FY 2014
Title: ADS-B TIP	0.000	5.500	0.000
Description: Automatic Dependent Surveillance-Broadcast (ADS-B) TIP: This project will fund preliminary RDT&E for integration of ADS-B architecture into the APX-119 Mark XIIA IFF 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 2012 Accomplishments:*** N/A ***FY 2013 Plans:*** Continue ADS-B TIP development of software and hardware into the APX-119 transponder. ***FY 2014 Plans:*** N/A			
Title: AIMS Program Office	2.091	1.864	1.874
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 2012 Accomplishments:*** Continued to fund AIMS for interoperability testing, FAA liason, and support of Mode 4 / Mode 5 equipment. ***FY 2013 Plans:*** Continue to fund AIMS for interoperability testing, FAA liason, and support of Mode 4 / Mode 5 equipment. ***FY 2014 Plans:*** Will continue to fund AIMS for interoperability testing, FAA liason, and support of Mode 4 / Mode 5 equipment.			
Title: Digital IFF Control Panel	0.000	2.000	0.000
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 the basic Mode 5 Digital IFF Control Panel for ADS-B, Mode 5 software changes, and Mode 5 Level 2 corrections.			

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603742F: *Combat Identification Technology*	PROJECT 642599: *Cooperative Identification Techniques*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
FY 2012 Accomplishments: N/A ***FY 2013 Plans:*** Continue to upgrade the Digital IFF Control Panel for ADS-B, Mode 5 changes, and Mode 5 Level 2 corrections. ***FY 2014 Plans:*** N/A			
Accomplishments/Planned Programs Subtotals	2.091	9.364	1.874

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

The schedule for ADS-B is only on the Cooperative Schedule.

D. Acquisition Strategy

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

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 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603742F: *Combat Identification Technology*	PROJECT 642599: *Cooperative Identification Techniques*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Automatic Depentent Surveillance - Broadcast (ADS-B) Phase 2 & 3	SS/CPFF	Raytheon:Baltimore, MD	-	0.000		4.794	Aug 2013	0.000		-		0.000	Continuing	Continuing	TBD
Digital IFF Control Panel	C/CPFF	L-3 Comm:Greenville, TX	-	0.000		2.000		0.000		-		0.000	Continuing	Continuing	TBD
		Subtotal	0.000	0.000		6.794		0.000		0.000		0.000			

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Providing various technical support and assessing ADS-B capabilities. MITRE	C/T&M	MITRE:Bedford, MA	-	0.000		0.100	Dec 2012	0.000		-		0.000	Continuing	Continuing	TBD
Providing various technical support ETASS	TBD	TBD:TBD,	-	0.000		0.240	Apr 2013	0.000		-		0.000	Continuing	Continuing	TBD
Systems Engineering / Program Management (AIMS PO) AF616	C/FFP	WRALC/ENT:Robins AFB, GA	-	2.091	Nov 2011	1.864	Nov 2012	1.874	Nov 2013	-		1.874	Continuing	Continuing	TBD
		Subtotal	0.000	2.091		2.204		1.874		0.000		1.874			

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603742F: *Combat Identification Technology*	PROJECT 642599: *Cooperative Identification Techniques*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Providing program office support - A&AS SCS	C/T&M	Tecolote:Bedford, MA	-	0.000		0.060	Oct 2012	0.000		-		0.000	Continuing	Continuing	TBD
Providing various technical support - PASS	C/TBD	TBD:TBD,	-	0.000	Apr 2012	0.240	Apr 2013	0.000		-		0.000	Continuing	Continuing	TBD
Program Office Support	Various	TBD:Bedford, MA	-	0.000		0.066	Oct 2012	0.000		-		0.000	Continuing	Continuing	TBD
		Subtotal	0.000	0.000		0.366		0.000		0.000		0.000			

	All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	2.091		9.364		1.874		0.000		1.874			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603742F: *Combat Identification Technology*	PROJECT 642599: *Cooperative Identification Techniques*

Cooperative CID Technology Schedule

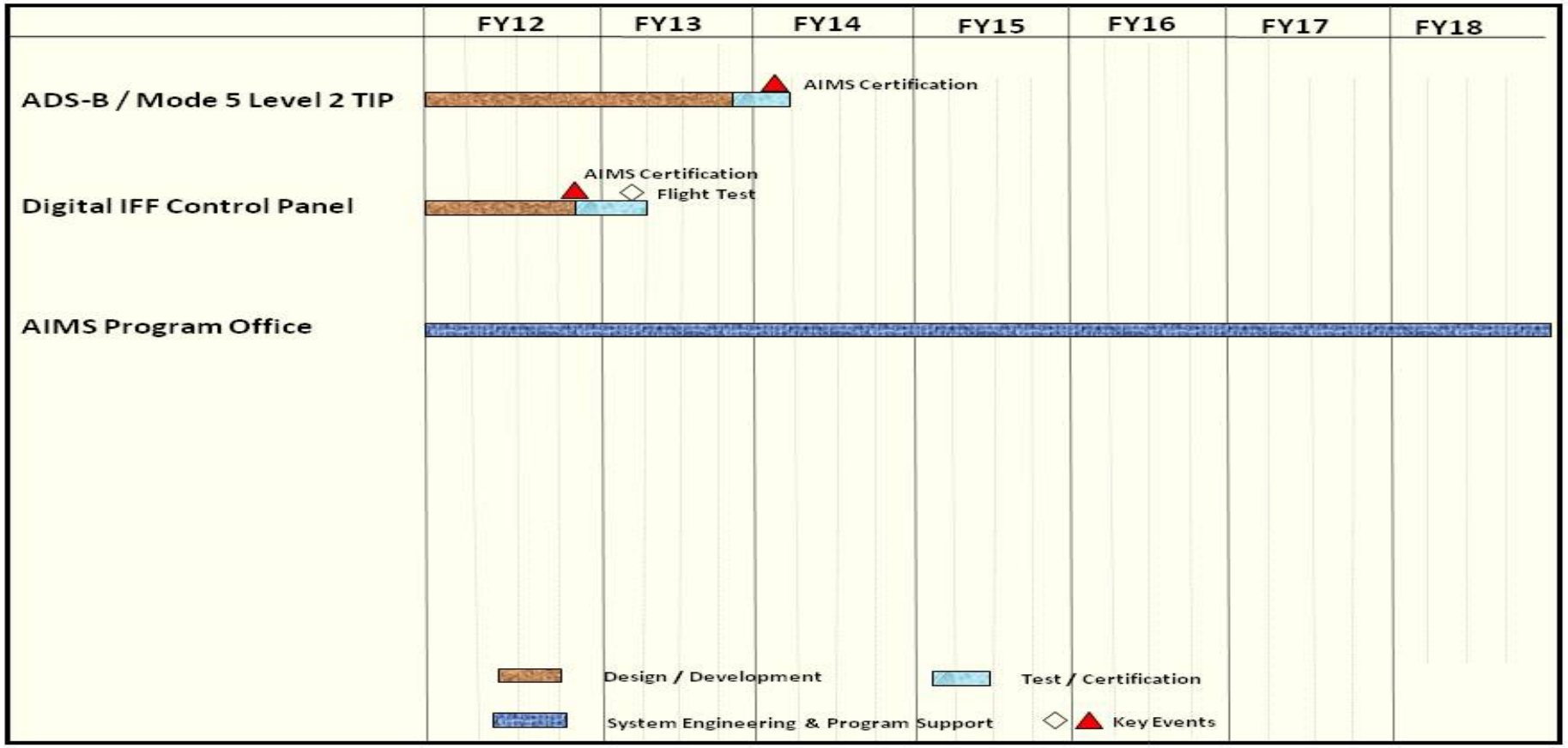


Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0603742F: *Combat Identification Technology*	**PROJECT** 642599: *Cooperative Identification Techniques*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
ADS-B / M5L2 TIP	1	2012	1	2014
ADS-B / M5L2 TIP - AIMS Certification	1	2014	1	2014
Digital IFF Control Panel	1	2012	1	2013
Digital IFF Control Panel - AIMS Certification	4	2012	4	2012
Digital IFF Control Panel - Flight Test	1	2013	1	2013
AIMS Program Office Support	1	2012	4	2018

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force											DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*					R-1 ITEM NOMENCLATURE PE 0603790F: *NATO Research and Development*							
COST ($ in Millions)	**All Prior Years**	**FY 2012**	**FY 2013#**	**FY 2014 Base**	**FY 2014 OCO ##**	**FY 2014 Total**	**FY 2015**	**FY 2016**	**FY 2017**	**FY 2018**	**Cost To Complete**	**Total Cost**
Total Program Element	-	4.424	4.507	4.568	-	4.568	4.633	4.715	4.795	4.881	Continuing	Continuing
64NATO: *Nato Coop R&D*	-	4.424	4.507	4.568	-	4.568	4.633	4.715	4.795	4.881	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 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 programs and projects are required to have a concluded international agreements (IA), prior to funds being released, that implements the provisions of Title 10 U.S. Code, Section 2350a. The 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 program element 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 PE is designated in Budget Activity 4 because most of the ICR&D projects support specific systems, include all efforts necessary to evaluate integrated technologies in as realistic an operating environment as possible to assess the performance or cost reduction potential of advanced technology, and help expedite technology transition from the laboratory to operational use.

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force					DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*			R-1 ITEM NOMENCLATURE PE 0603790F: *NATO Research and Development*		
B. Program Change Summary ($ in Millions)	**FY 2012**	**FY 2013**	**FY 2014 Base**	**FY 2014 OCO**	**FY 2014 Total**
Previous President's Budget	4.424	4.507	4.568	-	4.568
Current President's Budget	4.424	4.507	4.568	-	4.568
Total Adjustments	0.000	0.000	0.000	-	0.000
• Congressional General Reductions	-	0.000			
• Congressional Directed Reductions	-	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	-	0.000			
• Congressional Directed Transfers	-	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	0.000	0.000	0.000	-	0.000

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Title: International Cooperative Research and Development	4.424	4.507	4.568

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 2012 Accomplishments:
FY12 cooperative projects included but were not limited to: Monitoring and Controlling Multiple Assets within Complex Environments; Closed Loop Alternative Navigation Demonstrations; Joint and Coalition Training, Rehearsal, and Exercise Research; Life Prediction for Metallic Aircraft Structures; Aero Advisory and NOTAMS Tools; Cultural Radar for Human Terrain Effects; Computational Multi-Scale Modeling of Explosives; High Speed Penetrator Cases; and others

FY 2013 Plans:
FY13 cooperative projects include but are not limited to: Surveillance by Thermal Hypersectral Imaging Exploitation and Validation of Technology; Unmanned Aircraft Systems Heavy Fuels Operations; Background Oriented Schlieren Comparison; 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; SiC/SiC-UHTC Compositions; and others

FY 2014 Plans:

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0603790F: *NATO Research and Development*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
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 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			
Accomplishments/Planned Programs Subtotals	4.424	4.507	4.568

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 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-3, RDT&E Project Cost Analysis: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603790F: *NATO Research and Development*	PROJECT 64NATO: *Nato Coop R&D*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
International Research Projects	Various	Various:,	-	3.998	Feb 2012	3.887	Feb 2013	3.568	Feb 2014	-		3.568	Continuing	Continuing	
		Subtotal	0.000	3.998		3.887		3.568		0.000		3.568			

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
International Research Projects	Various	Various:,	-	0.426	Feb 2012	0.620	Feb 2013	1.000	Feb 2014	-		1.000	Continuing	Continuing	
		Subtotal	0.000	0.426		0.620		1.000		0.000		1.000			

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

	All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	4.424		4.507		4.568		0.000		4.568			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603790F: *NATO Research and Development*	PROJECT 64NATO: *Nato Coop R&D*

PE 63790F – International Cooperative Research and Development Schedule

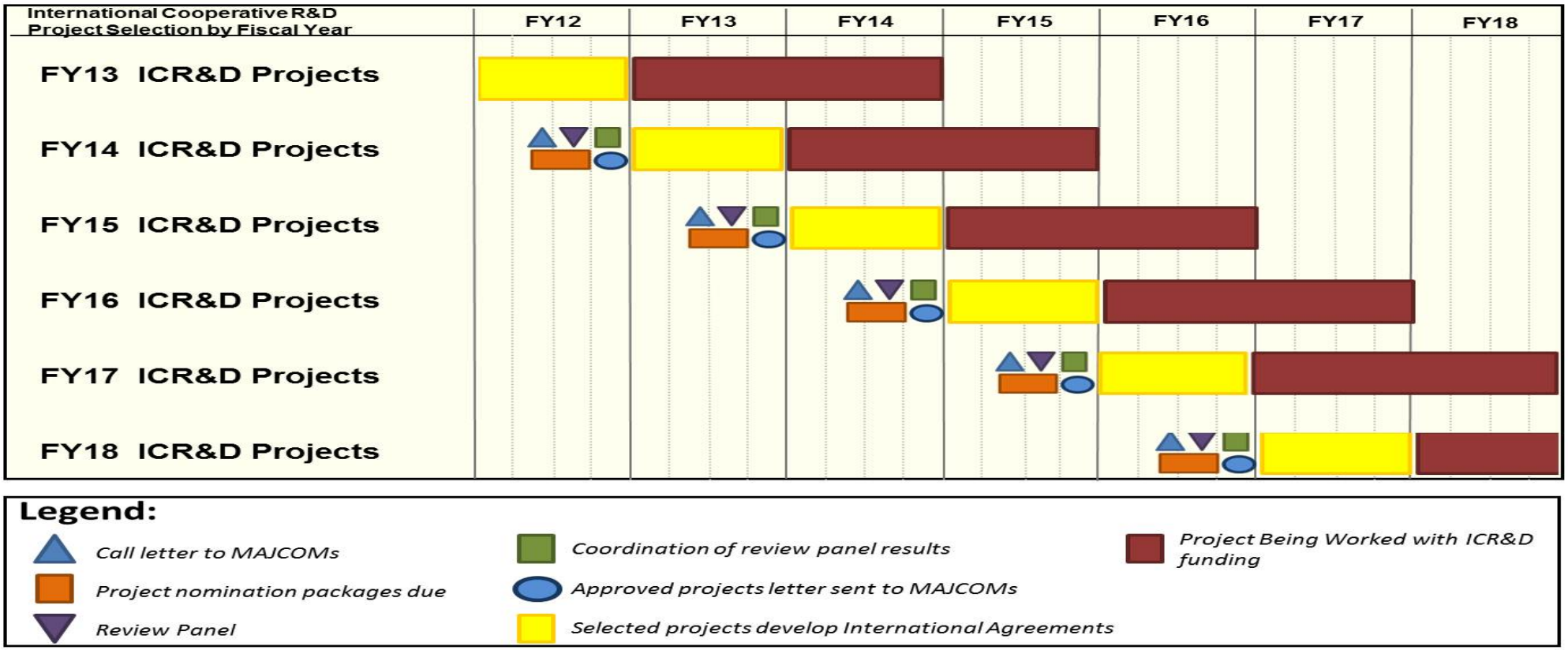


Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0603790F: *NATO Research and Development*	**PROJECT** 64NATO: *Nato Coop R&D*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
FY14 ICR&D Projects - Call Letter	2	2012	2	2012
FY14 ICR&D Projects - nomination package development	2	2012	3	2012
FY14 ICR&D Projects - Review panel	3	2012	3	2012
FY14 ICR&D Projects - Coordination of review panel results	4	2012	4	2012
FY14 ICR&D Projects - Approved projects letter sent to MAJCOMs	4	2012	4	2012
FY14 ICR&D Projects - Agreement development, negotiations, and signature	1	2013	4	2013
FY14 ICR&D Projects - RDT&E cooperative project work	1	2014	4	2015
FY15 ICR&D Projects - Call Letter	2	2013	2	2013
FY15 ICR&D Projects - Approved projects letter sent to MAJCOMs	4	2013	4	2013
FY15 ICR&D Projects - RDT&E cooperative project work	1	2015	4	2016
FY16 ICR&D Projects - Call Letter	2	2014	2	2014
FY16 ICR&D Projects - Approved projects letter sent to MAJCOMs	4	2014	4	2014
FY16 ICR&D Projects - RDT&E cooperative project work	1	2016	4	2017
FY17 ICR&D Projects - Call Letter	2	2015	2	2015
FY17 ICR&D Projects - Approved projects letter sent to MAJCOMs	4	2015	4	2015
FY17 ICR&D Projects - RDT&E cooperative project work	1	2017	4	2018
FY18 ICR&D Projects - Call Letter	2	2016	2	2016
FY18 ICR&D Projects - Approved projects letter sent to MAJCOMs	4	2016	4	2016
FY18 ICR&D Projects - RDT&E cooperative project work	1	2018	4	2018

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force											DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*					R-1 ITEM NOMENCLATURE PE 0603791F: *International Space Cooperative R&D*							
COST ($ in Millions)	**All Prior Years**	**FY 2012**	**FY 2013#**	**FY 2014 Base**	**FY 2014 OCO ##**	**FY 2014 Total**	**FY 2015**	**FY 2016**	**FY 2017**	**FY 2018**	**Cost To Complete**	**Total Cost**
Total Program Element	-	0.615	0.652	0.379	-	0.379	0.843	0.805	0.702	0.714	Continuing	Continuing
645035: *Intl Space Coop R&D*	-	0.615	0.652	0.379	-	0.379	0.843	0.805	0.702	0.714	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 OCO Request will be submitted at a later date

A. Mission Description and Budget Item Justification

These funds will be used to initiate space-related international cooperative research, and development (ICR&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. The 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 spent overseas. This program element 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 PE is designated in Budget Activity 4 because most of the ICR&D projects support specific systems, include all efforts necessary to evaluate integrated technologies in as realistic an operating environment as possible to assess the performance or cost reduction potential of advanced technology, and help expedite technology transition from the laboratory to operational use. These funds are not to be used for civilian salaries or the construction of permanent facilities.

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force					DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*			R-1 ITEM NOMENCLATURE PE 0603791F: *International Space Cooperative R&D*		
B. Program Change Summary ($ in Millions)	**FY 2012**	**FY 2013**	**FY 2014 Base**	**FY 2014 OCO**	**FY 2014 Total**
Previous President's Budget	0.615	0.652	0.661	-	0.661
Current President's Budget	0.615	0.652	0.379	-	0.379
Total Adjustments	0.000	0.000	-0.282	-	-0.282
• Congressional General Reductions	-	0.000			
• Congressional Directed Reductions	-	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	-	0.000			
• Congressional Directed Transfers	-	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	0.000	0.000	-0.282	-	-0.282

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Title: International Space Cooperative Research and Development	0.615	0.652	0.379
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 2012 Accomplishments:*** FY12 cooperative projects include but are not limited to: Ionospheric Effects on Intel, Surveillance and Reconnaissance, Space Situational Awareness and Defensive Counterspace; Global Positioning System Electronic Prevention; and others ***FY 2013 Plans:*** FY13 cooperative projects include but are 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			
Accomplishments/Planned Programs Subtotals	0.615	0.652	0.379

D. Other Program Funding Summary ($ in Millions)

N/A

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603791F: *International Space Cooperative R&D*

D. Other Program Funding Summary ($ in Millions)

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 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 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-3, RDT&E Project Cost Analysis: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603791F: *International Space Cooperative R&D*	PROJECT 645035: *Intl Space Coop R&D*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
International Research Projects	Various	Various:,	-	0.615	Dec 2011	0.652	Jan 2013	0.379	Feb 2014	-		0.379	Continuing	Continuing	
		Subtotal	0.000	0.615		0.652		0.379		0.000		0.379			

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

	All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	0.615		0.652		0.379		0.000		0.379			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603791F: *International Space Cooperative R&D*	PROJECT 645035: *Intl Space Coop R&D*

PE 63791F – International Space Cooperative Research and Development Schedule

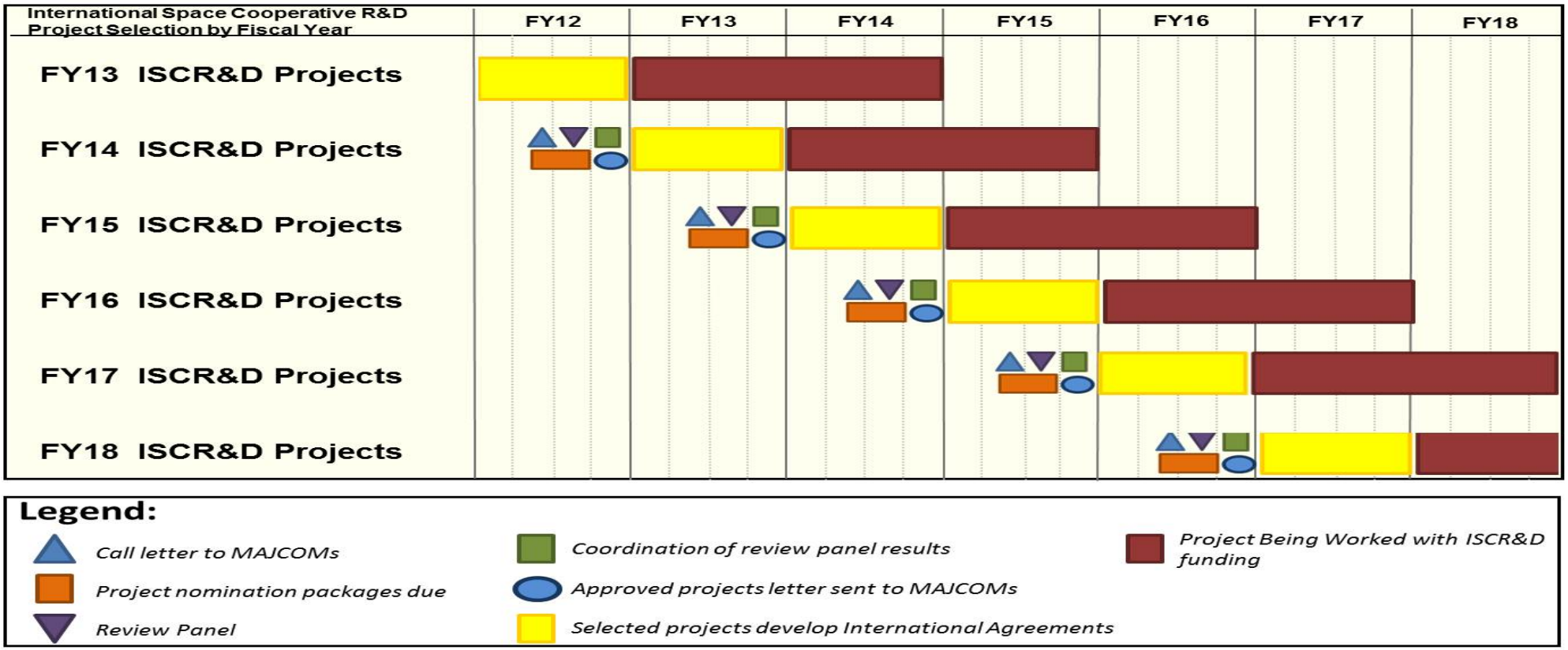


Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0603791F: *International Space Cooperative R&D*	**PROJECT** 645035: *Intl Space Coop R&D*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
FY14 ISCR&D Projects - Call letter	2	2012	2	2012
FY14 ISCR&D Projects - Project nomination package development	2	2012	3	2012
FY14 ISCR&D Projects - Review panel	3	2012	3	2012
FY14 ISCR&D Projects - Coordination of review panel results	4	2012	4	2012
FY14 ISCR&D Projects - Approved projects letter sent to MAJCOMS	4	2012	4	2012
FY14 ISCR&D Projects - Project agreement development, negotiations, and signature	1	2013	4	2013
FY14 ISCR&D Projects - RDT&E cooperative project work	1	2014	4	2015
FY15 ISCR&D Projects - Call letter	2	2013	2	2013
FY15 ISCR&D Projects - Approved projects letter sent to MAJCOMS	4	2013	4	2013
FY15 ISCR&D Projects - RDT&E cooperative project work	1	2015	4	2016
FY16 ISCR&D Projects - Call letter	2	2014	2	2014
FY16 ISCR&D Projects - Approved projects letter sent to MAJCOMS	4	2014	4	2014
FY16 ISCR&D Projects - RDT&E cooperative project work	1	2016	4	2017
FY17 ISCR&D Projects - Call letter	2	2015	2	2015
FY17 ISCR&D Projects - Approved projects letter sent to MAJCOMS	4	2015	4	2015
FY17 ISCR&D Projects - RDT&E cooperative project work	1	2017	4	2018
FY18 ISCR&D Projects - Call letter	2	2016	2	2016
FY18 ISCR&D Projects - Approved projects letter sent to MAJCOMS	4	2016	4	2016
FY18 ISCR&D Projects - RDT&E cooperative project work	1	2018	4	2018

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force											DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*					R-1 ITEM NOMENCLATURE PE 0603830F: *Space Protection Program (SPP)*							
COST ($ in Millions)	**All Prior Years**	**FY 2012**	**FY 2013#**	**FY 2014 Base**	**FY 2014 OCO ##**	**FY 2014 Total**	**FY 2015**	**FY 2016**	**FY 2017**	**FY 2018**	**Cost To Complete**	**Total Cost**
Total Program Element	-	7.074	10.429	28.764	-	28.764	21.717	22.687	20.902	20.383	Continuing	Continuing
64A025: *Space Protection Program*	-	7.074	10.429	28.764	-	28.764	21.717	22.687	20.902	20.383	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 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 Protection Program (SPP) which provides alternatives, establishes focus and energizes programs across the DoD and National Security Space (NSS) to implement mission resilience strategies that ensure the Nation has a comprehensive space protection approach in our intelligence, acquisition, and operational communities. As designed, the SPP 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. While the AF and National Reconnaissance Organization (NRO) each contribute to their portion of the SPP mission from separate funding sources, the SPP continues to focus both partners on a common objective and remains the critical element that leverages the best efforts of the DoD and Intelligence Community (IC) to proactively plan for and respond to threats against a majority of the National Space Enterprise.

Within this Program Element, the SPP is focused on targeted objectives to support Air Force Space Command (AFSPC), AF and DoD mission priorities and, in tandem, carry out the broader joint SPP mission. This unique mission provides an ongoing and necessary core protection competency that advances specific projects/activities (including cyber) to deliver comprehensive, economical and actionable solutions for both programmatic and operational domains. SPP alternatives and solutions are leveraged to inform/impact budget and program formulation; develop system or segment requirements; provide technical performance parameters to programs; improve Concepts of Operations (CONOPS) and Tactics, Techniques, and Procedures (TTPs) for operational systems; and identify areas that need additional collection and/or analysis by the IC.

Based on recommendations from the Assessment of National Space Control Capabilities study and the effectiveness of the SPP to date, the DoD is further expanding the current posture in FY14 to better meet the evolving threat and provide enduring support to the entire NSS Enterprise. The FY14 request increases the resources required to operate and execute an enhanced, 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 (cross-cutting, cross-domain and integrated measures/recommendations). The FY14 request accelerates the timeline to accomplish threat mitigation projects in key mission areas and expands program responsibilities to represent the whole of government in developing, reviewing and integrating protection-specific measures into policy, requirements, acquisitions and operations. Through this enhancement, the DoD and IC are able to fully address offensive and defensive space control capabilities on an enduring basis; looking to the SPP as the center of excellence and analytical focal point for options and strategies (materiel, non-materiel, cross-Title, cross-domain) leading to a more resilient and effective NSS Enterprise. The FY14 request also 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. To that end, the SPP will provide a central focus for unifying and integrating Title 10/50 roles and responsibilities (AF and NRO efforts) to deliver research, analysis, studies, tools and capabilities necessary to identify, prioritize, develop, and implement the most effective and economical solutions to preserve NSS capabilities.

As part of the ongoing role of the program to develop and implement (when appropriate) protection solutions for the Nation, the FY14 request also includes $10M in support of an incremental project to upgrade the ground-based software used to plan Satellite Communications (SATCOM) operations. The SPP will manage this project and deliver on a tactically-responsive upgrade that is operationally integrated through the wideband architecture by FY17. The majority of the remaining increase in FY14 request will be used to initiate stategic protection efforts focusing on establishing integrated activities supporting space survivability and protection objectives across policy, requirements, threat analysis and architecture evaluation regimes.

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 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	7.299	10.429	11.464	-	11.464
Current President's Budget	7.074	10.429	28.764	-	28.764
Total Adjustments	-0.225	0.000	17.300	-	17.300
• Congressional General Reductions	-	0.000			
• Congressional Directed Reductions	-	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	-	0.000			
• Congressional Directed Transfers	-	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	-0.225	0.000			
• Other Adjustments	0.000	0.000	17.300	-	17.300

Change Summary Explanation

FY12: -$0.225M for SBIR Reduction

FY14: +$17.300M for core program changes to enhance the current SPP effort to represent the whole of the US government in protecting US Space enterprise.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Title: Threat Mitigation Project and Activities	5.320	8.214	12.124

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0603830F: *Space Protection Program (SPP)*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Description: Entails the prioritized, project-specific technical efforts and activities supporting SPP mission objectives. Encompasses all SPP 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. ***FY 2012 Accomplishments:*** Engaged in a disciplined methodology to prioritize efforts and execute priority protection projects; completed efforts resulting in the delivery and implementation of actionable solutions for key mission areas. Identified materiel and TTP changes that will enable two major DoD and IC systems to buy back significant mission in a threat environment. Concluded the first community-wide Space Situational Awareness (SSA) study to determine specific requirements and gaps; critical for supporting U.S. responses to threats. Delivered the Capabilities and Dependencies Database (C&DD) to Joint Forces Component Commander (JFCC)-Space, enabling the operational community to determine consequence of loss across the spectrum of space effects. Supported several wargames and exercises to help refine TTPs and CONOPS; including those developed by SPP to give AFSPC, JFCC-Space and USSTRATCOM a more robust set of response options to specific threats. ***FY 2013 Plans:*** SPP is pursuing the critical projects/efforts identified through the prioritization process with increased emphasis on addressing a wider domain of capabilities and determining the broader role cyber can play in space protection. The program is increasing efforts to address specific mission areas (Operations, Satellite Communication (SATCOM), Position, Navigation and Timing (PNT), Missile Warning, Cyber, SSA, and Indications and Warning (I&W)) with targeted objectives to better understand and deliver what is expected from the national security space community with regard to the protection of space-enabled capabilities. Projects 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. ***FY 2014 Plans:*** Based on the detailed methodology to identify and prioritize the most critical protection needs, specific projects will continue to increase the scope and capability of the program to execute a more comprehensive National protection mission and make further progress on systematically developing, reviewing and integrating protection-specific measures into policy, requirements, acquisitions and operations. The program will continue its focus on addressing protection within key mission areas and plans to increase its focus on enterprise-level assessments and on influencing national space capability providers to make protection a strategic, operational and resource priority. The program will also continue its operational intelligence efforts and responsibilities to represent the whole of government in developing, reviewing and integrating protection-specific measures into policy, requirements, acquisitions and operations.			
Title: Strategic Protection Activities and Products	0.000	0.000	3.550

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0603830F: *Space Protection Program (SPP)*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Description: Encompasses the strategic efforts to evaluate architectures, develop and support protection-related policy, influence and integrate protection requirements, and conduct long term threat assessments and evaluations. These efforts provide critical data and support to the Threat Mitigation Projects and Activities efforts. ***FY 2012 Accomplishments:*** N/A ***FY 2013 Plans:*** N/A ***FY 2014 Plans:*** Initiate strategic protection efforts for the SPP with a first year focus on establishing integrated activities to support space survivability and protection objectives across policy, requirements, threat analysis and architecture evaluation regimes. Specifically, the SPP 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 a specific activity to work with architecture, analysis, modeling and requirements personnel in Services, agencies and organizations related to NSS services; supporting the direct development of enterprise and system-level requirements to address prioritized vulnerabilities. The SPP will also establish a space vulnerability assessment activity to conduct targeted assessments and evaluations that integrate finished intelligence with engineering assessments to project the possible attributes (technical and operational) of evolving threats. Strategic Protection activities in FY14 will also include a dedicated program component to provide threat resiliency evaluation capability for architectures; assessing, analyzing and evaluating NSS architectures as they relate to the threat and the integration of capabilities into a survivability architecture picture.			
Title: SATCOM Resiliency Enhancement ***Description:*** A four-year incremental effort, managed by the SPP, to upgrade the ground-based software used to plan SATCOM operations ***FY 2012 Accomplishments:*** N/A ***FY 2013 Plans:*** N/A ***FY 2014 Plans:*** Starts a four-year incremental effort (managed by the SPP) to upgrade the ground based software used to plan SATCOM operations. The effort encompasses development, integration and fielding of this incremental upgrade and the implementation	0.000	0.000	10.000

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0603830F: *Space Protection Program (SPP)*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
will include automating aspects of the planning software and associated wideband hardware 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. FY14 efforts will lead to a planned initial software capability in early FY15 and planned full implementation of the enhancement (to include revised techniques) by FY17.			
Title: Program Support & Infrastructure/Government PMA ***Description:*** Government Program Support and Infrastructure Operating Costs ***FY 2012 Accomplishments:*** Provided program support and infrastructure operations to include facilities, government travel, computer systems and equipment (including specialized classified systems and program-specific internal/closed systems), equipment maintenance, communications, and general office supplies & equipment. ***FY 2013 Plans:*** Provides for program support and infrastructure operating costs to include facilities, government travel, computer systems and equipment (including specialized classified systems and program-specific internal/closed systems), equipment maintenance, communications, and general office supplies & equipment. ***FY 2014 Plans:*** Provides projected program support and infrastructure operations to include facilities, government travel, computer systems and equipment (including specialized classified systems and program-specific internal/closed systems), equipment maintenance, communications, and general office supplies & equipment.	0.472	0.610	0.995
Title: Program Oversight and Advisory Support / Contractor PMA ***Description:*** Contractor management, oversight and senior technical advisory support. ***FY 2012 Accomplishments:*** Provided the key management/oversight and advisory support as well as technical support in day-to-day and strategic programming/planning activities including security, PPBE, program control, personnel management, administrative, policy, and senior technical advisor support. ***FY 2013 Plans:*** Provides for key management/oversight and advisory support as well as technical support in day-to-day and strategic programming/planning activities including security, PPBE, program control, personnel management, administrative, policy, and senior technical advisor support. ***FY 2014 Plans:***	1.282	1.605	2.095

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603830F: *Space Protection Program (SPP)*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Provides for key management/oversight and advisory support as well as technical support in day-to-day and strategic programming/planning activities including security, PPBE, program control, personnel management, administrative, policy, and senior technical advisor support.			
Accomplishments/Planned Programs Subtotals	7.074	10.429	28.764

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• none: *N/A*	0.000	0.000	0.000		0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

Remarks

Note: The AF/DoD portion of the Space Protection Program is funded entirely from this Program Element. Funding to support the complimentary/partnership National Reconnaissance Office (NRO) Space Protection Program 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-3, RDT&E Project Cost Analysis: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603830F: *Space Protection Program (SPP)*	PROJECT 64A025: *Space Protection Program*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Threat Mitigation Projects and Activities	Various	Various:Various,	-	5.320	Nov 2011	8.214	Nov 2012	12.124	Nov 2013	-		12.124	Continuing	Continuing	TBD
Strategic Protection Activities and Products	Various	Various:Various,	-	0.000		0.000		3.550	Nov 2013	-		3.550	Continuing	Continuing	TBD
SATCOM Resiliency Enhancement	Various	Various:Various,	-	0.000		0.000		10.000	Nov 2013	-		10.000	Continuing	Continuing	TBD
		Subtotal	0.000	5.320		8.214		25.674		0.000		25.674			

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Support and Infrastructure (Gov't PMA)	Various	Various:Various,	-	0.472	Nov 2011	0.610	Nov 2012	0.995	Dec 2013	-		0.995	Continuing	Continuing	
Oversight, Advisory and other Technical Support (Contractor PMA)	Various	Various:Various,	-	1.282	Nov 2011	1.605	Nov 2012	2.095	Dec 2013	-		2.095	Continuing	Continuing	TBD
		Subtotal	0.000	1.754		2.215		3.090		0.000		3.090			

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603830F: *Space Protection Program (SPP)*	PROJECT 64A025: *Space Protection Program*	

	All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	7.074		10.429		28.764		0.000		28.764			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603830F: *Space Protection Program (SPP)*	PROJECT 64A025: *Space Protection Program*

SPACE PROTECTION PROGRAM (SPP) SCHEDULE (Part I)

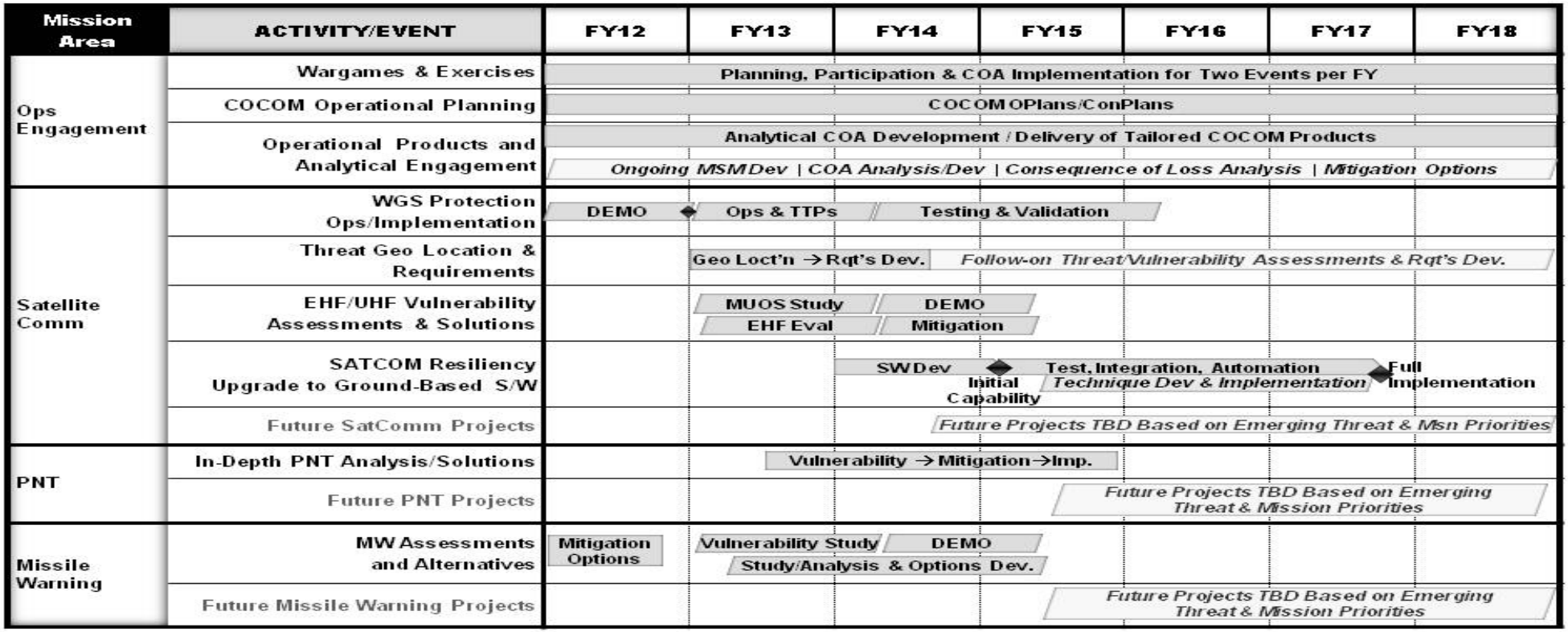


Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603830F: *Space Protection Program (SPP)*	PROJECT 64A025: *Space Protection Program*

SPACE PROTECTION PROGRAM (SPP) SCHEDULE (Part II)

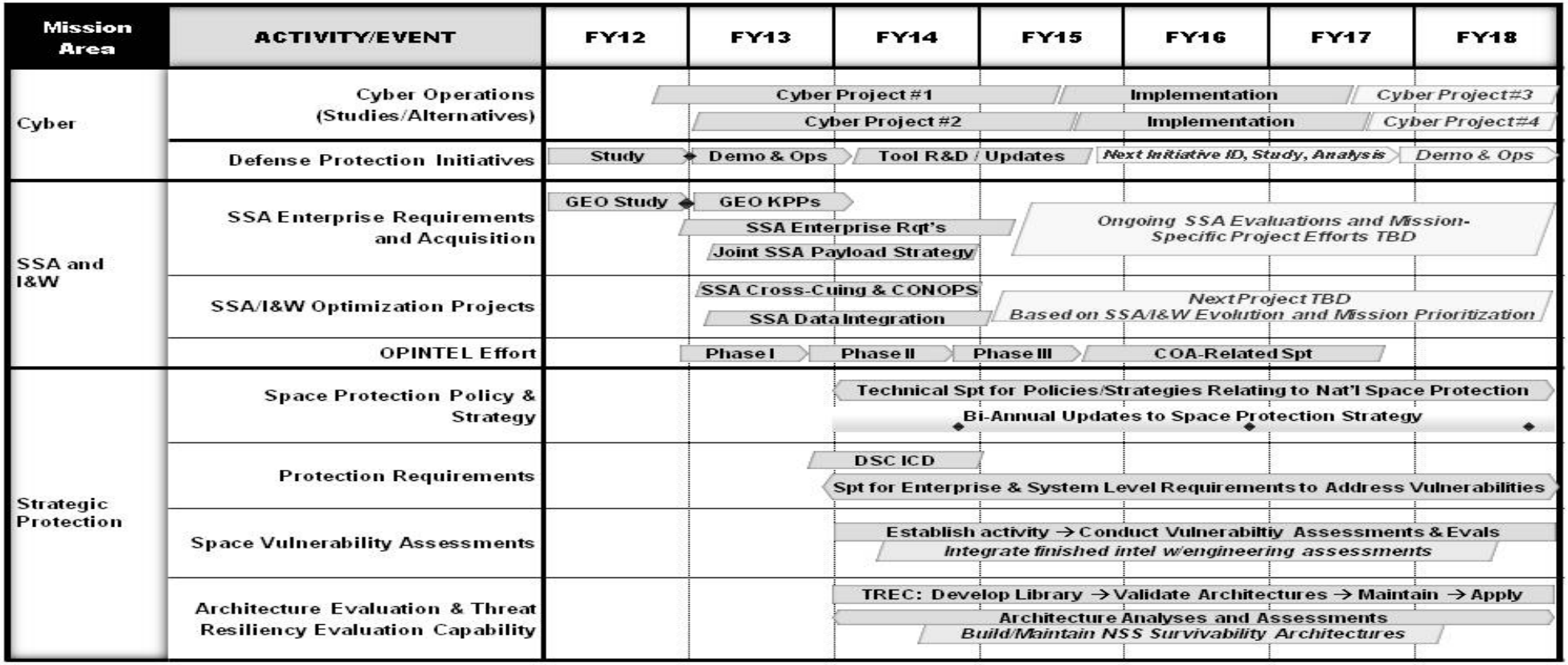


Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603830F: *Space Protection Program (SPP)*	PROJECT 64A025: *Space Protection Program*

Schedule Details

	Start		End	
Events	Quarter	Year	Quarter	Year
Wargame & Exercises	1	2012	4	2018
Combatant Commander (COCOM) Operational Planning	4	2012	4	2018
Operational Products & Analytical Engagement	1	2012	4	2018
Wideband Global SATCOM (WGS) Protection Ops and Implementation	1	2012	1	2016
Geo Location of Threat and Corresponding Mitigation Requirements Development	1	2013	4	2018
Extremely High Frequency (EHF) & Ultra High Frequency (UHF) Vulnerability Assessments and Development of Solutions	1	2013	2	2015
Future SatComm Projects	4	2014	4	2018
PNT Analysis & Solutions	3	2013	3	2015
Missile Warning (MW) Assessments & Alternatives	1	2012	2	2015
Cyber Operations	4	2012	4	2018
Defense Protection Initiatives	1	2012	4	2018
SSA Enterprise Requirements & Acquisition	1	2012	4	2018
SSA/I&W Optimization	1	2013	4	2018
Operations Intelligence (OPINTEL) Support to Operations	4	2012	4	2017
Space Protection Policy & Strategy	1	2014	4	2018
Protection Requirements	1	2014	4	2018
Space Vulnerability Assessment Activity	1	2014	4	2018
Architecture Evaluation (Threat Resiliency Evaluation Capability)	1	2014	4	2018
SATCOM Resiliency Enhancement	1	2014	4	2017

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force												DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*					R-1 ITEM NOMENCLATURE PE 0603850F: *Integrated Broadcast Service - Dem/Val*							
COST ($ in Millions)	**All Prior Years**	**FY 2012**	**FY 2013#**	**FY 2014 Base**	**FY 2014 OCO ##**	**FY 2014 Total**	**FY 2015**	**FY 2016**	**FY 2017**	**FY 2018**	**Cost To Complete**	**Total Cost**
Total Program Element	-	19.442	19.938	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	39.380
644778: *Integrated Broadcast Service*	-	19.442	19.938	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	39.380
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 OCO Request will be submitted at a later date

Note

In FY 2014, Project 644778, Integrated Broadcast Service, efforts transferred to PE 0305179F, Integrated Broadcast Service, Project Number 674779, Integrated Broadcast Service, in order to realign funds in support of transition to sustainment.

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.

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0603850F: *Integrated Broadcast Service - Dem/Val*

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.

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.

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

B. Program Change Summary ($ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	20.046	19.938	20.389	-	20.389
Current President's Budget	19.442	19.938	0.000	-	0.000
Total Adjustments	-0.604	0.000	-20.389	-	-20.389
• Congressional General Reductions	-	0.000			
• Congressional Directed Reductions	-	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	-	0.000			
• Congressional Directed Transfers	-	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	-0.604	0.000			
• Other Adjustments	0.000	0.000	-20.389	-	-20.389

Change Summary Explanation

In FY2014, Project 644778, Integrated Broadcast Service, efforts transferred to PE 0305179F.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Title: IBS-NS (GINS/TINs) Development	14.764	16.419	0.000
Description: Continue the Phase II/System Development and Demonstration of the GINS and TINs efforts.			
FY 2012 Accomplishments: Continued the integration and testing of the Spiral 4 release of the GINS and TINs capabilities. Initiated advanced development of Spiral 4 capabilities.			
FY 2013 Plans:			

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0603850F: *Integrated Broadcast Service - Dem/Val*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Continuing the integration and testing of the Spiral 4 release of the GINS and TINs efforts and transitioning Spiral 4 IBS-NS capability to sustainment. Completing advanced development of Spiral 4 release of GINS and TINs. ***FY 2014 Plans:*** N/A			
Title: Test & Evaluation ***Description:*** Continue Test & Evaluation of the IBS system. ***FY 2012 Accomplishments:*** Conducted Integrated Test #1 and IBS Multi-Service Operational Test & Evaluation (MOT&E) ***FY 2013 Plans:*** Continuing Test and Evaluation ***FY 2014 Plans:*** N/A	1.649	1.276	0.000
Title: Enterprise Systems Eng ***Description:*** Enterprise Systems Engineering/CMF Integration/CIB Integration ***FY 2012 Accomplishments:*** Conducted Enterprise Systems Engineering/CMF Integration/CIB Integration efforts. ***FY 2013 Plans:*** Continuing Enterprise Systems Engineering/CMF Integration/CIB Integration efforts. ***FY 2014 Plans:*** N/A	0.700	0.700	0.000
Title: PMA ***Description:*** Maintain a Program Mgmt Office, including program supervision, systems engineering, finance and acquisition strategy execution. ***FY 2012 Accomplishments:***	1.659	1.543	0.000

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0603850F: *Integrated Broadcast Service - Dem/Val*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Maintained a Program Mgmt Office, including program supervision, systems engineering, finance and acquisition strategy execution. ***FY 2013 Plans:*** Maintaining a Program Mgmt Office, including program supervision, systems engineering, finance and acquisition strategy execution. ***FY 2014 Plans:*** N/A			
Title: CIB Engineering and Testing ***Description:*** Provide CIB Engineering Testbed and CIB related engineering/support. ***FY 2012 Accomplishments:*** Provided CIB Engineering Testbed and CIB related engineering/support. ***FY 2013 Plans:*** N/A ***FY 2014 Plans:*** N/A	0.670	0.000	0.000
Accomplishments/Planned Programs Subtotals	19.442	19.938	0.000

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• RDTE: BA07: 0305179F: *Integrated Broadcast Service*	0.000	0.000	8.289		8.289	8.699	8.655	8.693	8.696	Continuing	Continuing
• OPAF: BA03: Line Item # 832070: *Intelligence Comm Equipment*	9.993	13.095	14.121		14.121	15.082	14.064	15.300	16.485	Continuing	Continuing

Remarks

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603850F: *Integrated Broadcast Service - Dem/Val*

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-3, RDT&E Project Cost Analysis: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603850F: *Integrated Broadcast Service - Dem/Val*	PROJECT 644778: *Integrated Broadcast Service*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
IBS-NS Phase 2 Spiral 2 - 4 (GINS/TINs)	C/CPAF	BTG, Inc./Titan/L-3 National Security Solutions:Reston, VA	-	14.764	Nov 2011	16.419	Jan 2013	0.000		-		0.000	Continuing	Continuing	TBD
		Subtotal	0.000	14.764		16.419		0.000		0.000		0.000			

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Interoperability and Developmental Testing	MIPR	JITC:Ft Huachuca, AZ	-	0.623	Jan 2012	0.512	Jan 2013	0.000		-		0.000	Continuing	Continuing	TBD
Responsible Test Organization (RTO)	PO	46th Test Squadron:Eglin AFB, FL	-	1.026	Mar 2012	0.764	Feb 2013	0.000		-		0.000	Continuing	Continuing	TBD
CIB Engineering/Testing	MIPR	SPAWAR - Pacific:San Diego, CA	-	0.670	Nov 2012	0.000		0.000		-		0.000	0.000	0.670	1.300
		Subtotal	0.000	2.319		1.276		0.000		0.000		0.000			

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
SPO/Professional Acquisition Support	C/FP	Various:Bedford, MA	-	1.541	Feb 2012	1.543	Jan 2013	0.000		-		0.000	Continuing	Continuing	TBD

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603850F: *Integrated Broadcast Service - Dem/Val*	PROJECT 644778: *Integrated Broadcast Service*	

Management Services ($ in Millions)

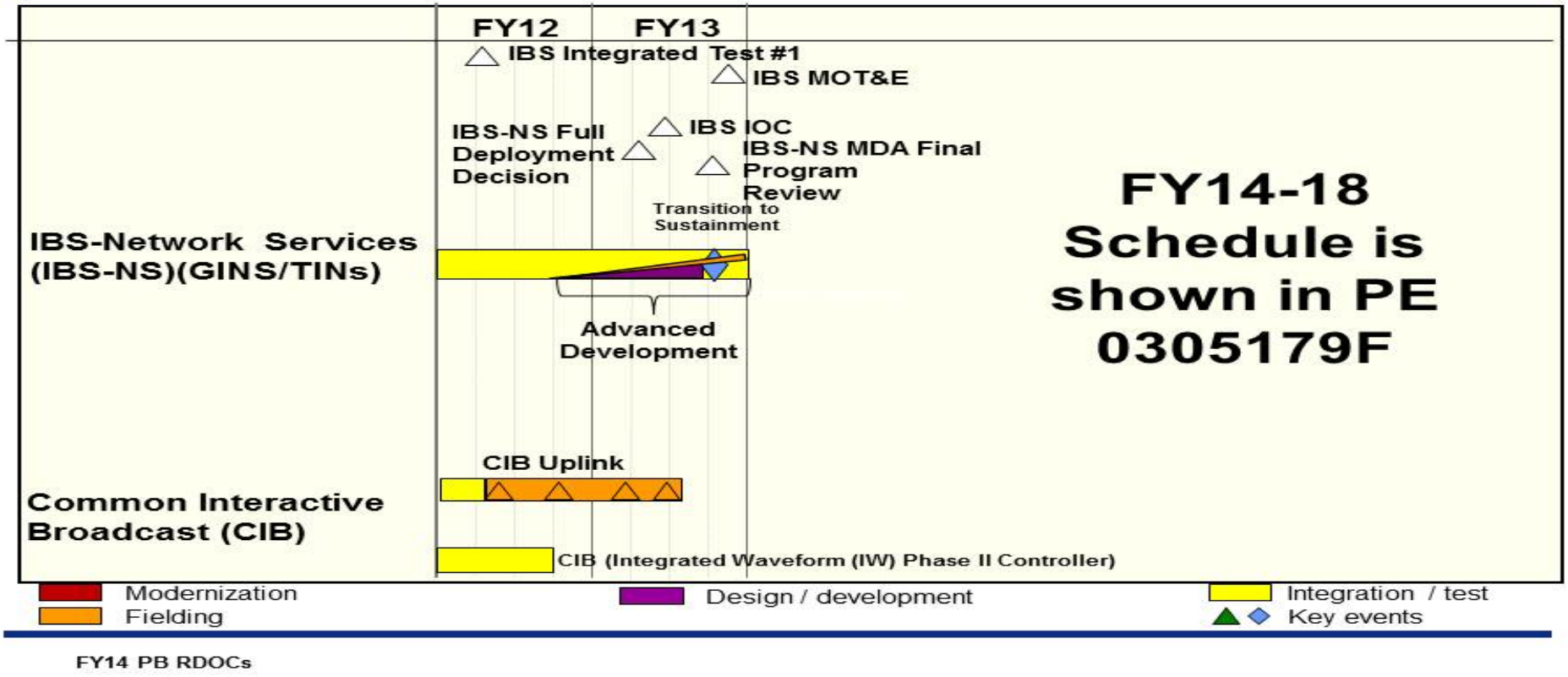
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Services (PASS), Engineering and Technical Acquisition Support Service (ETASS), Specialized Cost Service (SCS)															
Systems Engineering	SS/CPFF	MITRE:Bedford, MA	-	0.118	Oct 2011	0.000		0.000		-		0.000	Continuing	Continuing	TBD
Enterprise Engineering/ CMF Integration/CIB Integration	SS/CPFF	L-3 Comm, IS:Greenville, TX	-	0.700	Mar 2012	0.700		0.000		-		0.000	Continuing	Continuing	TBD
		Subtotal	0.000	2.359		2.243		0.000		0.000		0.000			

	All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	19.442		19.938		0.000		0.000		0.000			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603850F: *Integrated Broadcast Service - Dem/Val*	PROJECT 644778: *Integrated Broadcast Service*

IBS Broadcast Segment Schedule PE 0603850F



FY14 PB RDOCs

Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0603850F: *Integrated Broadcast Service - Dem/Val*	**PROJECT** 644778: *Integrated Broadcast Service*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
IBS Integrated Test #1	2	2012	2	2012
IBS-NS (GINS/TINS) Full Deployment Decision	2	2013	2	2013
IBS IOC	2	2013	2	2013
IBS-NS MDA Final Program Review	4	2013	4	2013
IBS MOT&E	4	2013	4	2013
IBS-NS Integration and Testing	1	2012	4	2013
IBS-NS (GINS/TINs) Transition to Sustainment	4	2013	4	2013
Advanced Development of Spiral 4 IBS-NS capability	4	2012	4	2013
CIB Uplink Integration/Testing	1	2012	2	2012
CIB Uplink Fielding	2	2012	3	2013
CIB Integrated Waveform (IW) Phase II Controller Integration/Testing	1	2012	3	2012

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force											DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*					R-1 ITEM NOMENCLATURE PE 0603851F: *Intercontinental Ballistic Missile - Dem/Val*							
COST ($ in Millions)	**All Prior Years**	**FY 2012**	**FY 2013#**	**FY 2014 Base**	**FY 2014 OCO ##**	**FY 2014 Total**	**FY 2015**	**FY 2016**	**FY 2017**	**FY 2018**	**Cost To Complete**	**Total Cost**
Total Program Element	-	71.824	71.181	86.737	-	86.737	93.549	82.005	63.170	64.307	Continuing	Continuing
641020: *ICBM Guidance Applications*	-	18.355	14.522	36.484	-	36.484	44.282	33.154	15.455	15.733	Continuing	Continuing
641021: *ICBM Propulsion Applications*	-	43.327	44.959	40.853	-	40.853	49.267	48.851	47.715	48.574	Continuing	Continuing
641022: *ICBM Reentry Vehicle Applications*	-	5.179	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
641023: *Rocket System Launch Program*	-	0.024	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
641025: *Ground Based Strategic Deterrence (GBSD)*	-	0.000	11.700	9.400	-	9.400	0.000	0.000	0.000	0.000	Continuing	Continuing
644209: *Long Range Planning (LRP)*	-	4.939	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 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. Demonstration and validation projects include guidance applications, propulsion applications, reentry vehicles, development of enhanced command/control capabilities, rocket system launch program efforts, long range planning efforts, and Ground Based Strategic Deterrence (GBSD).

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 2014 Air Force					DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*			R-1 ITEM NOMENCLATURE PE 0603851F: *Intercontinental Ballistic Missile - Dem/Val*		
B. Program Change Summary ($ in Millions)	**FY 2012**	**FY 2013**	**FY 2014 Base**	**FY 2014 OCO**	**FY 2014 Total**
Previous President's Budget	69.436	71.181	69.801	-	69.801
Current President's Budget	71.824	71.181	86.737	-	86.737
Total Adjustments	2.388	0.000	16.936	-	16.936
• Congressional General Reductions	-	0.000			
• Congressional Directed Reductions	-	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	-	0.000			
• Congressional Directed Transfers	-	0.000			
• Reprogrammings	4.734	0.000			
• SBIR/STTR Transfer	-1.917	0.000			
• Other Adjustments	-0.429	0.000	16.936	-	16.936

Change Summary Explanation

FY12 Significant Changes include: $5M Below Threshhold Reprogramming Add and SIBR and FFRDC reductions

FY14 Signifcant Changes include: $21.9M add in Guidance Applications Project (641020) for technology development activities; -$4.8M reduction for higher AF priorities

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603851F: *Intercontinental Ballistic Missile - Dem/Val*	PROJECT 641020: *ICBM Guidance Applications*	

COST ($ in Millions)	All Prior Years	FY 2012	FY 2013#	FY 2014 Base	FY 2014 OCO ##	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
641020: *ICBM Guidance Applications*	-	18.355	14.522	36.484	-	36.484	44.282	33.154	15.455	15.733	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 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 application program to enhance synergy and avoid duplication. Key elements include developing responsive technologies with common applications for future strategic guidance capabilities.

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 2012	FY 2013	FY 2014
Title: Guidance Applications	17.249	13.408	35.370
Description: Develop, in coordination with the Navy, advanced guidance technology such as solid-state instruments, with higher reliability.			
FY 2012 Accomplishments: Developed, prototyped, and tested advanced guidance technologies, such as solid-state instruments (accelerometers, gyros and advanced inertial measurement unit concepts). Completed radiation hardening qualification unit builds and radiation testing. Assessed, evaluated, and tested radiation hard electronics for Air Force advanced strategic guidance applications (total dose, prompt gamma, neutron and optics radiation testing). Conducted experiments to demonstrate future strategic system concepts. Developed, assessed, and implemented Advanced Inertial Measurement Unit (AIMU) Engineering Model 2 testing and continued development, assessment and implementation of protoqual design and build. Conducted AIMU sled test and flight test planning.			
FY 2013 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603851F: *Intercontinental Ballistic Missile - Dem/Val*	PROJECT 641020: *ICBM Guidance Applications*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Continue to develop, prototype, and test advanced guidance technologies, such as solid-state instruments (accelerometers and gyroscopes) and AIMU concepts. Continue assessment, evaluation, and test of radiation hard electronics for strategic guidance applications. Continue to conduct experiments to demonstrate future strategic system concepts. Develop, implement and assess AIMU sled and flight tests. ***FY 2014 Plans:*** Continue to develop, prototype, and test advanced guidance technologies, such as solid-state instruments (accelerometers and gyroscopes) and Advanced Inertial Measurement Unit (AIMU) concepts. Mature radiation hardened component and system designs and continue assessment, evaluation, and test of radiation hard electronics for strategic guidance applications. Continue to conduct experiments to demonstrate future strategic system concepts.			
Title: Program Management Administration ***Description:*** Direct unique program cost required for program management and oversight. ***FY 2012 Accomplishments:*** Program support, travel, printing, supplies, Advisory and Assistance Service. ***FY 2013 Plans:*** Program support, travel, printing, supplies, Advisory and Assistance Service. ***FY 2014 Plans:*** Program support, travel, printing, supplies, Advisory and Assistance Service.	1.106	1.114	1.114
Accomplishments/Planned Programs Subtotals	18.355	14.522	36.484

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• None.: *N/A*	0.000	0.000	0.000		0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

Remarks

D. Acquisition Strategy

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

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603851F: *Intercontinental Ballistic Missile - Dem/Val*	PROJECT 641020: *ICBM Guidance Applications*

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 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603851F: *Intercontinental Ballistic Missile - Dem/Val*	PROJECT 641020: *ICBM Guidance Applications*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Develop, analyze, evaluate, prototype and test instrument technologies and Inertial Measurement Unit (IMU) concepts	Various	AFRL, AFNWC, Honeywell, Orbital Sciences, various:**See Remarks,	-	15.495	Nov 2011	10.450	Nov 2012	27.736	Nov 2013	-		27.736	Continuing	Continuing	TBD
Assess, evaluate and test of radiation hard electronics	Various	Navy Crane, Institute for Space and Defense Electronics:Vanderbilt U.,	-	0.500	Nov 2011	0.500	Nov 2012	0.500	Nov 2013	-		0.500	Continuing	Continuing	TBD
Concept Architecture Development	MIPR	TASC, INC.:San Bernardino, CA	-	0.000	Jan 2012	1.208	Feb 2013	4.250	Dec 2013	-		4.250	Continuing	Continuing	TBD
		Subtotal	0.000	15.995		12.158		32.486		0.000		32.486			

Remarks

**AFRL, Kirtland AFB NM; AFNWC, Hill AFB UT; Honeywell, Redmond WA, Clearwater FL, Phoenix AZ; Orbital Sciences, Chandler AZ, Various

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Engineering Support	Various	AFNWC:Kirtland AFB, NM	-	1.004	Nov 2011	1.000	Nov 2012	1.884	Nov 2013	-		1.884	Continuing	Continuing	TBD
		Subtotal	0.000	1.004		1.000		1.884		0.000		1.884			

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test & Evaluation	Various	AFRL; Honeywell; Various:**See Remarks,	-	0.250	Nov 2011	0.250	Nov 2012	1.000	Nov 2013	-		1.000	Continuing	Continuing	TBD

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603851F: *Intercontinental Ballistic Missile - Dem/Val*	PROJECT 641020: *ICBM Guidance Applications*

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.250		0.250		1.000		0.000		1.000			

Remarks

***476 TS; Holloman AFB; AFRL, Kirtland AFB NM; Honeywell, Redmond WA, Clearwater FL, Phoenix AZ, Various

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
PMA-Contractor Support	Various	Various:Various,	-	1.012	Nov 2011	1.018	Nov 2012	1.018	Nov 2013	-		1.018	Continuing	Continuing	TBD
PMA-Government Costs	Various	Various:Various,	-	0.094	Nov 2011	0.096	Nov 2012	0.096	Nov 2013	-		0.096	Continuing	Continuing	TBD
		Subtotal	0.000	1.106		1.114		1.114		0.000		1.114			

Remarks

**AFRL, Kirtland AFB NM; AFNWC, Hill AFB UT; Honeywell, Redmond WA, Clearwater FL, Phoenix AZ; Orbital Sciences, Chandler AZ, Various

***476 TS; Holloman AFB; AFRL, Kirtland AFB NM; Honeywell, Redmond WA, Clearwater FL, Phoenix AZ, Various

	All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	18.355		14.522		36.484		0.000		36.484			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603851F: *Intercontinental Ballistic Missile - Dem/Val*	PROJECT 641020: *ICBM Guidance Applications*

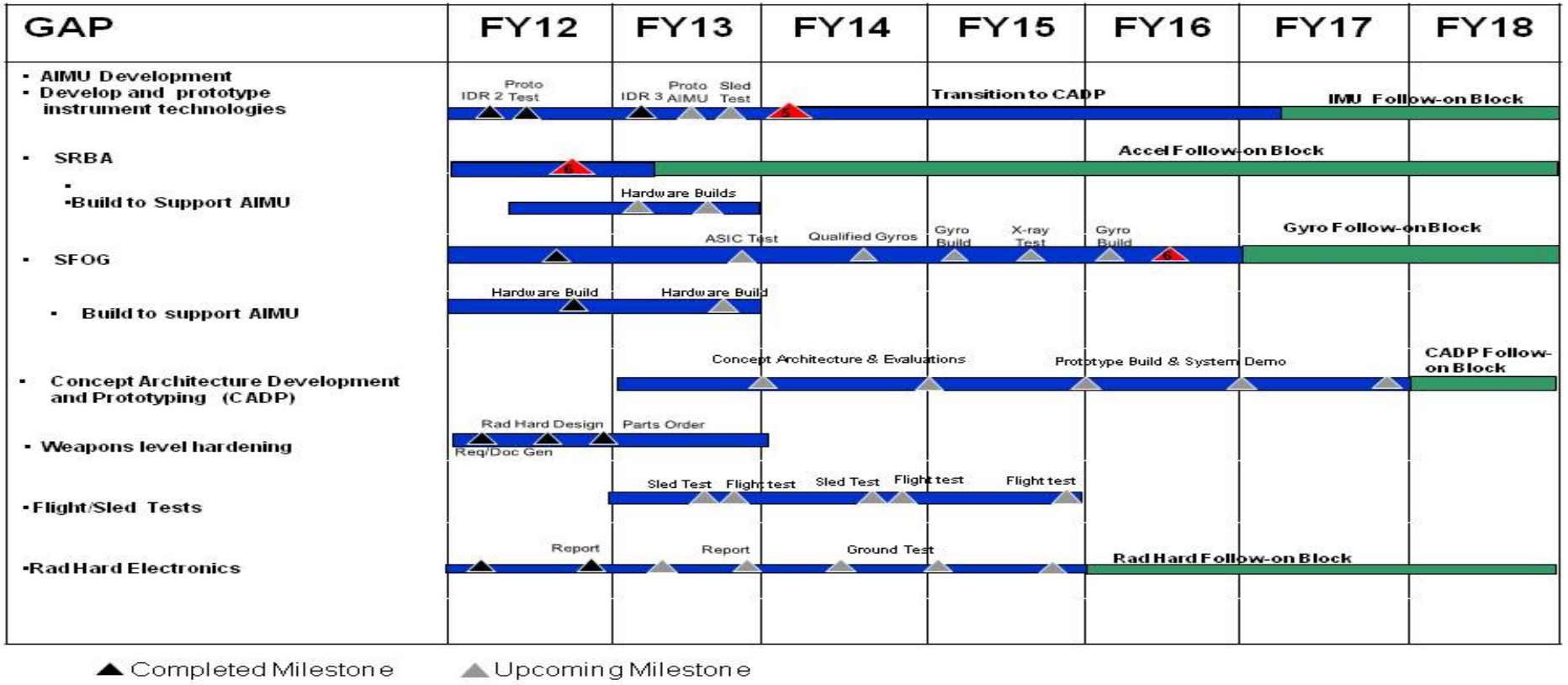


Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0603851F: *Intercontinental Ballistic Missile - Dem/Val*	**PROJECT** 641020: *ICBM Guidance Applications*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
IMU Test Hardware Deliveries	1	2012	4	2013
IMU Tests	1	2012	3	2013
IMU Design Reviews	1	2012	2	2013
Gyro/Accelerometer Prototype Build	1	2012	2	2016
Gyro/Accelerometer Tests	3	2012	3	2015
Concept Architure Development Evaluation	4	2013	4	2017
Rad-Hard Electronics Testing	1	2012	4	2015
Flight/Sled Tests	3	2013	4	2015

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603851F: *Intercontinental Ballistic Missile - Dem/Val*	PROJECT 641021: *ICBM Propulsion Applications*	

COST ($ in Millions)	All Prior Years	FY 2012	FY 2013#	FY 2014 Base	FY 2014 OCO ##	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
641021: *ICBM Propulsion Applications*	-	43.327	44.959	40.853	-	40.853	49.267	48.851	47.715	48.574	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 OCO Request will be submitted at a later date

A. Mission Description and Budget Item Justification

The Intercontinental Ballistic Missile (ICBM) Propulsion Application 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 requirments, assessing opportunities for applying common materials and technology between the ICBM, submarine-launched ballistic missile (SLBM) propulsion systems, and other solid 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 increase nuclear surety and safety.

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 2012	FY 2013	FY 2014
Title: Propulsion Application Program	41.954	44.120	39.877

Description: Assess, develop, evaluate, and demonstrate common solid and liquid propulsion technology and manufacturing leading up to a static fires and/or a flight test. Develop strategic propulsion capability and explore improvements to current and future systems. Supports the research and development industrial base and critical infrastructure.

FY 2012 Accomplishments:

Supported the Solid Rocket Motor (SRM) research and development industrial base and critical infrastructure. Continued assessment and demonstration of ordnance and post-boost technology development. Continued Large Class Stage I & II (LCS) motor development; completed intermediate Preliminary Design Review (PDR) for LCS motors. Completed LCS III development effort with hydroburst testing. Initiated Medium Class Stage (MCS) development activities.

FY 2013 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. Complete LCS I & II efforts. Transition from LCS to MCS

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603851F: *Intercontinental Ballistic Missile - Dem/Val*	PROJECT 641021: *ICBM Propulsion Applications*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
development leveraging existing launch vehicle integration efforts. Continue to design and develop MCS III motor. Continue 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 development and prepare for static fire testing. Continue to integrate and analyze medium class motors and technology insertion opportunities.			
Title: Program Management Administration ***Description:*** Direct unique program cost required for program management and oversight. ***FY 2012 Accomplishments:*** Program support, travel, printing, supplies, Advisory and Assistance Service. ***FY 2013 Plans:*** Program support, travel, printing, supplies, Advisory and Assistance Service. ***FY 2014 Plans:*** Program support, travel, printing, supplies, Advisory and Assistance Service.	1.373	0.839	0.976
Accomplishments/Planned Programs Subtotals	43.327	44.959	40.853

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• None: *N/A*	0.000	0.000	0.000		0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

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 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-3, RDT&E Project Cost Analysis: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603851F: *Intercontinental Ballistic Missile - Dem/Val*	PROJECT 641021: *ICBM Propulsion Applications*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Large Class Stage I solid propulsion technologies	Various	ATK:Corrinne, UT	-	14.829	Nov 2012	7.040	Jan 2013	0.000		-		0.000	Continuing	Continuing	TBD
Large Class Stage II solid propulsion technologies	Various	Aerojet:Sacramento, CA	-	14.078	Nov 2012	6.750	Jan 2013	0.000		-		0.000	Continuing	Continuing	
Assess and Demonstrate Ordnance and Post Boost Components. Evaluation of Hazard Classification Methods	MIPR	AFRL:Edwards AFB, CA	-	0.689	Dec 2011	1.500	Dec 2012	1.500	Dec 2013	-		1.500	Continuing	Continuing	TBD
Design & Development of Medium Class Stage III Motor	TBD	ATK; Aerojet:See Remarks,	-	0.000		23.000	May 2013	17.000	Dec 2013	-		17.000	Continuing	Continuing	TBD
Carbon Composite Fiber & Single Flexseal Nozzle qualification	TBD	TBD:,	-	0.000		0.000		18.000	Dec 2013	-		18.000	Continuing	Continuing	TBD
		Subtotal	0.000	29.596		38.290		36.500		0.000		36.500			

Remarks

*Aerojet, Sacremento CA; ATK Thiokol, Corrinne UT

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Launch Vehicle Integration	Various	SMC/SDTL:*See Remarks,	-	8.199	Dec 2011	2.000	Dec 2012	2.000	Dec 2013	-		2.000	Continuing	Continuing	
Other Program Support	Various	SURVIAC:Hill AFB, UT	-	0.150	Apr 2012	0.250	Nov 2012	0.250	Nov 2013	-		0.250	Continuing	Continuing	TBD
Propellant Development (1.3 NEPE)	Various	ATK:Corrinne, UT	-	0.500	Jan 2012	0.000		0.000		-		0.000	Continuing	Continuing	
Thrust Termination Development for Medium Class Stage III Design	Various	Aerojet:Sacramento, CA	-	1.974	Jan 2012	0.000		1.127	Nov 2013	-		1.127	Continuing	Continuing	TBD

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603851F: *Intercontinental Ballistic Missile - Dem/Val*	PROJECT 641021: *ICBM Propulsion Applications*

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	10.823		2.250		3.377		0.000		3.377			

Remarks

**AFNWC/NWI, Hill AFB UT; AFRL, Edwards AFB CA; Space Development Test Directorate

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Static Fire LCS	MIPR	AEDC:Edwards AFB, CA	-	0.768	Nov 2011	1.790	Nov 2012	0.000		-		0.000	Continuing	Continuing	
Static Fire MCS	MIPR	AEDC:Edwards AFB, CA	-	0.767	Nov 2011	1.790	Nov 2012	0.000		-		0.000	Continuing	Continuing	TBD
		Subtotal	0.000	1.535		3.580		0.000		0.000		0.000			

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
PMA-Contractor Support	Various	Various:Various,	-	1.066	Nov 2011	0.679	Nov 2012	0.796	Nov 2013	-		0.796	Continuing	Continuing	TBD
PMA-Government Costs	Various	Various:Various,	-	0.307	Nov 2011	0.160	Nov 2012	0.180	Nov 2013	-		0.180	Continuing	Continuing	TBD
		Subtotal	0.000	1.373		0.839		0.976		0.000		0.976			

	All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	43.327		44.959		40.853		0.000		40.853			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603851F: *Intercontinental Ballistic Missile - Dem/Val*	PROJECT 641021: *ICBM Propulsion Applications*

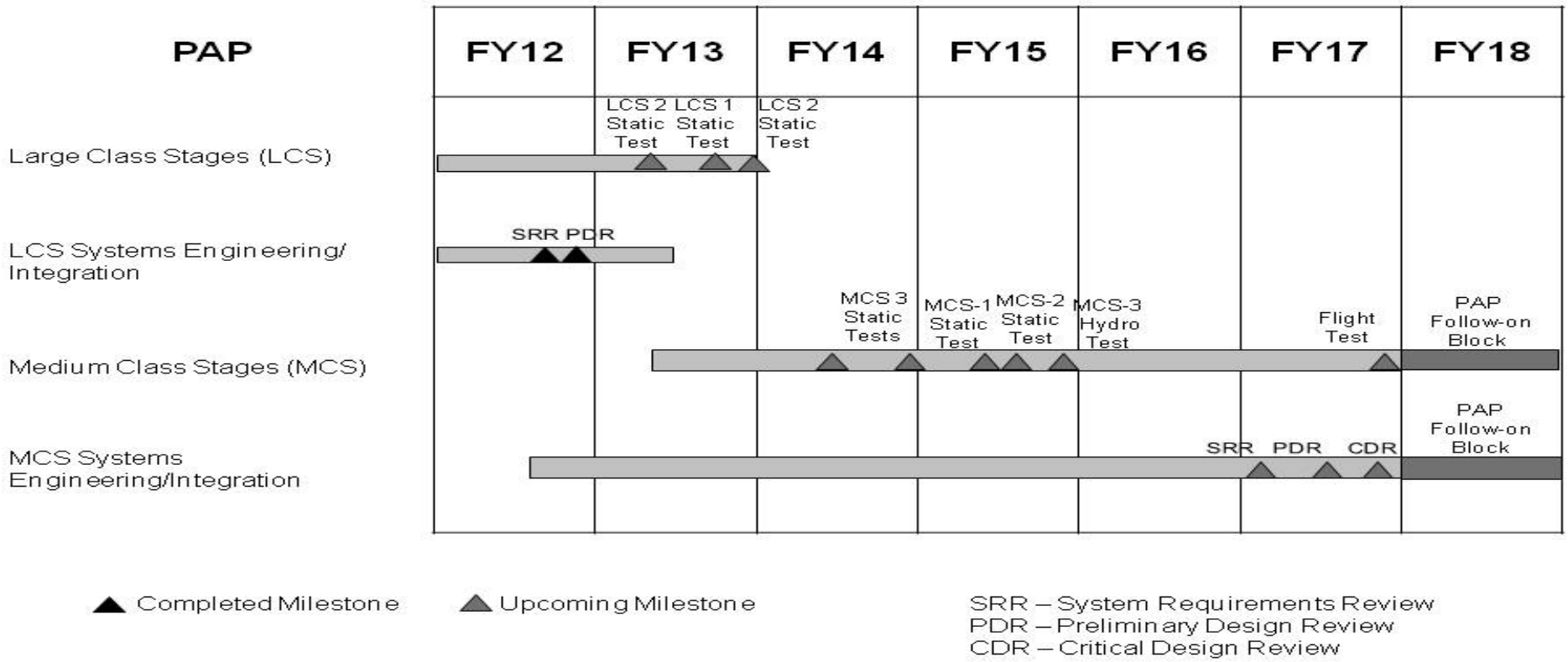


Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0603851F: *Intercontinental Ballistic Missile - Dem/Val*	**PROJECT** 641021: *ICBM Propulsion Applications*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
LCS Motors Static Test Fires	1	2012	4	2013
LCS Systems Engineering/Integration Design Reviews	1	2012	2	2013
MCS 3 Development and Static Test	2	2013	4	2017
MCS System Engineering/Integration Booster Delivery	3	2012	4	2017

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603851F: *Intercontinental Ballistic Missile - Dem/Val*	PROJECT 641022: *ICBM Reentry Vehicle Applications*	

COST ($ in Millions)	All Prior Years	FY 2012	FY 2013#	FY 2014 Base	FY 2014 OCO ##	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
641022: *ICBM Reentry Vehicle Applications*	-	5.179	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 OCO Request will be submitted at a later date

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 also 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 Minuteman and Trident Force Development Evaluation (FDE) flights.

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 2012	FY 2013	FY 2014
Title: ICBM Reentry Vehicle Applications	5.165	0.000	0.000
Description: Develop, evaluate, and test reentry system materials and technologies for use in current and future strategic applications.			
FY 2012 Accomplishments: Developed and demonstrated alternate electrochemical battery technologies as part of an advanced battery demonstration effort. Also tested advanced battery designs in operational and non-operational dynamic environments and completed safety testing. Continued nosetip and thermal protection system material development and Arc-Jet testing. Continued conceptual penetration aid designs against current and predicted defenses. Continued planning and software development work on a demonstration of an Air Force Weather Reentry Interaction Planner module.			
FY 2013 Plans: N/A			
FY 2014 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603851F: *Intercontinental Ballistic Missile - Dem/Val*	PROJECT 641022: *ICBM Reentry Vehicle Applications*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
N/A			
Title: Program Management Administration	0.014	0.000	0.000
Description: Direct unique program cost required for program management and oversight. ***FY 2012 Accomplishments:*** Program support, travel, printing, supplies, Advisory and Assistance Service. ***FY 2013 Plans:*** N/A ***FY 2014 Plans:*** N/A			
Accomplishments/Planned Programs Subtotals	5.179	0.000	0.000

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• None: *N/A*	0.000	0.000	0.000		0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

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-3, RDT&E Project Cost Analysis: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603851F: *Intercontinental Ballistic Missile - Dem/Val*	PROJECT 641022: *ICBM Reentry Vehicle Applications*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Continue development, evaluation and testing of Reentry Vehicle materials and technologies	Various	*See Remarks:**See Remarks, CA	-	3.251	Nov 2011	0.000		0.000		-		0.000	Continuing	Continuing	TBD
		Subtotal	0.000	3.251		0.000		0.000		0.000		0.000			

Remarks

*Northrup Grumman, FMI, Boeing
**Northrop Grumman, Clearfield UT; FMI. Biddeford ME; Boeing, Anaheim CA

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Engineering Support	Various	AFNWC/NIC:Hill AFB, UT	-	0.714	Nov 2011	0.000		0.000		-		0.000	Continuing	Continuing	TBD
		Subtotal	0.000	0.714		0.000		0.000		0.000		0.000			

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Materials	Reqn	AFRL Materials Lab:Wright-Patterson AFB, OH	-	0.450	Dec 2011	0.000		0.000		-		0.000	Continuing	Continuing	TBD
Ground Arc Jet Testing	PO	Arnold Engineering & Development Center:Arnold AFB, TN	-	0.250	Dec 2011	0.000		0.000		-		0.000	Continuing	Continuing	TBD
TPS Testing	MIPR	***See Remarks:****See Remarks,	-	0.500	Dec 2011	0.000		0.000		-		0.000	Continuing	Continuing	
		Subtotal	0.000	1.200		0.000		0.000		0.000		0.000			

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603851F: *Intercontinental Ballistic Missile - Dem/Val*	PROJECT 641022: *ICBM Reentry Vehicle Applications*

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract

Remarks

***NASA Ames
****NASA Ames, Santa Clara CA

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
PMA-Contractor Support	Various	Various:Various,	-	0.014	Nov 2011	0.000		0.000		-		0.000	Continuing	Continuing	
PMA-Government Costs	Various	Various:Various,	-	0.000	Nov 2011	0.000		0.000		-		0.000	Continuing	Continuing	
		Subtotal	0.000	0.014		0.000		0.000		0.000		0.000			

Remarks

*Northrup Grumman, FMI, Boeing
**Northrop Grumman, Clearfield UT; FMI. Biddeford ME; Boeing, Anaheim CA

***NASA Ames
****NASA Ames, Santa Clara CA

	All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	5.179		0.000		0.000		0.000		0.000			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603851F: *Intercontinental Ballistic Missile - Dem/Val*	PROJECT 641022: *ICBM Reentry Vehicle Applications*

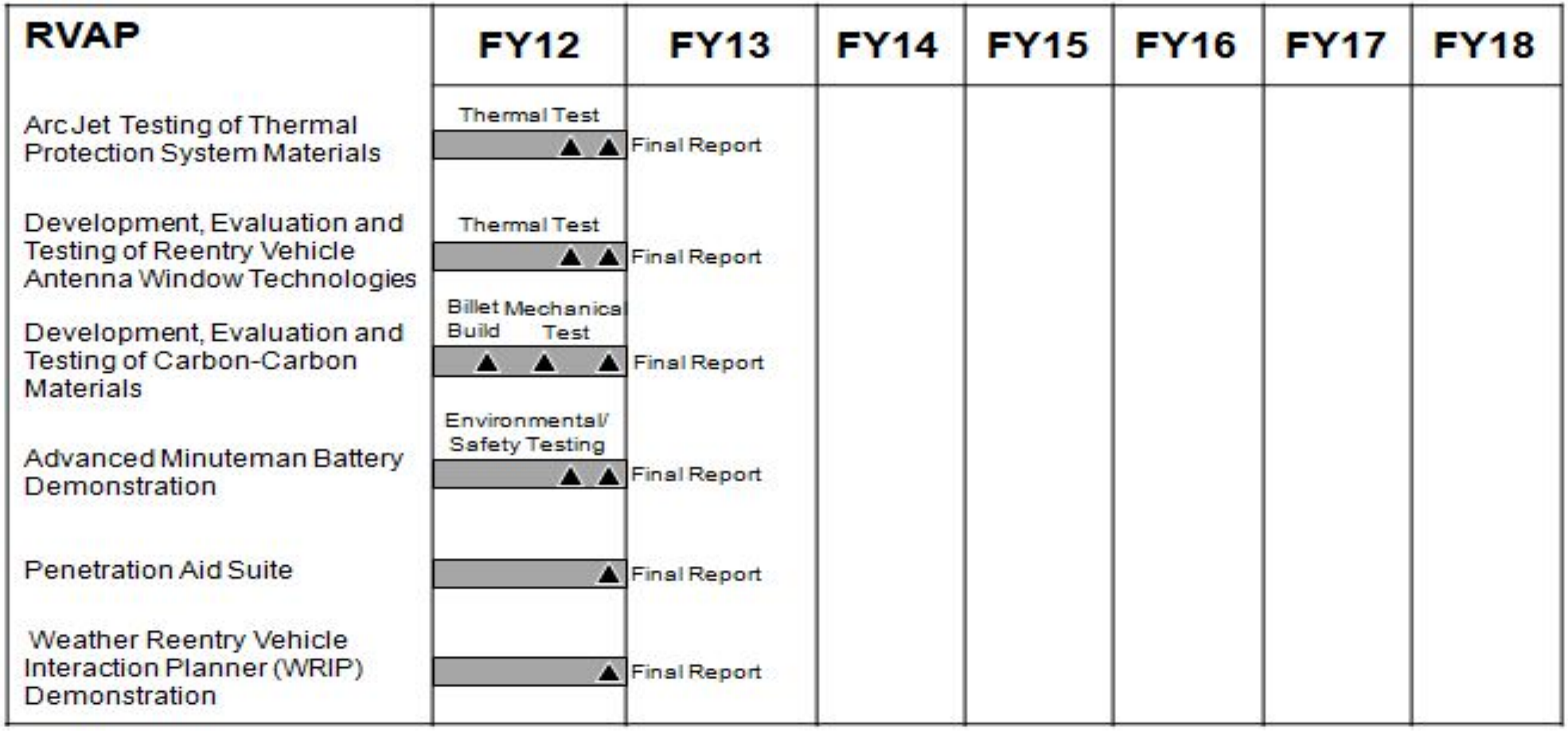


Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0603851F: *Intercontinental Ballistic Missile - Dem/Val*	**PROJECT** 641022: *ICBM Reentry Vehicle Applications*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Reentry Vehicles Materials Arc Jet Testing	1	2012	4	2012
Reentry Vehicle Antenna Window Tests	1	2012	4	2012
Nosetip Materials Testing	1	2012	4	2012
Battery Testing	1	2012	4	2012
Penetration Aid Alternative Design Study	1	2012	4	2012
Weather Reentry Vehicle Interaction Planner (WRIP)	1	2012	4	2012

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603851F: *Intercontinental Ballistic Missile - Dem/Val*	PROJECT 641023: *Rocket System Launch Program*	

COST ($ in Millions)	All Prior Years	FY 2012	FY 2013#	FY 2014 Base	FY 2014 OCO ##	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
641023: *Rocket System Launch Program*	-	0.024	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 OCO Request will be submitted at a later date

A. Mission Description and Budget Item Justification

The purpose of the ICBM Rocket System Launch Program (RSLP) is to perform studies and analyses that determine the most constructive and cost effective use of missile assets after they are deactivated or considered excess and added to the RSLP inventory.

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 2012	FY 2013	FY 2014
Title: ICBM Rocket System Launch Program	0.024	0.000	0.000
Description: Study and analyze the most constructive use of deactivated missile assets to be added to the RSLP inventory. ***FY 2012 Accomplishments:*** Conducted RSLP studies and analyses. ***FY 2013 Plans:*** N/A ***FY 2014 Plans:*** N/A			
Accomplishments/Planned Programs Subtotals	0.024	0.000	0.000

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• None: *N/A*	0.000	0.000	0.000		0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

Remarks

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603851F: *Intercontinental Ballistic Missile - Dem/Val*	PROJECT 641023: *Rocket System Launch Program*

D. Acquisition Strategy

Studies and analyses will be performed primarily in-house augmented with contractor support as required. Any special projects funded under this project that will require development and/or evaluation of hardware along with the associated employment concepts, will be awarded to qualified industry sources following open competition. Type of contract used (e.g., CPIF, FPIF, etc) will be that deemed most advantageous to the government, generally using cost plus contracts.

E. Performance Metrics

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

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603851F: *Intercontinental Ballistic Missile - Dem/Val*	PROJECT 641023: *Rocket System Launch Program*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Engineering Support	Various	Space Development and Test Directorate:Kirtland AFB, NM	-	0.024	Nov 2011	0.000		0.000		-		0.000	Continuing	Continuing	TBD
		Subtotal	0.000	0.024		0.000		0.000		0.000		0.000			

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

	All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	0.024		0.000		0.000		0.000		0.000			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603851F: *Intercontinental Ballistic Missile - Dem/Val*	PROJECT 641023: *Rocket System Launch Program*

RSLP	FY12	FY13	FY14	FY15	FY16	FY17	FY18
Continue on-going study/analysis of the most constructive use of deactivated missile assets and adoption of low cost front-end systems for use on deactivated missile assets	▲	Final Report					

▲ Completed Milestones

Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0603851F: *Intercontinental Ballistic Missile - Dem/Val*	**PROJECT** 641023: *Rocket System Launch Program*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Annual Studies/Analyses	1	2012	4	2012

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603851F: *Intercontinental Ballistic Missile - Dem/Val*	PROJECT 641025: *Ground Based Strategic Deterrence (GBSD)*	

COST ($ in Millions)	All Prior Years	FY 2012	FY 2013#	FY 2014 Base	FY 2014 OCO ##	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
641025: *Ground Based Strategic Deterrence (GBSD)*	-	0.000	11.700	9.400	-	9.400	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 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 for a Minuteman III follow-on in support of the Air Force's strategic deterrence and global strike capabilities. Funding supports pre-Milestone A activities, to include an 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 Phase leading to a Milestone-A decision.

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 2012	FY 2013	FY 2014
Title: Ground-based Strategic Deterrent (GBSD) Materiel Solutions Phase activities	0.000	11.208	8.900
Description: Perform Pre-Milestone A activities to identify potential materiel solutions for a future GBSD. ***FY 2012 Accomplishments:*** Effort funded under Project 644209 Long Range Planning. ***FY 2013 Plans:*** Perform pre-Materiel Solution Analysis Phase activities and initiate a GBSD AoA. Identify and refine viable concepts and materiel solutions for a follow-on to the Minuteman 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, Milestone A preparation to include development of Milestone A exit/Technology Development phase entrance documentation.			
Title: Program Management Administration	0.000	0.492	0.500
Description: Direct unique program cost required for program management and oversight.			

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603851F: *Intercontinental Ballistic Missile - Dem/Val*	PROJECT 641025: *Ground Based Strategic Deterrence (GBSD)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
FY 2012 Accomplishments: Effort funded under Project 644209 Long Range Planning ***FY 2013 Plans:*** Program support, travel, printing, supplies, Advisory and Assistance Service. ***FY 2014 Plans:*** Program support, travel, printing, supplies, Advisory and Assistance Service.			
Accomplishments/Planned Programs Subtotals	0.000	11.700	9.400

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• RDT&E: BA04: PE 0604337F: *Requirements Analysis and Maturation; BPAC 645349 Non-Space System Requirements Analysis & Maturation*	2.370	0.000	0.000		0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

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-3, RDT&E Project Cost Analysis: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603851F: *Intercontinental Ballistic Missile - Dem/Val*	PROJECT 641025: *Ground Based Strategic Deterrence (GBSD)*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Concept Development	MIPR	Various; see remarks:,	-	0.000		8.708	Nov 2012	6.900	Nov 2013	-		6.900	Continuing	Continuing	TBD
Concept Maturation	TBD	Various; see remarks:,	-	0.000		2.500	Mar 2013	2.000	Nov 2013	-		2.000	Continuing	Continuing	TBD
		Subtotal	0.000	0.000		11.208		8.900		0.000		8.900			

Remarks

*AFGSC/A5, Barksdale AFB, LA; AFNWC/XZ, Kirtland AFB, NM; SURVIAC, Various Locations, Aerospace, Various Locations

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
PMA - Contractor Support	Various	Various:Various,	-	0.000		0.000	Nov 2012	0.000	Nov 2013	-		0.000	Continuing	Continuing	
PMA - Government Costs	Various	Vaious:Various,	-	0.000		0.492	Nov 2012	0.500	Nov 2013	-		0.500	Continuing	Continuing	
		Subtotal	0.000	0.000		0.492		0.500		0.000		0.500			

Remarks

*AFGSC/A5, Barksdale AFB, LA; AFNWC/XZ, Kirtland AFB, NM; SURVIAC, Various Locations, Aerospace, Various Locations

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603851F: *Intercontinental Ballistic Missile - Dem/Val*	PROJECT 641025: *Ground Based Strategic Deterrence (GBSD)*	

	All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	0.000		11.700		9.400		0.000		9.400			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603851F: *Intercontinental Ballistic Missile - Dem/Val*	PROJECT 641025: *Ground Based Strategic Deterrence (GBSD)*

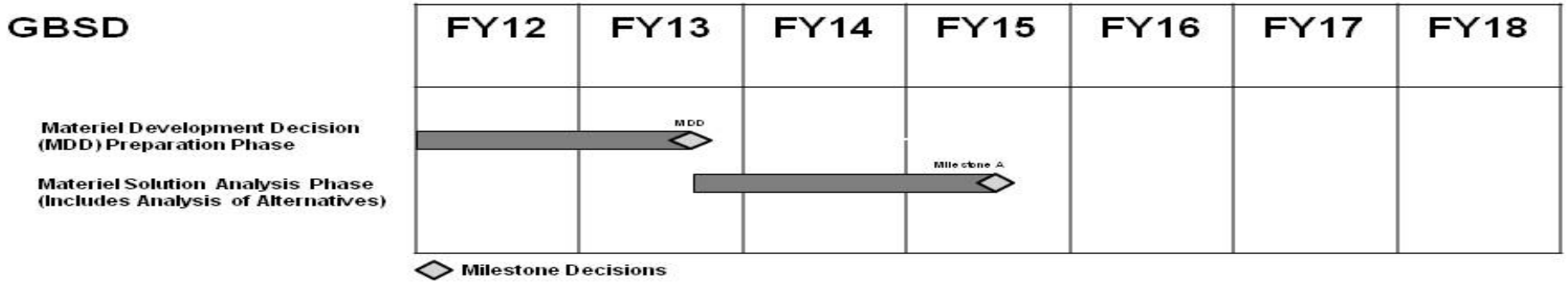


Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603851F: *Intercontinental Ballistic Missile - Dem/Val*	PROJECT 641025: *Ground Based Strategic Deterrence (GBSD)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Materiel Development Decision	4	2013	4	2013
Materiel Solutions Analysis Phase	4	2013	2	2015
Milestone A Decision	2	2015	2	2015

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603851F: *Intercontinental Ballistic Missile - Dem/Val*	PROJECT 644209: *Long Range Planning (LRP)*	

COST ($ in Millions)	All Prior Years	FY 2012	FY 2013#	FY 2014 Base	FY 2014 OCO ##	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
644209: *Long Range Planning (LRP)*	-	4.939	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 OCO Request will be submitted at a later date

A. Mission Description and Budget Item Justification

The Long Range Planning (LRP) task analyzes systems to identify common potential modifications of the Minuteman III required to meet user objectives relative to long term sustainment, technology insertion, employment, and force structure. The studies focus on system supportability, operability, reliability, 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 Intercontinental Ballistic Missile (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 2012	FY 2013	FY 2014
Title: Long Range Planning	4.939	0.000	0.000
Description: Analyze and plan current and future ICBM modifications for long term sustainment, technology insertion, employment and force structure. ***FY 2012 Accomplishments:*** Continued support of the consolidated long range plan. Continued feasibility and life extension studies. Conducted pre-milestone activities for current or future ICBM weapon systems. Initiated the following studies: Interior Denial, Guidance Test and Evaluation, Mechanical Modular Ordnance Destruction System phase II. ***FY 2013 Plans:*** N/A ***FY 2014 Plans:*** N/A			
Accomplishments/Planned Programs Subtotals	4.939	0.000	0.000

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603851F: *Intercontinental Ballistic Missile - Dem/Val*	PROJECT 644209: *Long Range Planning (LRP)*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• None: *N/A*	0.000	0.000	0.000		0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

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-3, RDT&E Project Cost Analysis: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603851F: *Intercontinental Ballistic Missile - Dem/Val*	PROJECT 644209: *Long Range Planning (LRP)*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Long Range Planning; Life Extension Studies	Various	Various:,	-	4.939		0.000		0.000		-		0.000	Continuing	Continuing	
		Subtotal	0.000	4.939		0.000		0.000		0.000		0.000			

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	4.939		0.000		0.000		0.000		0.000			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603851F: *Intercontinental Ballistic Missile - Dem/Val*	PROJECT 644209: *Long Range Planning (LRP)*

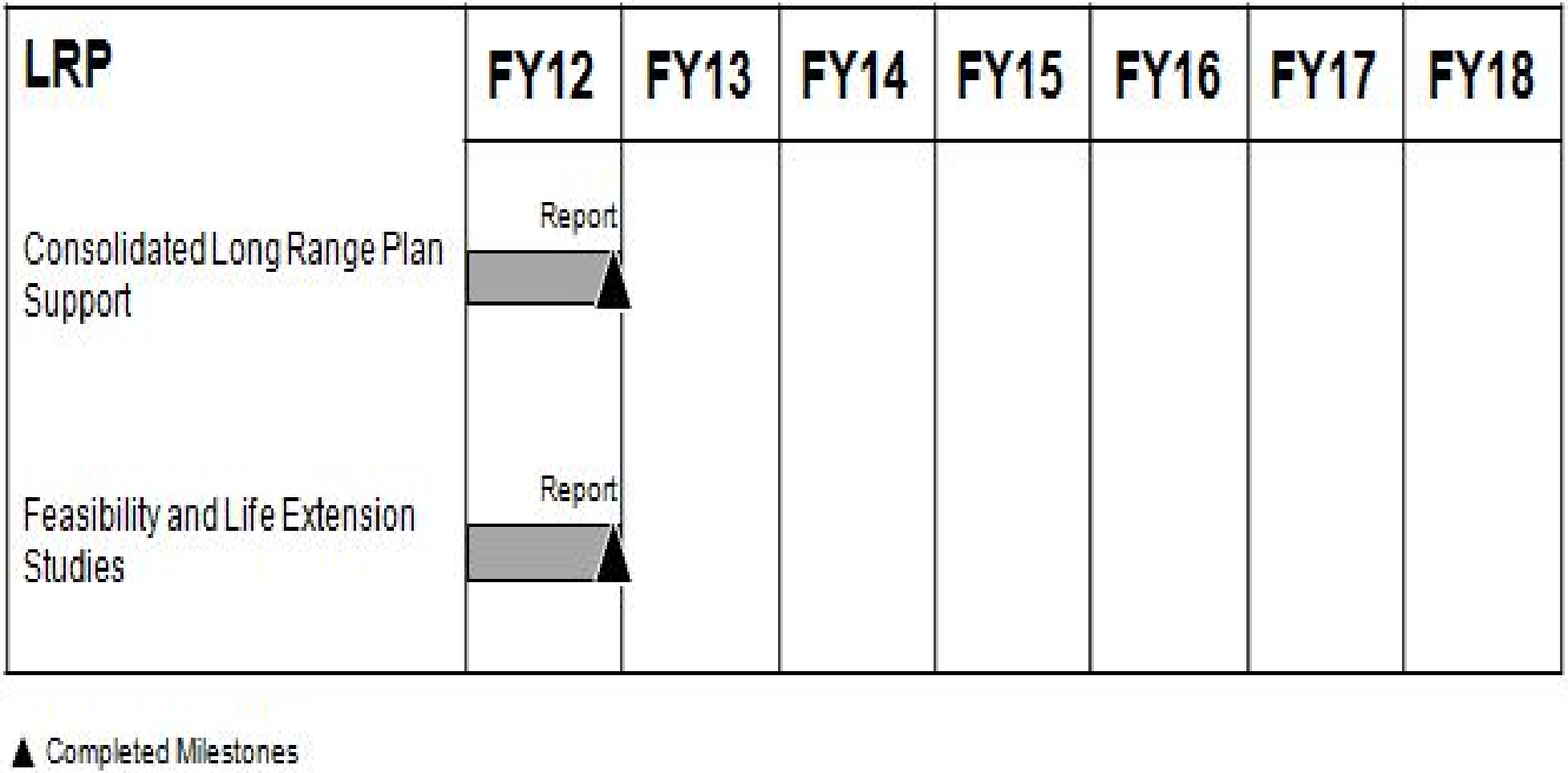


Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0603851F: *Intercontinental Ballistic Missile - Dem/Val*	**PROJECT** 644209: *Long Range Planning (LRP)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Long Range Planning Studies	1	2012	4	2012
Feasibility/Life Extension Studies	1	2012	4	2012

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force												DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*					R-1 ITEM NOMENCLATURE PE 0603854F: *Wideband Global SATCOM RDT&E (Space)*							
COST ($ in Millions)	**All Prior Years**	**FY 2012**	**FY 2013#**	**FY 2014 Base**	**FY 2014 OCO ##**	**FY 2014 Total**	**FY 2015**	**FY 2016**	**FY 2017**	**FY 2018**	**Cost To Complete**	**Total Cost**
Total Program Element	-	12.077	12.027	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	24.104
644870: *Command and Control System Consolidated (CCSC)*	-	12.077	12.027	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	24.104
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		
MDAP/MAIS Code(s): 326												

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 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 satellties 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 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603854F: *Wideband Global SATCOM RDT&E (Space)*

B. Program Change Summary ($ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	12.692	12.027	13.948	-	13.948
Current President's Budget	12.077	12.027	0.000	-	0.000
Total Adjustments	-0.615	0.000	-13.948	-	-13.948
• Congressional General Reductions	-	0.000			
• Congressional Directed Reductions	-	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	-	0.000			
• Congressional Directed Transfers	-	0.000			
• Reprogrammings	-0.615	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	0.000	0.000	-13.948	-	-13.948

Change Summary Explanation

FY14: Other Adjustment row: -$13.948M, due to a change in Budget Activity from 4 to 5, funds have been transferred to PE 0605433F, Project 657102.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Title: CCS-C development	12.077	12.027	0.000
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 2012 Accomplishments:*** Funded development to support WGS Block II satellites. Completed development of software for replacement of WGS Flight Dynamics System with modified CCS-C orbit analysis software. Conducted launch and early orbit operations for AEHF SV-2. Initiated development for the FY13 launch of AEHF SV-3. ***FY 2013 Plans:*** Funds the development completion to support launch of WGS SV-5 and SV-6. Complete development and conduct launch and early orbit operations for AEHF SV-3. Initiate CCS-C architecture evolution. ***FY 2014 Plans:*** In FY14, funds transfer to PE 0605433F, Project 657102.			
Accomplishments/Planned Programs Subtotals	12.077	12.027	0.000

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603854F: *Wideband Global SATCOM RDT&E (Space)*

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• OPAF: BA03: Line Item # 836780: *Milsatcom Space*	0.252	0.259	0.261		0.261	0.267	0.272	0.277	0.282	Continuing	Continuing
• RDT&E: BA05: PE 0605433F: *Wideband Global SATCOM (Space)*	0.000	0.000	13.948		13.948	16.817	17.096	18.104	18.430	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-3, RDT&E Project Cost Analysis: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603854F: *Wideband Global SATCOM RDT&E (Space)*	PROJECT 644870: *Command and Control System Consolidated (CCSC)*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Demonstration Contractors	C/FFP	Various:Various,	-	0.000		0.000		0.000		-		0.000	0.000	0.000	
Development Contractor: Kratos, formerly known as Integral Systems, Inc.	C/CPAF	Kratos, formerly known as Integral Systems, Inc:San Diego, CA	-	9.712	Oct 2011	1.999	Oct 2012	0.000		-		0.000	0.000	11.711	
Production & Sustainment Contract	C/FPIF	Kratos:San Diego, CA	-	0.000		6.986	Nov 2012	0.000		-		0.000	0.000	6.986	
		Subtotal	0.000	9.712		8.985		0.000		0.000		0.000	0.000	18.697	

Remarks

FY14 funds transferred to PE 0605433F, Project 657102.

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
CCS-C Systems Engineering & Integration	Various	Various:,	-	0.222	Oct 2011	0.326	Oct 2012	0.000		-		0.000	0.000	0.548	
		Subtotal	0.000	0.222		0.326		0.000		0.000		0.000	0.000	0.548	

Remarks

FY14 funds transferred to PE 0605433F, Project 657102.

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603854F: *Wideband Global SATCOM RDT&E (Space)*	PROJECT 644870: *Command and Control System Consolidated (CCSC)*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
CCS-C Program Support Cost (PMA)	Various	Various:Various,	-	2.143	Oct 2011	2.716	Oct 2012	0.000		-		0.000	0.000	4.859	
		Subtotal	0.000	2.143		2.716		0.000		0.000		0.000	0.000	4.859	

Remarks

FY14 funds transferred to PE 0605433F, Project 657102.

	All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	12.077		12.027		0.000		0.000		0.000	0.000	24.104	

Remarks

FY14 funds transferred to PE 0605433F, Project 657102.

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603854F: *Wideband Global SATCOM RDT&E (Space)*	PROJECT 644870: *Command and Control System Consolidated (CCSC)*

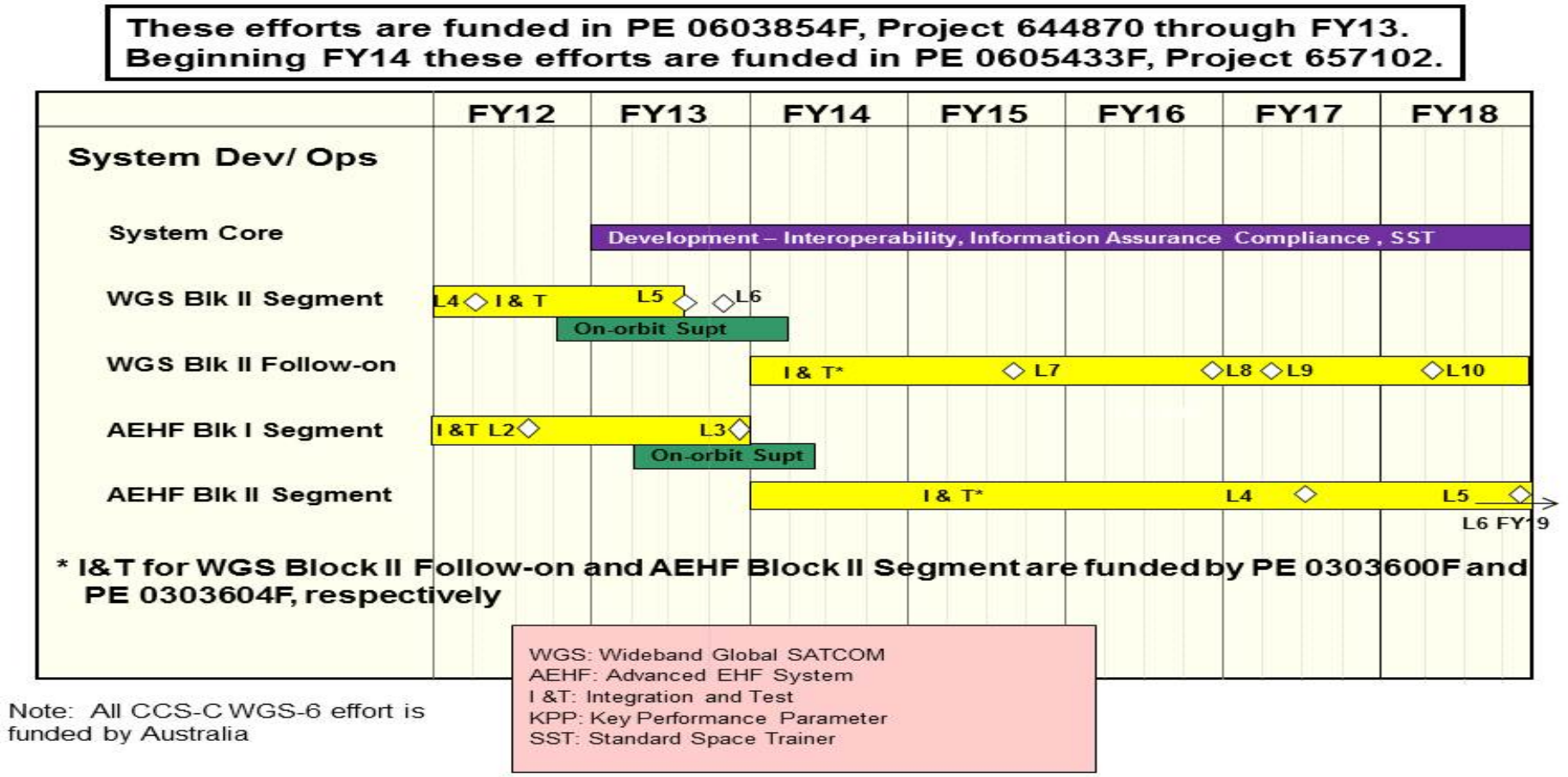


Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0603854F: *Wideband Global SATCOM RDT&E (Space)*	**PROJECT** 644870: *Command and Control System Consolidated (CCSC)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
CCS-C Production & Sustainment Contract (CPASC) Contract Award	1	2013	1	2013
WGS 5 launch	3	2013	3	2013
WGS 6 launch [All WGS 6 related effort is funded by Australia]	4	2013	4	2013
AEHF 3 launch	4	2013	4	2013

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force											DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*					R-1 ITEM NOMENCLATURE PE 0603859F: *Pollution Prevention - Dem/Val*							
COST ($ in Millions)	**All Prior Years**	**FY 2012**	**FY 2013#**	**FY 2014 Base**	**FY 2014 OCO ##**	**FY 2014 Total**	**FY 2015**	**FY 2016**	**FY 2017**	**FY 2018**	**Cost To Complete**	**Total Cost**
Total Program Element	-	2.300	2.054	0.953	-	0.953	2.488	2.346	1.948	1.983	Continuing	Continuing
644852: *Pollution Prevention*	-	2.300	2.054	0.953	-	0.953	2.488	2.346	1.948	1.983	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 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 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	2.075	2.054	2.014	-	2.014
Current President's Budget	2.300	2.054	0.953	-	0.953
Total Adjustments	0.225	0.000	-1.061	-	-1.061
• Congressional General Reductions	-	0.000			
• Congressional Directed Reductions	-	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	-	0.000			
• Congressional Directed Transfers	-	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	0.225	0.000	-1.061	-	-1.061

Change Summary Explanation

The program changed in FY 14 due to rephasing.

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0603859F: *Pollution Prevention - Dem/Val*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Title: Hazardous Pollution Prevention	2.300	2.054	0.953
Description: RCRA ***FY 2012 Accomplishments:*** Continue development of activities to reduce or eliminate hazardous materials and waste. Specific activities were qualifing and transiting a non-regulated Di-Chromate Sealer replacement at 309 CMXG. An additional activity involved qualifing and transiting a non-regulated brush Cadmium Minuteman Missile engine re-manufacture replacement. ***FY 2013 Plans:*** Continue development of activities to reduce or eliminate hazardous materials and waste. ***FY 2014 Plans:*** Continue development of activities to reduce or eliminate hazardous materials and waste.			
Accomplishments/Planned Programs Subtotals	2.300	2.054	0.953

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-3, RDT&E Project Cost Analysis: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603859F: *Pollution Prevention - Dem/ Val*	PROJECT 644852: *Pollution Prevention*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Air Force Research Lab	Various	Various:Various,	-	2.218	May 2012	1.994	May 2013	0.924		-		0.924	Continuing	Continuing	TBD
		Subtotal	0.000	2.218		1.994		0.924		0.000		0.924			

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Air Force Research Lab	Various	Various:Various	-	0.000		0.000		0.000		-		0.000	Continuing	Continuing	TBD
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000			

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Air Force Research Lab	Various	Various:Various	-	0.000		0.000		0.000		-		0.000	Continuing	Continuing	TBD
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000			

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Air Force Research Lab	Various	Various:Various,	-	0.082	Jun 2012	0.060	Jun 2013	0.029		-		0.029	Continuing	Continuing	TBD
		Subtotal	0.000	0.082		0.060		0.029		0.000		0.029			

	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	2.300		2.054		0.953		0.000		0.953			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603859F: *Pollution Prevention - Dem/ Val*	PROJECT 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								■

Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0603859F: *Pollution Prevention - Dem/ Val*	**PROJECT** 644852: *Pollution Prevention*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Requirements ID	1	2015	4	2015
Potential Alternatives	1	2015	4	2015
Test Plan	1	2015	4	2015
Testing	1	2012	4	2016
Test Report	1	2012	4	2016
Demonstration	1	2013	4	2018

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force											DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*					R-1 ITEM NOMENCLATURE PE 0603860F: *Joint Precision Approach and Landing Systems - Dem/Val*							
COST ($ in Millions)	**All Prior Years**	**FY 2012**	**FY 2013#**	**FY 2014 Base**	**FY 2014 OCO ##**	**FY 2014 Total**	**FY 2015**	**FY 2016**	**FY 2017**	**FY 2018**	**Cost To Complete**	**Total Cost**
Total Program Element	150.340	7.076	57.975	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
644652: *Precision Landing Systems*	150.340	7.076	57.975	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 OCO Request will be submitted at a later date

Note

A. Mission Description and Budget Item Justification

JPALS is an Acquisition Category ID program. System development includes an incremental approach employing a family of Land-Based (fixed and deployable) and Sea-Based systems. On 16 March 2007, the Joint Requirements Oversight Council (JROC) approved the Capability Development Document (CDD) for the JPALS family of systems and Increment 1 for the Sea-Based System and designated the Navy as the JPALS lead Department of Defense (DoD) Service and lead Component for the Sea-Based System. On 19 January 2010, the JROC approved Increment 2 CDD for the Land-Based System and designated the Air Force as the lead Component for the Land-Based System.

As reflected in the JPALS CDD, JPALS is intended to be the next generation precision approach and landing system which would provide a common interoperable system for both DoD and civil use. A cornerstone of the JPALS implementation strategy was parallel development and implementation with the Federal Aviation Administration Local Area Augmentation System (LAAS) which was based on the same GPS Ground Based Augmentation System (GBAS) technology. However, since the CDD was approved, the pace of the FAA LAAS implementation and phase down of the legacy instrument landing system has slowed. This, combined with an on-going tech refresh (life extension) of the legacy Instrument Landing System (ILS), development of a Deployable ILS, the fact that new platforms (F-35, KC-46) will be ILS equipped, and the need to fund higher Air Force priorities, the Air Force is delaying JPALS implementation for the foreseeable future. The Army has also delayed JPALS implementation beyond the current future years defense plan.

As JPALS is now early to need for the Air Force, Land-Based Increment 2 development responsibility is being transferred from the Air Force to the Navy. Both Service Acquisition Executives are in agreement on transfer of the Land-Based Increment 2. The Navy has a near term need in FY17 for a shore based system to support Joint Strike Fighter carrier landing training. The Air Force will monitor the progress of JPALS implementation but, in the interim, continue the use of the legacy Instrument Landing System (ILS). ILS is supportable through the 2030 timeframe and, in its fixed and deployable configuration, will provide an effective and affordable landing system capability. The Air Force will also retain a limited number mobile precision approach radars to provide joint Service interoperability at deployed location as all Navy and Army aircraft are not ILS equipped.

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603860F: *Joint Precision Approach and Landing Systems - Dem/Val*

As JPALS Land-Based Incremement 2 is being transferred to the Navy beginning in FY13, no FY14 funding is requested. The Navy program element is 0603860N/ Project 3354.

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 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	19.879	57.975	19.578	-	19.578
Current President's Budget	7.076	57.975	0.000	-	0.000
Total Adjustments	-12.803	0.000	-19.578	-	-19.578
• Congressional General Reductions	-	0.000			
• Congressional Directed Reductions	-	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	-	0.000			
• Congressional Directed Transfers	-	0.000			
• Reprogrammings	-10.917	0.000			
• SBIR/STTR Transfer	-1.886	0.000			
• Other Adjustments	0.000	0.000	-19.578	-	-19.578

Change Summary Explanation

In FY12 $10.917M was reprogrammed to other Air Force priorities. Funds were no longer executable in FY12 as Milestone B and development contract award were delayed while Land-Based Increment 2 program management responsibility transfers to the Navy.

FY14 funding zeroed out as JPALS Land-Based Increment 2 development is being transferred to the Navy. JPALS is early to need for the Air Force while the Navy has an urgent near term need in FY17 for shore based training in support of Joint Strike Fighter carrier capability. The AF will continue to use the legacy Instrument Landing System which is supportable through the 2030 timeframe.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Title: JPALS Acquisition and Technical Services Support (Program Management and Administration)	7.076	0.300	0.000
Description: Provides Acquisition and Technical services for systems engineering and program execution for JPALS			
FY 2012 Accomplishments:			

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0603860F: *Joint Precision Approach and Landing Systems - Dem/Val*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Provided system engineering and program support services to complete the JPALS request for proposal (RFP) package and other required program documentation (Prior to decision to transfer to the Navy, RFP release was planned for 2nd Qtr FY12 and Milestone B 3rd Qtr FY13). Provided technical support and facilitated documentation transfer to Navy. ***FY 2013 Plans:*** Provides systems engineering and program support services to Navy in support of transition to Navy managed engineering, manufacturing, and development (EMD) phase. ***FY 2014 Plans:*** N/A			
Title: JPALS Eng & Manf Development ***Description:*** System design and development of JPALS ground systems. ***FY 2012 Accomplishments:*** N/A ***FY 2013 Plans:*** Supports Navy with development of updated Land-Based Increment 2 request for proposal and Milestone B approval as restructured program is reviewed by the Joint Requirements Oversight Council and the Service Acquisition Executive (OSD/ AT&L). ***FY 2014 Plans:*** N/A	0.000	57.675	0.000
Accomplishments/Planned Programs Subtotals	7.076	57.975	0.000

D. Other Program Funding Summary ($ in Millions)

N/A

Remarks

E. Acquisition Strategy

The Air Force Increment 2 Engineering, and Manufacturing Development (EMD) contract for development of Fixed-Based and Tactical JPALS systems was planned for competitive Fixed Price Incentive Firm contract award. Acquisition strategy will now be developed by the Navy and may change.

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603860F: *Joint Precision Approach and Landing Systems - Dem/Val*

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 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603860F: *Joint Precision Approach and Landing Systems - Dem/Val*	PROJECT 644652: *Precision Landing Systems*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
EMD	TBD	NAVAIR PMA-213:Pax River NAS, MD	0.000	0.000		57.675	Aug 2013	0.000		-		0.000	0.000	57.675	TBD
		Subtotal	0.000	0.000		57.675		0.000		0.000		0.000	0.000	57.675	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Anti-Jam and Threat Analysis	C/T&M	AFRL:Dayton, OH	10.000	0.000		0.000		0.000		-		0.000	0.000	10.000	10.000
Architecture Trade Studies and Analysis	C/T&M	AES:Lex Park, MD	32.281	0.000		0.000		0.000		-		0.000	0.000	32.281	27.781
Technical Maturation (1)	SS/CPAF	BAE:Wayne,, NJ	21.722	0.000		0.000		0.000		-		0.000	0.000	21.722	19.642
Technical Maturation (2)	Various	Various:Various, CA	20.579	0.000		0.000		0.000		-		0.000	0.000	20.579	3.214
		Subtotal	84.582	0.000		0.000		0.000		0.000		0.000	0.000	84.582	60.637

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
JPALS Responsible Test Organization (RTO)	Various	46th Test Wing:Eglin AFB, FL	3.909	0.000		0.000		0.000		-		0.000	0.000	3.909	4.125
JPALS Test Certification	SS/T&M	DISA:Ft Huachuca, AZ	0.375	0.000		0.000		0.000		-		0.000	0.000	0.375	0.375
		Subtotal	4.284	0.000		0.000		0.000		0.000		0.000	0.000	4.284	4.500

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603860F: *Joint Precision Approach and Landing Systems - Dem/Val*	PROJECT 644652: *Precision Landing Systems*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Administration (PMA) - JPALS	C/T&M	Quantec, Jacobs Engineering, MITRE, Telecote Cost Services:Bedford, MA	61.474	7.076	May 2012	0.300	Apr 2013	0.000		-		0.000	0.000	68.850	74.147
		Subtotal	61.474	7.076		0.300		0.000		0.000		0.000	0.000	68.850	74.147

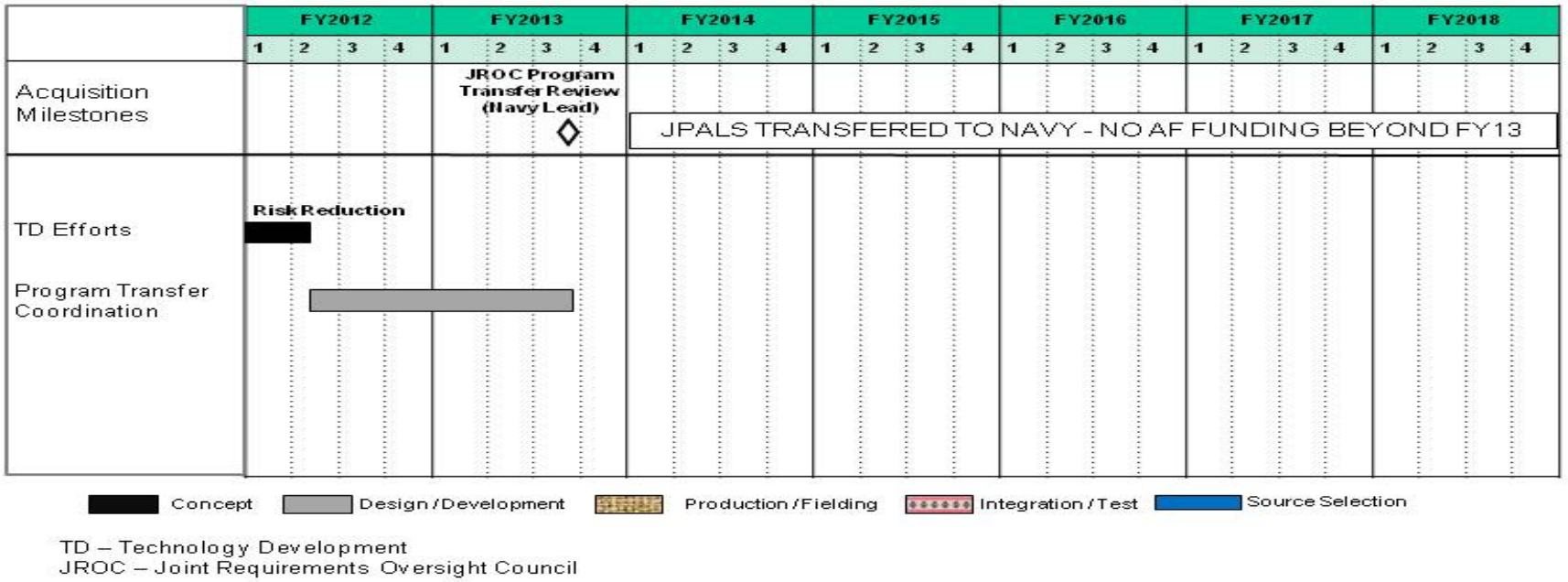
	All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	150.340	7.076		57.975		0.000		0.000		0.000	0.000	215.391	

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603860F: *Joint Precision Approach and Landing Systems - Dem/Val*	PROJECT 644652: *Precision Landing Systems*

U.S. AIR FORCE

JPALS Land-Based Inc 2 Schedule



Integrity - Service - Excellence

Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603860F: *Joint Precision Approach and Landing Systems - Dem/Val*	PROJECT 644652: *Precision Landing Systems*

Schedule Details

	Start		End	
Events	Quarter	Year	Quarter	Year
JROC Program Transfer Review	3	2013	3	2013
Risk Reduction	1	2012	2	2012
Program Transfer Coordination	2	2012	3	2013

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force												DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*					R-1 ITEM NOMENCLATURE PE 0604015F: *Long Range Strike*							
COST ($ in Millions)	**All Prior Years**	**FY 2012**	**FY 2013#**	**FY 2014 Base**	**FY 2014 OCO ##**	**FY 2014 Total**	**FY 2015**	**FY 2016**	**FY 2017**	**FY 2018**	**Cost To Complete**	**Total Cost**
Total Program Element	-	289.573	291.742	379.437	-	379.437	1,045.328	1,818.046	2,707.315	2,836.047	Continuing	Continuing
643308: *Long Range Strike Bomber*	-	289.573	291.742	379.437	-	379.437	1,045.328	1,818.046	2,707.315	2,836.047	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 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.

B. Program Change Summary ($ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	294.911	291.742	550.312	-	550.312
Current President's Budget	289.573	291.742	379.437	-	379.437
Total Adjustments	-5.338	0.000	-170.875	-	-170.875
• Congressional General Reductions	-	0.000			
• Congressional Directed Reductions	-	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	-	0.000			
• Congressional Directed Transfers	-	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	-5.338	0.000			
• Other Adjustments	0.000	0.000	-170.875	-	-170.875

Change Summary Explanation

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.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Title: Long Range Strike Bomber	289.573	291.742	379.437
Description: not applicable			

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0604015F: *Long Range Strike*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
FY 2012 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 2013 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 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.			
Accomplishments/Planned Programs Subtotals	289.573	291.742	379.437

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• Not applicable: *N/A*	0.000	0.000	0.000		0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

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-3, RDT&E Project Cost Analysis: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0604015F: *Long Range Strike*	PROJECT 643308: *Long Range Strike Bomber*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Actual breakout provided in Special Access Program Annual Report to Congress	Various	N/A:,	-	289.573		291.742		379.437		-		379.437	Continuing	Continuing	
		Subtotal	0.000	289.573		291.742		379.437		0.000		379.437			

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

	All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	289.573		291.742		379.437		0.000		379.437			

Remarks

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-4, RDT&E Schedule Profile: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0604015F: *Long Range Strike*	PROJECT 643308: *Long Range Strike Bomber*

PE 0604015F
No Schedule at this time

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force											DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*					R-1 ITEM NOMENCLATURE PE 0604283F: *Battle Mgmt Com & Ctrl Sensor Development*							
COST ($ in Millions)	**All Prior Years**	**FY 2012**	**FY 2013#**	**FY 2014 Base**	**FY 2014 OCO ##**	**FY 2014 Total**	**FY 2015**	**FY 2016**	**FY 2017**	**FY 2018**	**Cost To Complete**	**Total Cost**
Total Program Element	0.000	30.362	114.417	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
646002: *Three Dimensional Expeditionary Long Range Radar*	0.000	30.362	114.417	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		

MDAP/MAIS Code(s): 393

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 OCO Request will be submitted at a later date

Note

In FY 2012, Project 6002, Three Dimensional Expeditionary Long Range Radar (3DELRR), efforts transferred from PE 0207412F, Control and Reporting Center, Project 5294, Theater Air Control System Improvement - Radar, in order to provide this pre-Major Defense Acquisition Program its own Program Element.

In FY 2014, Project 6002, Three Dimensional Expeditionary Long Range Radar (3DELRR), transferred to PE 0207455F, Three Dimensional Expeditionary Long Range Radar (3DELRR), Project 6002, in order to provide this pre-Major Defense Acquisition Program its own Program Element.

Totals include funding for PRCP Program Number (PNO) 393, 3DELRR

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 USAF Joint Force Air Component Commander (JFACC) through the Theater Air Control System (TACS). The 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 close 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 Air Force's 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 begin in FY12 and continue through FY13. Acquisition activities during this Pre-EMD period include, but are 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 will be conducted during this timeframe to ensure the program is successful in the development of a preliminary system design. Activities will also include studies and analyses to support both current program planning and execution, and future program planning, as well as finalization of Milestone (MS) B documentation and preparation for a MS B review.

This program is in Budget Activity 4, 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.

B. Program Change Summary ($ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	30.362	114.417	0.000	-	0.000
Current President's Budget	30.362	114.417	0.000	-	0.000
Total Adjustments	0.000	0.000	0.000	-	0.000
• Congressional General Reductions	-	0.000			
• Congressional Directed Reductions	-	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	-	0.000			
• Congressional Directed Transfers	-	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	0.000	0.000	0.000	-	0.000

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Title: Technology Development (TD); Pre-EMD Period	23.533	102.901	0.000
Description: TD phase and Pre-EMD efforts associated with delivering a new long-range ground-based sensor.			
FY 2012 Accomplishments: Continued the TD phase efforts of the 3DELRR Program with the start of the pre-EMD period and developed a system design. Acquisition activities during FY12 included full and open source selection, preliminary design development, software and hardware subsystem level development, to support system development, implementation of mitigation techniques to combat existing and			

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0604283F: *Battle Mgmt Com & Ctrl Sensor Development*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
emerging system threats (including cyber warfare), test planning, and implementation of the program protection plan. Activities also include continuing development of Milestone (MS) B documentation as well as studies and analyses to support both current program planning and execution and future program planning. ***FY 2013 Plans:*** The pre-EMD period of the 3DELRR Program continues through FY13. Acquisition activities during FY13 include, but are not limited to, a full and open source selection, managing up to three concurrent prime contracts, completion of the preliminary design development, continuing 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 ensures the program achieves a preliminary system design. Activities also include studies and analyses to support both current program planning and execution and future program planning as well as finalization of MS B documentation.			
Title: Test and Evaluation Support ***Description:*** Test and Evaluation Support ***FY 2012 Accomplishments:*** Test and evaluation support activities for continued development of the test strategy and test-related documentation, planning of future developmental test and evaluation events, information assurance planning, and participation in technical and test-related working groups. ***FY 2013 Plans:*** Continues 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, and participation in technical and test related working groups.	0.100	0.300	0.000
Title: Systems Engineering/ Technical Support ***Description:*** Systems Engineering/Technical Support ***FY 2012 Accomplishments:*** Systems Engineering/Technical Support ***FY 2013 Plans:*** Systems Engineering/Technical Support	0.945	3.617	0.000

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0604283F: *Battle Mgmt Com & Ctrl Sensor Development*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
N/A			
Title: Management Services	5.784	7.599	0.000
Description: Management Services ***FY 2012 Accomplishments:*** Management Services ***FY 2013 Plans:*** Management Services N/A			
Accomplishments/Planned Programs Subtotals	30.362	114.417	0.000

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• RDTE: BA04: PE 0207455F: *Three Dimensional Long Range Radar*	0.000	0.000	70.160		70.160	69.533	57.985	54.000	15.100	Continuing	Continuing
• OPAF: BA04: Line Item # 646002: *Three Dimensional Long Range Radar*	0.000	0.000	0.000		0.000	0.000	0.000	0.000	63.800	Continuing	Continuing

Remarks

E. Acquisition Strategy

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

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 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0604283F: *Battle Mgmt Com & Ctrl Sensor Development*	PROJECT 646002: *Three Dimensional Expeditionary Long Range Radar*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Modeling & Simulation	SS/CPFF	MIT/Lincoln Laboratory:Lexington, MA	0.000	3.220	Oct 2011	2.055	Dec 2012	0.000		-		0.000	0.000	5.275	5.275
System Threat Assessment	SS/CPFF	MITRE:Bedford, MA	0.000	0.318	Nov 2011	0.408	Nov 2012	0.000		-		0.000	0.000	0.726	0.636
Pre-EMD Period	C/FFP	Various:Various,	0.000	19.995	Sep 2012	100.438	Oct 2012	0.000		-		0.000	0.000	120.433	122.157
		Subtotal	0.000	23.533		102.901		0.000		0.000		0.000	0.000	126.434	128.068

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
System Engineering - A	SS/CPFF	MIT/Lincoln Laboratory:Lexington, MA	0.000	0.929	Jan 2012	2.898	Jan 2013	0.000		-		0.000	0.000	3.827	3.827
System Engineering - B	MIPR	Naval Research Laboratory:Washington, DC	0.000	0.016	Aug 2012	0.181	Oct 2012	0.000		-		0.000	0.000	0.197	0.181
System Engineering - C	SS/CPFF	Carnegie Mellon University:Pittsburgh, PA	0.000	0.000		0.538	Dec 2012	0.000		-		0.000	0.000	0.538	0.538
		Subtotal	0.000	0.945		3.617		0.000		0.000		0.000	0.000	4.562	4.546

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
46th Test Wing	PO	46th TW:Ft Walton Beach, FL	0.000	0.100	Oct 2011	0.250	Oct 2012	0.000		-		0.000	0.000	0.350	0.400
Joint Interoperability Test Command	MIPR	JITC:Ft. Huachuca, AZ	0.000	0.000		0.050	Apr 2013	0.000		-		0.000	0.000	0.050	
		Subtotal	0.000	0.100		0.300		0.000		0.000		0.000	0.000	0.400	

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0604283F: *Battle Mgmt Com & Ctrl Sensor Development*	PROJECT 646002: *Three Dimensional Expeditionary Long Range Radar*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Administration	Various	Various:Various,	0.000	5.784	Oct 2011	7.599	Oct 2012	0.000		-		0.000	0.000	13.383	11.765
		Subtotal	0.000	5.784		7.599		0.000		0.000		0.000	0.000	13.383	11.765

	All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	30.362		114.417		0.000		0.000		0.000	0.000	144.779	

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0604283F: *Battle Mgmt Com & Ctrl Sensor Development*	PROJECT 646002: *Three Dimensional Expeditionary Long Range Radar*

3DELRR Program Schedule

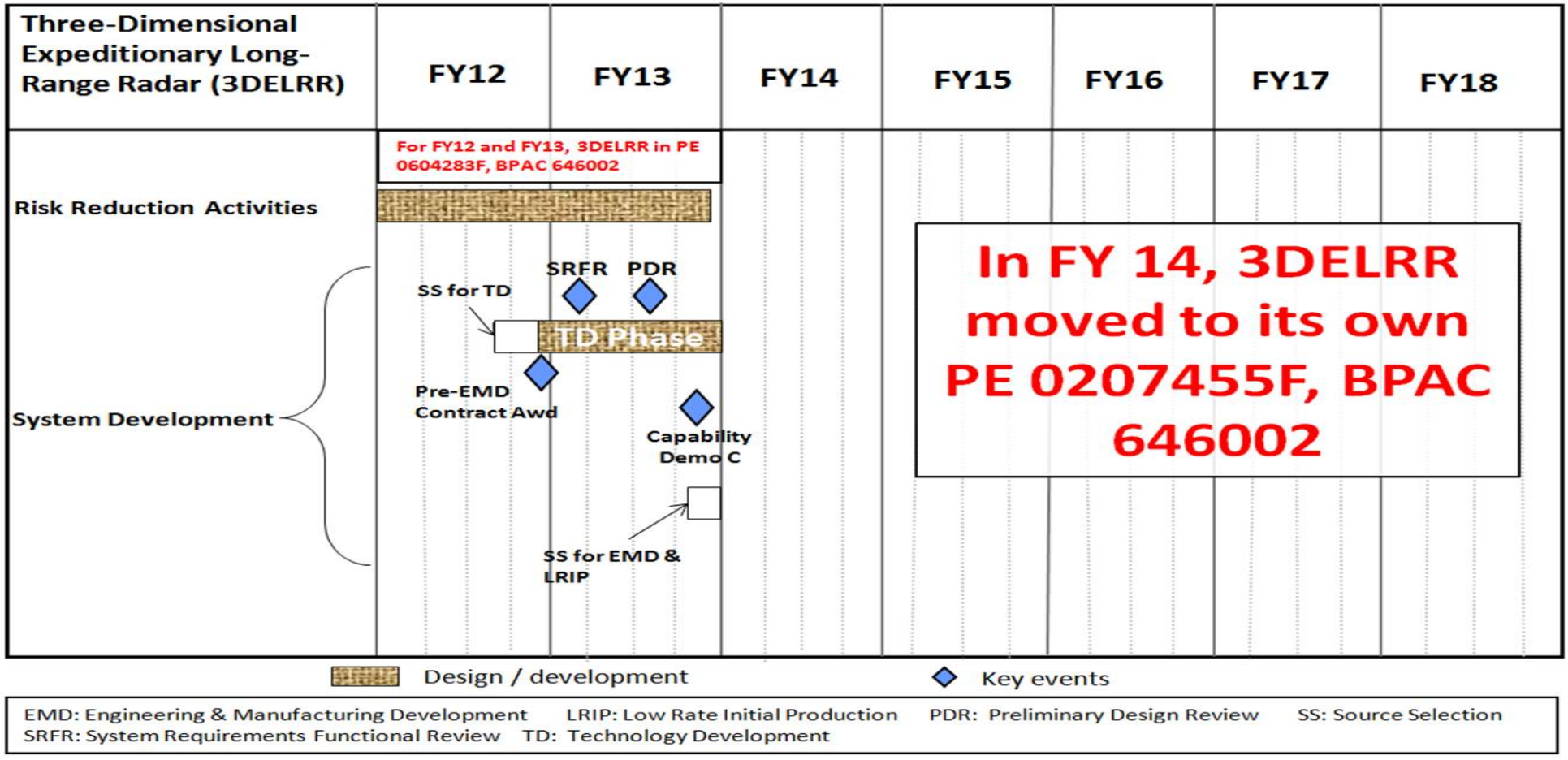


Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0604283F: *Battle Mgmt Com & Ctrl Sensor Development*	**PROJECT** 646002: *Three Dimensional Expeditionary Long Range Radar*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Risk Reduction Activities	1	2012	4	2013
TD Phase Source Selection	3	2012	4	2012
Pre-EMD Contract Award	4	2012	4	2012
Tech Development (TD) Phase	4	2012	4	2013
System Requirement Functional Review	2	2013	2	2013
Preliminary Design Review	3	2013	3	2013
Capability Demonstration C	4	2013	4	2013
Source Selection for EMD and LRIP Contract	4	2013	4	2013

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force											DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*					R-1 ITEM NOMENCLATURE PE 0604317F: *Technology Transfer*							
COST ($ in Millions)	**All Prior Years**	**FY 2012**	**FY 2013#**	**FY 2014 Base**	**FY 2014 OCO ##**	**FY 2014 Total**	**FY 2015**	**FY 2016**	**FY 2017**	**FY 2018**	**Cost To Complete**	**Total Cost**
Total Program Element	-	2.474	2.576	2.606	-	2.606	3.053	4.864	3.421	3.482	Continuing	Continuing
646003: *Partnership Intermediary Agreement(s)*	-	2.474	2.576	2.606	-	2.606	3.053	4.864	3.421	3.482	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 OCO Request will be submitted at a later date

Note

A. Mission Description and Budget Item Justification

Technology Transfer was called 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) integration of advanced commercial-sector technologies into Department of Defense (DoD) systems, particularly from non-traditional defense contractors;
(2) spin-off of DoD-developed technologies to industry to make these technologies available for military acquisition; and
(3) establishment of collaborative Research and Development (R&D) projects with the private sector for cost-sharing of new dual-use technology development.

This effort is in Budget Activity 4, Advanced Component Development and Prototypes, since it involves system specific efforts that help expedite technology transfer to and from the commercial sector for operational use.

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0604317F: *Technology Transfer*	

B. Program Change Summary ($ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	2.553	2.576	2.606	-	2.606
Current President's Budget	2.474	2.576	2.606	-	2.606
Total Adjustments	-0.079	0.000	0.000	-	0.000
• Congressional General Reductions	-	0.000			
• Congressional Directed Reductions	-	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	-	0.000			
• Congressional Directed Transfers	-	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	-0.079	0.000			
• Other Adjustments	0.000	0.000	0.000	-	0.000

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Title: Technology Transfer	2.474	2.576	2.606

Description: Enhance and expand transfer of technologies between DoD and the commercial sector.

FY 2012 Accomplishments:
Actively promoted and brokered Cooperative Research And Development Agreements (CRADAs) between DoD labs and industry for development of technology with both commercial and military applications. This activity 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 providing DoD benefit from private-sector technology investments and innovations. Actively marketed DoD-developed technologies to U.S. companies to establish Patent License Agreements to commercialize these technologies for both civilian and military application.

FY 2013 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 to 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

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0604317F: *Technology Transfer*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
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 to establish Patent License Agreements to commercialize these technologies for both civilian and military application.			
Accomplishments/Planned Programs Subtotals	2.474	2.576	2.606

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-3, RDT&E Project Cost Analysis: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0604317F: *Technology Transfer*	PROJECT 646003: *Partnership Intermediary Agreement(s)*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Enhance and expand transfer of technologies between DoD and the commercial sector.	Various	TechLink:Bozeman, MT	-	2.474		2.576		2.606		-		2.606	Continuing	Continuing	TBD
		Subtotal	0.000	2.474		2.576		2.606		0.000		2.606			

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

	All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	2.474		2.576		2.606		0.000		2.606			

Remarks

TBD

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0604317F: *Technology Transfer*	PROJECT 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-4A, RDT&E Schedule Details: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0604317F: *Technology Transfer*	**PROJECT** 646003: *Partnership Intermediary Agreement(s)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
FY12 Funding Award	2	2012	2	2012
FY12 Progress Review	1	2013	1	2013
FY13 Funding Award	2	2013	2	2013
FY13 Progress Review	1	2014	1	2014
FY14 Funding Award	2	2014	2	2014
FY14 Progress Review	1	2015	1	2015
FY15 Funding Award	2	2015	2	2015
FY15 Progress Review	1	2016	1	2016
FY16 Funding Award	2	2016	2	2016
FY16 Progress Review	1	2017	1	2017
FY17 Funding Award	2	2017	2	2017

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force											DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*					R-1 ITEM NOMENCLATURE PE 0604327F: *Hard and Deeply Buried Target Defeat System (HDBTDS) Program*							
COST ($ in Millions)	**All Prior Years**	**FY 2012**	**FY 2013#**	**FY 2014 Base**	**FY 2014 OCO ##**	**FY 2014 Total**	**FY 2015**	**FY 2016**	**FY 2017**	**FY 2018**	**Cost To Complete**	**Total Cost**
Total Program Element	-	120.838	16.711	0.103	-	0.103	0.000	0.000	0.000	0.000	Continuing	Continuing
645341: *Direct Strike Penetrator Systems*	-	120.838	16.711	0.103	-	0.103	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles		7	0	0		0	0	0	0	0		

MDAP/MAIS Code(s): 475

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 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 program. 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)s, 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 analysis-of-alternative (AoA) activities include, but are not limited to reports to evaluate the performance, operational suitability, and cost of alternative hard target defeat systems.

This program is in Budget Activity 4, Advanced Component Development and Prototypes (ACD&P) because effort are 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 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0604327F: *Hard and Deeply Buried Target Defeat System (HDBTDS) Program*

B. Program Change Summary ($ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	33.248	16.711	0.103	-	0.103
Current President's Budget	120.838	16.711	0.103	-	0.103
Total Adjustments	87.590	0.000	0.000	-	0.000
• Congressional General Reductions	-	0.000			
• Congressional Directed Reductions	-	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	-	0.000			
• Congressional Directed Transfers	-	0.000			
• Reprogrammings	88.552	0.000			
• SBIR/STTR Transfer	-0.962	0.000			
• Other Adjustments	0.000	0.000	0.000	-	0.000

Change Summary Explanation

The Air Force requested and Congress approved Above Threshold Reprogramming (ATR) of $88.552M for the enhancement and testing of the MOP weapon system.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Title: Massive Ordinance Penetrator (MOP) Weapon Development	51.599	1.000	0.000
Description: MOP Weapon development/redesign and test and integration on the B-2. ***FY 2012 Accomplishments:*** Upgrade MOP for Enhanced Threat Response (ETR-1 and ETR-2): Update design to ensure weapon-to-aircraft compatibility and weapon performance in the operating environment. Complete warhead, fuze and aft-end redesign to provide full capability against COCOM designated target set. Provided engineering support and updates to mission software. Modified source technical orders to include MOP. Provided labor and repair parts for MOP weapon trainer. Redesign fin control actuators, borrowed from the USA ATACMS design, to adapt the MOP weapon system and improve reliability to avoid problems in higher humidity environmnet in MOP storage facilities. Conduct Reliability and Maintainability Analysis. ***FY 2013 Plans:*** Engineering support for potential testing of new warhead and fuzing systems designs.			
Title: MOP System Test and Evaluation	44.019	9.917	0.000
Description: MOP system test and evaluation, and qualification testing and weapon certification on B-2A.			

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0604327F: *Hard and Deeply Buried Target Defeat System (HDBTDS) Program*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
FY 2012 Accomplishments: Continued to conduct qualification, ground and flight tests to verify design modifications. Conduct ground tests and 7 flight tests, to include ETR-1 and ETR-2 testing of the MOP weapon system in order to demonstrate weapon effectiveness and suitability. Includes weapon cost and missile range costs, modeling and simulation, weapons effects. Potential re-fly costs and higher risk tolerance captured. ***FY 2013 Plans:*** Conduct ground and flight tests to verify ETR-1 and ETR-2 design changes.			
Title: MOP Target Construction ***Description:*** Construct several hard and deeply buried targets for live weapon testing. ***FY 2012 Accomplishments:*** Constructed hardened and deeply buried target facilities for live weapon testing. Installed instrumentation to capture weapons effect data for post-test analysis, modeling, and simulation activities. ***FY 2013 Plans:*** Complete construction of final target for live weapon testing.	13.174	1.670	0.000
Title: Program Management Administration (PMA) ***Description:*** Support MOP weapon development activities such as design reviews and ground/flight test planning and execution. Support Hard Target Munition (HTM) Analysis of Alternatives (AoA). ***FY 2012 Accomplishments:*** Supported weapon development and test activities. Includes FY14 activities, as this it the last year of funding for MOP. Supported HTM AoA. ***FY 2013 Plans:*** Support MOP weapon development and test activities. Includes FY14 activities, as this it the last year of funding for MOP. Support HTM AoA. ***FY 2014 Plans:*** Support HTM AoA.	2.461	4.124	0.103
Title: Hard Target Munition (HTM) Capability Analysis	9.585	0.000	0.000

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0604327F: *Hard and Deeply Buried Target Defeat System (HDBTDS) Program*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Description: Analysis of Alternatives (AoA) for hard target weapons. ***FY 2012 Accomplishments:*** Evaluated alternative hard target weapons to assess the performance, operational effectiveness, operational suitability, and estimated system procurement costs.			
Accomplishments/Planned Programs Subtotals	120.838	16.711	0.103

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• RDTE: BA07: PE 0604240F: *B-2 Bomber*	0.000	0.000	0.000		0.000	0.000	0.000	0.000	0.000	0.000	80.683
• APAF: BA05: B01B00: *B-2 Squadrons, PE 0101127F*	46.000	7.000	0.000		0.000	0.000	0.000	0.000	0.000	0.000	75.651
• PAAF: BA01: PE 0208030F: *WRM-Ammunition (General Purpose Bombs)*	3.800	4.158	0.000		0.000	0.000	0.000	0.000	0.000	0.000	61.274

Remarks

E. Acquisition Strategy

MOP is a Quick reaction capability 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 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0604327F: *Hard and Deeply Buried Target Defeat System (HDBTDS) Program*	PROJECT 645341: *Direct Strike Penetrator Systems*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
MOP Weapon Development	SS/CPIF	Boeing:St Louis, MO	-	51.599	Feb 2012	1.000	Feb 2013	0.000		-		0.000	0.000	52.599	
Hard Target Munition (HTM) Capabilities Analysis	Various	Whitney, Bradley & Brown; ARA; Booz Allen:Eglin, FL	-	4.311	Apr 2012	0.000		0.000		-		0.000	Continuing	Continuing	
HTM Concept/Technology Study	Various	Several Local Companies:Eglin, FL	-	2.628		0.000		0.000		-		0.000	Continuing	Continuing	
HTM Weapons Effects/ Target Analysis	RO	Defense Threat Reduction Agency:Eglin AFB, FL	-	1.087		0.000		0.000		-		0.000	Continuing	Continuing	
HTM Technical Support	Various	Jacobs Engr.:Eglin, FL	-	1.559		0.000		0.000		-		0.000	Continuing	Continuing	
		Subtotal	0.000	61.184		1.000		0.000		0.000		0.000			

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
MOP System Test & Evaluation	RO	Not specified.:Eglin AFB, FL	-	15.469	Dec 2011	7.917	Jan 2014	0.000		-		0.000	0.000	23.386	
MOP Flight Test Range Support	Various	White Sands Missile Range:White Sands Missile Range, NM	-	4.850	Mar 2012	2.000	Jan 2014	0.000		-		0.000	0.000	6.850	
Target Construction and Instrumentation (MOP)	Various	Defense Threat Reduction	-	13.174	Feb 2012	0.000		0.000		-		0.000	0.000	13.174	

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0604327F: *Hard and Deeply Buried Target Defeat System (HDBTDS) Program*	PROJECT 645341: *Direct Strike Penetrator Systems*

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Agency:Albequerque, NM													
Weapon Effects/Modeling and Simulation (MOP)	Various	Defense Threat Reduction Agency:Albuquerque, NM	-	23.700	May 2012	1.670	Feb 2013	0.000		-		0.000	0.000	25.370	
		Subtotal	0.000	57.193		11.587		0.000		0.000		0.000	0.000	68.780	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Administration (PMA) for MOP	Various	AFLCMC/EBD:Eglin AFB, FL	-	1.746	Dec 2011	4.000	Dec 2012	0.000		-		0.000	0.000	5.746	
Program Management Administration (PMA) for Hard Target Munitions	Various	AFLCMC/XR:Eglin AFB, FL	-	0.715		0.124		0.103		-		0.103	Continuing	Continuing	
		Subtotal	0.000	2.461		4.124		0.103		0.000		0.103			

	All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	120.838		16.711		0.103		0.000		0.103			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0604327F: *Hard and Deeply Buried Target Defeat System (HDBTDS) Program*	PROJECT 645341: *Direct Strike Penetrator Systems*

U.S. AIR FORCE

Hard Target Munition (MOP and AoA) Top Level Schedule

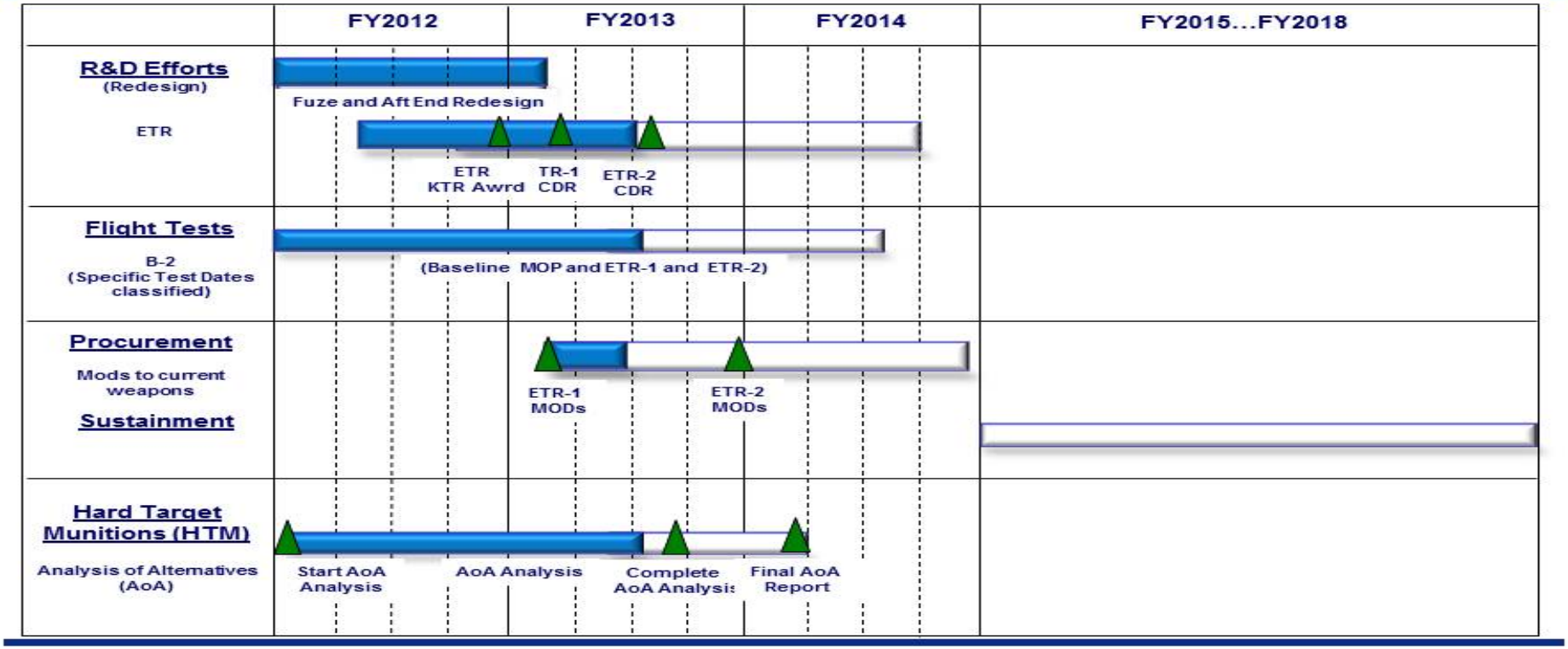


Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0604327F: *Hard and Deeply Buried Target Defeat System (HDBTDS) Program*	**PROJECT** 645341: *Direct Strike Penetrator Systems*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Redesign: Fuze and Aft Ends and Conduct Ground Testing	1	2012	1	2013
Flight Testing of the Baseline MOP Weapon	1	2012	1	2013
MOP Design Modification & Qualification Testing for ETR-1	2	2012	2	2013
MOP Design Modification & Qualification Testing for ETR-2	2	2012	3	2014
MOP ETR-1 Flight Testing	2	2013	3	2013
MOP ETR-2 Flight Testing	4	2013	3	2014
Conduct Hard Target Analysis of Alternatives (AoA)	1	2012	1	2014

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force											DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*					R-1 ITEM NOMENCLATURE PE 0604330F: *Joint Dual Role Air Dominance Missile*							
COST ($ in Millions)	**All Prior Years**	**FY 2012**	**FY 2013#**	**FY 2014 Base**	**FY 2014 OCO ##**	**FY 2014 Total**	**FY 2015**	**FY 2016**	**FY 2017**	**FY 2018**	**Cost To Complete**	**Total Cost**
Total Program Element	-	28.871	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
645342: *Concept Development*	-	28.871	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 OCO Request will be submitted at a later date

Note

In FY2013, PE 0604330F, Joint Dual-Role Air Dominance Missile (JDRADM), was terminated.

A. Mission Description and Budget Item Justification

JDRADM is envisioned as a multi-role (air-to-air/air-to-ground) missile for the 5th generation fighter force structure. It will provide increased flexibility, standoff range, and lethality to defeat 2020+ air and surface threats. It is intended for internal carriage on the F-22A and F-35, and external carriage on selected legacy aircraft. This program continues risk reduction and concept development efforts to ensure critical technologies are adequately assessed to support the Materiel Solution Analysis (MSA) phase of the program. The Joint Requirements Oversight Council (JROC) approved Initial Capabilities Document (ICD) refers to this missile as the Next Generation Missile (NGM).

The program completed a successful Materiel Development Decision (MDD) Defense Acquisition Board (DAB) on 29 Nov 10. The program was approved to enter the MSA phase and conduct and complete an evaluation of alternative weapons to assess the performance, operational effectiveness, oprational suitability, and estimated system procurement costs based on findings in the NGM ICD, dated April 2010. It also designated the AF as the lead Service.

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 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0604330F: *Joint Dual Role Air Dominance Missile*

B. Program Change Summary ($ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	29.759	0.000	0.000	-	0.000
Current President's Budget	28.871	0.000	0.000	-	0.000
Total Adjustments	-0.888	0.000	0.000	-	0.000
• Congressional General Reductions	-	0.000			
• Congressional Directed Reductions	-	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	-	0.000			
• Congressional Directed Transfers	-	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	-0.888	0.000			
• Other Adjustments	0.000	0.000	0.000	-	0.000

Change Summary Explanation

No Significant Changes

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Title: Product Development	26.271	0.000	0.000
Description: Risk Reduction Studies/Concept Development/Technology Maturation ***FY 2012 Accomplishments:*** Continued support for the advanced missile demonstration to mature critical technologies during MSA. Continued mission support and provide program management to ongoing product development. ***FY 2013 Plans:*** N/A ***FY 2014 Plans:*** N/A			
Title: Materiel Solution Analysis (MSA)	2.600	0.000	0.000
Description: Evaluation of Alternative Weapons/Prep for Technology Development (TD) Phase ***FY 2012 Accomplishments:***			

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0604330F: *Joint Dual Role Air Dominance Missile*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Continued to fund MSA activities and preparation for Milestone A and entrance into TD phase in FY13. Continued mission support and provide program management to execute MSA. ***FY 2013 Plans:*** N/A ***FY 2014 Plans:*** N/A			
Accomplishments/Planned Programs Subtotals	28.871	0.000	0.000

D. Other Program Funding Summary ($ in Millions)

N/A

Remarks

E. Acquisition Strategy

Next Generation Missile (NGM), or JDRADM, completed the pre-MSA phase of acquisition with risk reduction and critical technology maturity efforts supported by the Air Force Research Lab (AFRL). The program completed an MDD Defense Acquisition Board (DAB) in Nov 10 and proceeded into the MSA phase. Development of the NGM acquisition/contract strategy and formalizing requirements continues to evolve pending the completion of the evaluation of alternative weapons effort. The preliminary findings of this effort have determined that the technology maturation is not consistent with proceeding to the Technology Development (TD) phase and the cost at this time is too prohibitive; therefore, the program has been terminated.

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.

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 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0604330F: *Joint Dual Role Air Dominance Missile*	PROJECT 645342: *Concept Development*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Risk Reduction/Concept Development/Tech Maturation	Various	Various:Various,	-	26.271	Dec 2011	0.000		0.000		-		0.000	0.000	26.271	0.000
Materiel Solution Analysis (MSA)/Evaluation of Alternative Weapons	Various	Various:Various	-	1.800	Dec 2011	0.000		0.000		-		0.000	Continuing	Continuing	
		Subtotal	0.000	28.071		0.000		0.000		0.000		0.000			

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management and Admin (PMA)	Various	Various:Various	-	0.800	Dec 2011	0.000		0.000		-		0.000	Continuing	Continuing	
		Subtotal	0.000	0.800		0.000		0.000		0.000		0.000			

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0604330F: *Joint Dual Role Air Dominance Missile*	PROJECT 645342: *Concept Development*	

	All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	28.871		0.000		0.000		0.000		0.000			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0604330F: *Joint Dual Role Air Dominance Missile*	PROJECT 645342: *Concept Development*

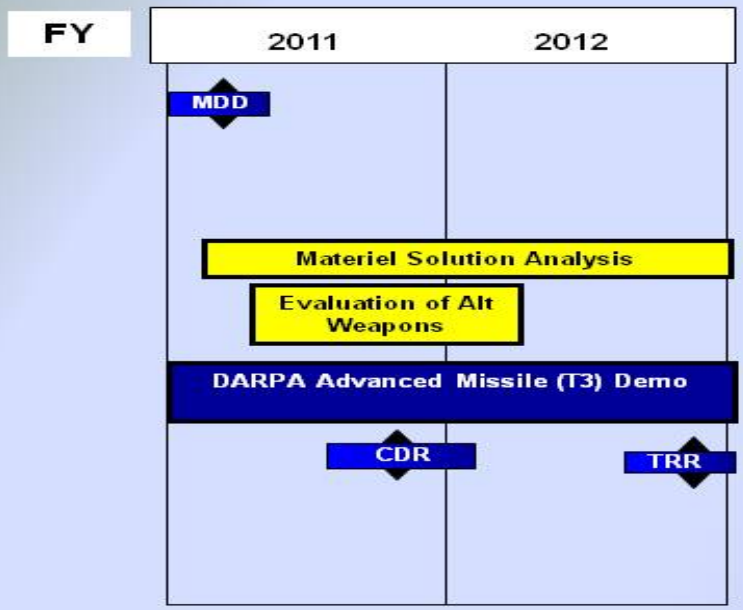


Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0604330F: *Joint Dual Role Air Dominance Missile*	PROJECT 645342: *Concept Development*

Schedule Details

	Start		End	
Events	Quarter	Year	Quarter	Year
MSA Phase	1	2012	1	2013
Evaluation of Alternative Weapons	1	2012	1	2012
AF/DARPA T3 Test Readiness Review (TRR)	4	2012	4	2012

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force											DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*					R-1 ITEM NOMENCLATURE PE 0604337F: *Requirements Analysis and Maturation*							
COST ($ in Millions)	**All Prior Years**	**FY 2012**	**FY 2013#**	**FY 2014 Base**	**FY 2014 OCO ##**	**FY 2014 Total**	**FY 2015**	**FY 2016**	**FY 2017**	**FY 2018**	**Cost To Complete**	**Total Cost**
Total Program Element	-	22.794	16.343	16.018	-	16.018	15.844	16.134	16.390	16.685	Continuing	Continuing
645349: *Development Planning*	-	17.293	11.649	16.018	-	16.018	15.844	16.134	16.390	16.685	Continuing	Continuing
64A024: *Space Systems Requirements Analysis & Maturation*	-	5.501	4.694	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 OCO Request will be submitted at a later date

A. Mission Description and Budget Item Justification

The Requirements Analysis and Maturation (RAM) program addresses a critical need for decision-quality information prior to initiating a new acquisition program by executing integrated materiel studies and analyses across the Air Force enterprise (air, space, and cyber). A number of Department of Defense (DoD), Government Accountability Office, and industry studies point to a need for more disciplined, early-phase systems engineering and pre-systems acquisition planning to produce the detailed acquisition information that previously did not surface until after the initiation of a program. The RAM program element (PE) funds early systems engineering and pre-acquisition planning and analysis activities such as requirements analysis, concept development, acquisition strategy development, cost analysis, modeling and simulation, and costs associated with these activities to include analytical tools and travel. This comprehensive approach supports acquisition courses of action to initiate high-confidence acquisition programs. Specific efforts are determined each year by requests submitted from Air Force Major Commands and subsequently prioritized and approved by the Air Force Development Planning Governance Structure. This effort is in Budget Activity 4, Advanced Component Development and Prototypes, since it involves the planning and analyses necessary to develop system specific efforts that help expedite technology transition from the laboratory to operational use.

For FY 2014 and out Space and Non-Space RAM PE activities were combined into a single Development Planning project, BPAC 645349

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force					DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*			R-1 ITEM NOMENCLATURE PE 0604337F: *Requirements Analysis and Maturation*		
B. Program Change Summary ($ in Millions)	**FY 2012**	**FY 2013**	**FY 2014 Base**	**FY 2014 OCO**	**FY 2014 Total**
Previous President's Budget	23.511	16.343	16.018	-	16.018
Current President's Budget	22.794	16.343	16.018	-	16.018
Total Adjustments	-0.717	0.000	0.000	-	0.000
• Congressional General Reductions	-	0.000			
• Congressional Directed Reductions	-	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	-	0.000			
• Congressional Directed Transfers	-	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	-0.717	0.000			
• Other Adjustments	0.000	0.000	0.000	-	0.000

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0604337F: *Requirements Analysis and Maturation*	PROJECT 645349: *Development Planning*	

COST ($ in Millions)	All Prior Years	FY 2012	FY 2013#	FY 2014 Base	FY 2014 OCO ##	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
645349: *Development Planning*	-	17.293	11.649	16.018	-	16.018	15.844	16.134	16.390	16.685	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 OCO Request will be submitted at a later date

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 2012	FY 2013	FY 2014
Title: Long-range Capability Analyses	2.874	1.857	2.564
Description: Conduct long-range capability analyses by analyzing documented warfighter capability needs and requirements to identify potential materiel shortfalls and opportunities. ***FY 2012 Accomplishments:*** Developed capability roadmaps, advanced concept studies and analyses, and derived technology needs required to realize future materiel solutions to warfighter capability needs. ***FY 2013 Plans:*** Develop capability roadmaps, advanced concept studies and analyses, and derive technology needs required to realize future materiel solutions to warfighter capability needs. ***FY 2014 Plans:*** Continue to 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	11.489	7.812	10.731
Description: Conduct concept development activities, including early-phase systems engineering, by devising candidate materiel solution options to address Air Force air and cyber capability needs and shortfalls. ***FY 2012 Accomplishments:***			

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0604337F: *Requirements Analysis and Maturation*	PROJECT 645349: *Development Planning*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
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 2013 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 2014 Plans:*** Continue to 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 2012 Accomplishments:*** Performed pre-systems acquisition planning activities, to include concept refinement, cost estimates, acquisition courses of action, and acquisition milestone documentation. ***FY 2013 Plans:*** Perform pre-systems acquisition planning activities, to include concept refinement, cost estimates, acquisition courses of action, and acquisition milestone documentation. ***FY 2014 Plans:*** Continue to perform pre-systems acquisition planning activities, to include concept refinement, cost estimates, acquisition courses of action, and acquisition milestone documentation.	2.930	1.980	2.723
Accomplishments/Planned Programs Subtotals	17.293	11.649	16.018

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

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

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0604337F: *Requirements Analysis and Maturation*	PROJECT 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-3, RDT&E Project Cost Analysis: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0604337F: *Requirements Analysis and Maturation*	PROJECT 645349: *Development Planning*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Long-range capability analyses	Various	TBD:TBD,	-	2.874	Dec 2011	1.857	Dec 2012	2.564	Dec 2013	-		2.564	Continuing	Continuing	TBD
Concept development activities	Various	TBD:TBD,	-	11.489	Feb 2012	7.812	Feb 2013	10.731	Feb 2014	-		10.731	Continuing	Continuing	TBD
Pre-systems acquisition planning	Various	TBD:TBD,	-	2.930	Feb 2012	1.980	Feb 2013	2.723	Feb 2014	-		2.723	Continuing	Continuing	TBD
		Subtotal	0.000	17.293		11.649		16.018		0.000		16.018			

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

	All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	17.293		11.649		16.018		0.000		16.018			

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0604337F: *Requirements Analysis and Maturation*	PROJECT 645349: *Development Planning*	

	All Prior Years	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0604337F: *Requirements Analysis and Maturation*	PROJECT 645349: *Development Planning*

Requirements Analysis and Maturation (RAM) Master Schedule

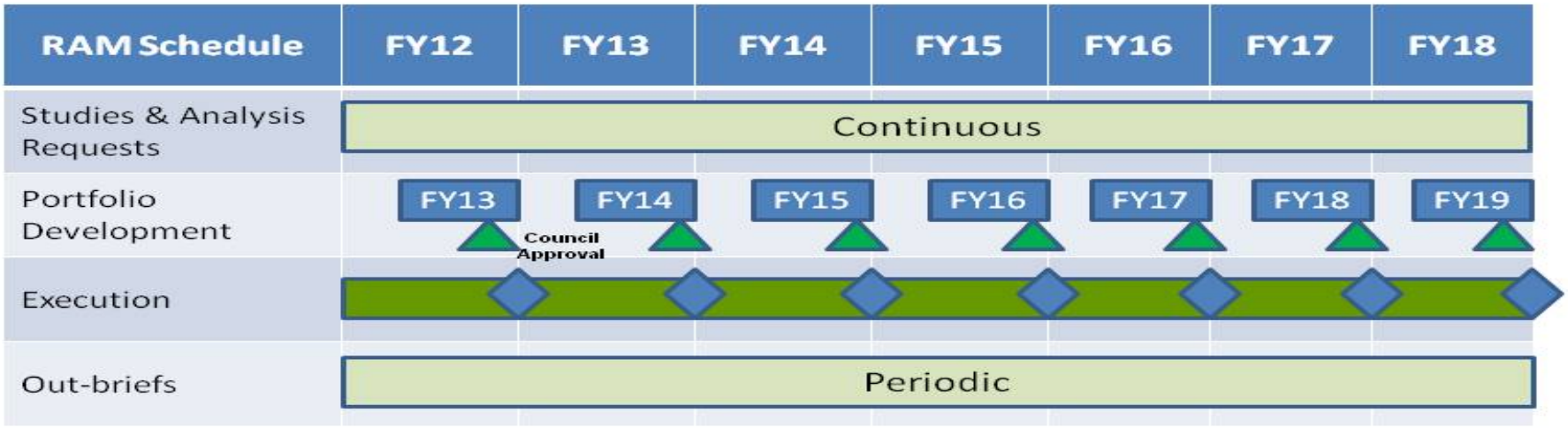


Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0604337F: *Requirements Analysis and Maturation*	**PROJECT** 645349: *Development Planning*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Studies & Analysis Requests	1	2012	4	2018
FY13 RAM Portfolio Development	2	2012	4	2012
FY14 RAM Portfolio Development	2	2013	4	2013
FY15 RAM Portfolio Development	2	2014	4	2014
FY16 RAM Portfolio Development	2	2015	4	2015
FY17 RAM Portfolio Development	2	2016	4	2016
FY18 RAM Portfolio Development	2	2017	4	2017
FY19 RAM Portfolio Development	2	2018	4	2018
RAM Effort Execution	1	2012	4	2018
Studies & Analyses Outbriefs	1	2012	4	2018

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0604337F: *Requirements Analysis and Maturation*	PROJECT 64A024: *Space Systems Requirements Analysis & Maturation*	

COST ($ in Millions)	All Prior Years	FY 2012	FY 2013#	FY 2014 Base	FY 2014 OCO ##	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
64A024: *Space Systems Requirements Analysis & Maturation*	-	5.501	4.694	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 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 2012	FY 2013	FY 2014
Title: Long-range Capability Analyses	0.855	0.703	0.000
Description: Conduct long-range capability analyses by analyzing documented warfighter capability needs and requirements to identify potential materiel shortfalls and opportunities. ***FY 2012 Accomplishments:*** Developed capability roadmaps, advanced concept studies and analyses, and derive technology needs required to realize future materiel solutions to warfighter capability needs. ***FY 2013 Plans:*** Develop capability roadmaps, advanced concept studies and analyses, and derive technology needs required to realize future materiel solutions to warfighter capability needs. ***FY 2014 Plans:*** N/A			
Title: Concept Development	3.243	2.820	0.000
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 2012 Accomplishments:***			

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0604337F: *Requirements Analysis and Maturation*	PROJECT 64A024: *Space Systems Requirements Analysis & Maturation*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
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 2013 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 2014 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 2012 Accomplishments:*** Performed pre-systems acquisition planning activities, to include concept refinement, cost estimates, acquisition courses of action, and acquisition milestone documentation. ***FY 2013 Plans:*** Continue to perform pre-systems acquisition planning activities, to include concept refinement, cost estimates, acquisition courses of action, and acquisition milestone documentation. ***FY 2014 Plans:*** N/A	1.403	1.171	0.000
Accomplishments/Planned Programs Subtotals	5.501	4.694	0.000

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

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-3, RDT&E Project Cost Analysis: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0604337F: *Requirements Analysis and Maturation*	PROJECT 64A024: *Space Systems Requirements Analysis & Maturation*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Long-range capability analyses	Various	Aerospace Corp / TASC Inc.:El Segundo, CA	-	0.855	Dec 2011	0.703	Dec 2012	0.000		-		0.000	Continuing	Continuing	TBD
Concept development activities	Various	Aerospace Corp / TASC Inc.:El Segundo, CA	-	3.243	Dec 2011	2.820	Dec 2012	0.000		-		0.000	Continuing	Continuing	TBD
Pre-systems acquisition planning	Various	Aerospace Corp / TASC Inc.:El Segundo, CA	-	1.403	Dec 2011	1.171	Dec 2012	0.000		-		0.000	Continuing	Continuing	TBD
		Subtotal	0.000	5.501		4.694		0.000		0.000		0.000			

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0604337F: *Requirements Analysis and Maturation*	PROJECT 64A024: *Space Systems Requirements Analysis & Maturation*	

	All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	5.501		4.694		0.000		0.000		0.000			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0604337F: *Requirements Analysis and Maturation*	PROJECT 64A024: *Space Systems Requirements Analysis & Maturation*

Requirements Analysis and Maturation (RAM) Master Schedule

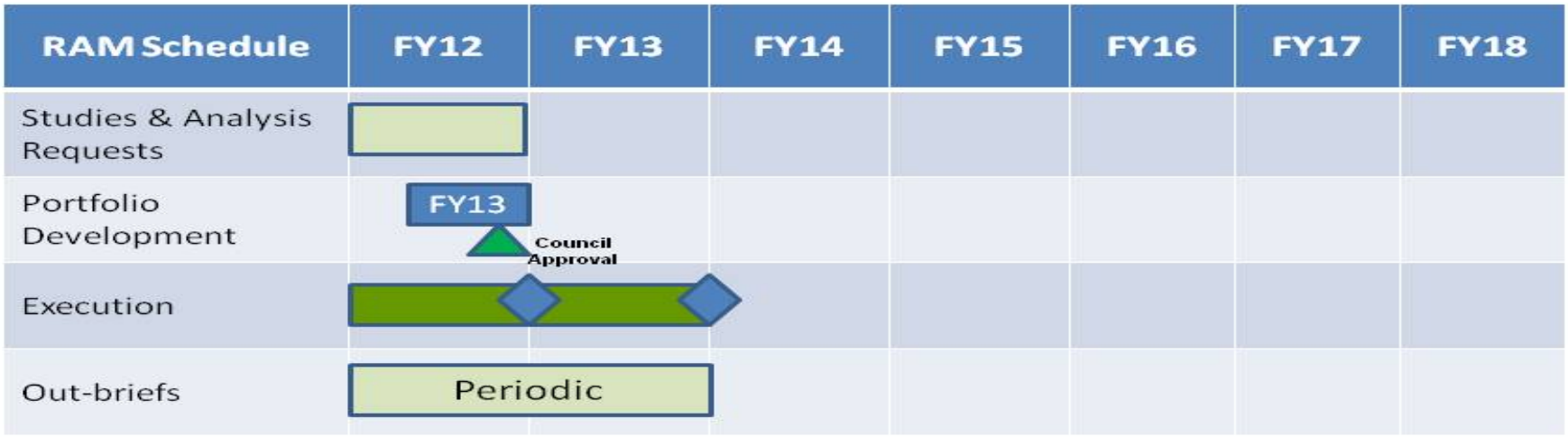


Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0604337F: *Requirements Analysis and Maturation*	**PROJECT** 64A024: *Space Systems Requirements Analysis & Maturation*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Studies & Analysis Requests	1	2012	4	2012
FY13 RAM Portfolio Development	2	2012	4	2012
RAM Effort Execution	1	2012	4	2013
Studies & Analyses Outbriefs	1	2012	4	2013

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force											DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*					R-1 ITEM NOMENCLATURE PE 0604422F: *Weather System Follow-on*							
COST ($ in Millions)	**All Prior Years**	**FY 2012**	**FY 2013#**	**FY 2014 Base**	**FY 2014 OCO ##**	**FY 2014 Total**	**FY 2015**	**FY 2016**	**FY 2017**	**FY 2018**	**Cost To Complete**	**Total Cost**
Total Program Element	-	123.681	2.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
644289: *Weather Satellite Follow-On*	-	123.681	2.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 OCO Request will be submitted at a later date

A. Mission Description and Budget Item Justification

The Defense Weather Satellite System (DWSS) program in RDT&E, AF PE 0305178F was terminated per Congressional direction in FY 2012. DoD will utilize the remaining Defense Meteorological Satellite Program (DMSP) satellites to satisfy DoD overhead weather requirements until a follow-on capability can be acquired.

Weather Satellite Follow-on (WSF) activities support requirements analysis, analysis of alternatives (AoA), and acquisition of capabilities which will satisfy DoD overhead terrestrial and space weather requirements during, and after, fly-out of DMSP.

WSF activities provide a foundation to transition from the current DMSP program to a future capability which will satisfy DoD overhead weather requirements. The range of WSF activities include requirements development and trades, analysis and possible implementation of alternative sources of weather data, architecture and systems engineering analysis, and technical risk reduction for viable sensor and spacecraft technologies. Use of affordable, mature technology will be emphasized for the WSF activities.

BA-4 - 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 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0604422F: *Weather System Follow-on*

B. Program Change Summary ($ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	123.681	2.000	0.000	-	0.000
Current President's Budget	123.681	2.000	0.000	-	0.000
Total Adjustments	0.000	0.000	0.000	-	0.000
• Congressional General Reductions	-	0.000			
• Congressional Directed Reductions	-	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	-	0.000			
• Congressional Directed Transfers	-	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	0.000	0.000	0.000	-	0.000

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2012	FY 2013
Project: 644289: *Weather Satellite Follow-On*		
Congressional Add: *Weather Satellite Follow-on (WSF)*	123.681	-
Congressional Add Subtotals for Project: 644289	123.681	0.000
Congressional Add Totals for all Projects	123.681	0.000

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Title: WSF	0.000	2.000	0.000
Description: Weather Satellite Follow-on (WSF) activities support requirements analysis, analysis of alternatives (AoA), and acquisition of capabilities which will satisfy DoD overhead terrestrial and space weather requirements during, and after, fly-out of the Defense Meteorological Satellite Program (DMSP).			
FY 2013 Plans: - Complete Analysis of Alternatives and a Technology Strategy to support a Milestone review. - Continue to execute contracts awarded under BAA. - Continue development of analytical tools, conduct market research, perform system and requirements development and continue to invest in risk reduction to mitigate operational gap.			
FY 2014 Plans:			

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0604422F: *Weather System Follow-on*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
- The program is not funded in FY14. BAA technology development contract execution will conclude in early FY14 using FY12 funds.			
Accomplishments/Planned Programs Subtotals	0.000	2.000	0.000

	FY 2012	FY 2013
Congressional Add: Weather Satellite Follow-on (WSF)	123.681	-
FY 2012 Accomplishments: - WSF System Program Office (SPO) developed a plan to use Congressionally-added funds to stimulate the industrial base and buy down risk for future sensors and unique technologies for the weather mission. - The Executive Agent for Space completed a space-based environmental monitoring concept study to inform the Analysis of Alternatives (AoA). To support this, the SPO developed analytical tools to evaluate future architectures and conducted analysis to identify collection capability gaps in the Meteorological and Oceanographic Initial Capabilities Document (METOC ICD). - The SPO authored a technology investment strategy and issued a Broad Agency Announcement (BAA) to execute funds for sensor, spacecraft, space weather, and ground systems technology development. Using the strategy, the SPO started development of models and prototypes; demos necessary to define the materiel solution; materiel/non-materiel solutions; implementation of alternatives for exploitation of non-traditional weather data source to provide experimental satellite data to DoD users to mitigate risk of forecasting gaps.		
Congressional Adds Subtotals	123.681	0.000

D. Other Program Funding Summary ($ in Millions)

N/A

Remarks

E. Acquisition Strategy

DoD directed initiation of an AoA and established the Weather Satellite Follow-on (WSF) as a Pre-Major Defense Acquisition Program (MDAP). The acquisition strategy for the Weather Satellite Follow-On (WSF) will be informed by an Analysis of Alternatives with an anticipated completion in 3Q FY 2013.

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 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0604422F: *Weather System Follow-on*	PROJECT 644289: *Weather Satellite Follow-On*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Microwave: Modify Legacy GMI Sensor Design	SS/CPFF	Ball Aerospace and Technologies Corp:Boulder, CO	-	5.794	Feb 2013	0.000		0.000		-		0.000	0.000	5.794	TBD
Microwave: Sensor Design Trades & Demonstration	SS/CPFF	Boeing Company Space and Intelligence Systems:El Segundo, CA	-	2.811	Feb 2013	0.000		0.000		-		0.000	0.000	2.811	TBD
Sys/Spacecraft: Hosted Payload on Highly Eliptical Orbit Study	SS/CPFF	Loral Space Communications:Palo Alto, CA	-	1.000	Feb 2013	0.000		0.000		-		0.000	Continuing	Continuing	TBD
Microwave:Research Concepts to Decrease MW Sensors size	SS/CPFF	JPL:Pasadena, CA	-	1.796	Feb 2013	0.000		0.000		-		0.000	0.000	1.796	TBD
Systems/Spacecraft: Small Space Vehicle Options Study	SS/CPFF	Orbital Sciences Corp:Los Angeles, CA	-	3.545	Feb 2013	0.000		0.000		-		0.000	0.000	3.545	TBD
WSF requirements analysis, risk reduction, and early pre-acquisition activities	SS/ Various	Various:,	-	25.615	Apr 2013	0.000		0.000		-		0.000	0.000	25.615	TBD
EO/IR - Advanced Very High Resolution Radiometer (AVHRR) Sensor Design Update/ Demo	SS/CPFF	ITT Exelis:Fort Wayne, IN	-	12.706	Jan 2013	0.000		0.000		-		0.000	0.000	12.706	TBD
Electro-Optical/Infra-red (EO/IR) - Lightweight COTS	SS/CPFF	Johns Hopkins U Applied Physics Lab:Laurel, MD	-	8.844	Jan 2013	0.000		0.000		-		0.000	0.000	8.844	TBD
Systems/Spacecraft: Net-Centric Architecture study	SS/CPFF	Alliant Techsystems, Incorporated:Beltsville, MD	-	5.983	Dec 2012	0.000		0.000		-		0.000	0.000	5.983	TBD
System/Spacecraft: Ground Architecture Alternatives	SS/CPFF	Harris Government Communications Systems	-	2.034	Feb 2013	0.000		0.000		-		0.000	0.000	2.034	TBD

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0604422F: *Weather System Follow-on*	PROJECT 644289: *Weather Satellite Follow-On*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Division:Melbourne, FL													
Systems/Spacecraft: Flight-proven Class C mission bus	SS/FP	Millennium Space Systems:Torrance, CA	-	1.944	Feb 2013	0.000		0.000		-		0.000	0.000	1.944	TBD
Sys/Spacecraft: Weather Architecture Trade Studies	SS/FP	U.S. Space LLC:Dulles, VA	-	1.592	Mar 2013	0.000		0.000		-		0.000	0.000	1.592	TBD
Sys/Spacecraft: High-TRL Sensor for Space Weather	SS/CPFF	John Hopkins U Applied Physics Lab:Laurel, MD	-	2.997	Mar 2013	0.000		0.000		-		0.000	0.000	2.997	TBD
Systems/Spacecraft: Leverage OPIR Data from Commercially Hosted Infra-red Payload (CHIRP)	SS/CPFF	SAIC:Seal Beach, CA	-	0.982	Mar 2013	0.000		0.000		-		0.000	0.000	0.982	TBD
Microwave:Compact MW Sensor Study for Ocean Surface Vector Wind	SS/CPFF	JPL:Pasadena, CA	-	1.584	Mar 2013	0.000		0.000		-		0.000	0.000	1.584	TBD
Spacecraft Risk Reduction Effort/Space Weather Launch Vehicle integration	SS/FP	Space Exploration Technology Corporation:Hawthorne, CA	-	3.030	Dec 2012	0.000		0.000		-		0.000	0.000	3.030	TBD
Dosimeter Study - low cost Particle Counter	Various	Various:Various,	-	4.275	Mar 2013	0.000		0.000		-		0.000	0.000	4.275	TBD
Risk Reduction - Microwave Sensor Activities	MIPR	Naval Research Laboratory:Washington, DC	-	9.900	Jul 2012	0.000		0.000		-		0.000	0.000	9.900	TBD
Analysis of Alternatives (AoA) activities	Various	AFSPC/A5:Peterson AFB, CO	-	7.000	Aug 2012	2.000		0.000		-		0.000	0.000	9.000	TBD
		Subtotal	0.000	103.432		2.000		0.000		0.000		0.000			

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0604422F: *Weather System Follow-on*	PROJECT 644289: *Weather Satellite Follow-On*

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Requirements/Engineering Analysis Support	MIPR	Defense Information Technical Center (DTIC)/Surviac Contract:Los Angeles, CA	-	1.500	Oct 2012	0.000		0.000		-		0.000	0.000	1.500	TBD
Engineering Risk Reduction Studies	Various	Various:,	-	1.171	Feb 2013	0.000		0.000		-		0.000	0.000	1.171	TBD
		Subtotal	0.000	2.671		0.000		0.000		0.000		0.000	0.000	2.671	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Systems Engineering (FFRDC) (PMA)	MIPR	Aerospace:Los Angeles, CA	-	11.863	Mar 2012	0.000		0.000		-		0.000	0.000	11.863	TBD
Acquisition Contractor Support (PMA)	MIPR	Various:,	-	5.378	Mar 2012	0.000		0.000		-		0.000	0.000	5.378	TBD
Program Support (PMA)	Various	Space and Missile Systems Center:Los Angeles, CA	-	0.337	Mar 2012	0.000		0.000		-		0.000	0.000	0.337	TBD
		Subtotal	0.000	17.578		0.000		0.000		0.000		0.000	0.000	17.578	

	All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	123.681		2.000		0.000		0.000		0.000			

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0604422F: *Weather System Follow-on*	PROJECT 644289: *Weather Satellite Follow-On*	

	All Prior Years	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0604422F: *Weather System Follow-on*	PROJECT 644289: *Weather Satellite Follow-On*

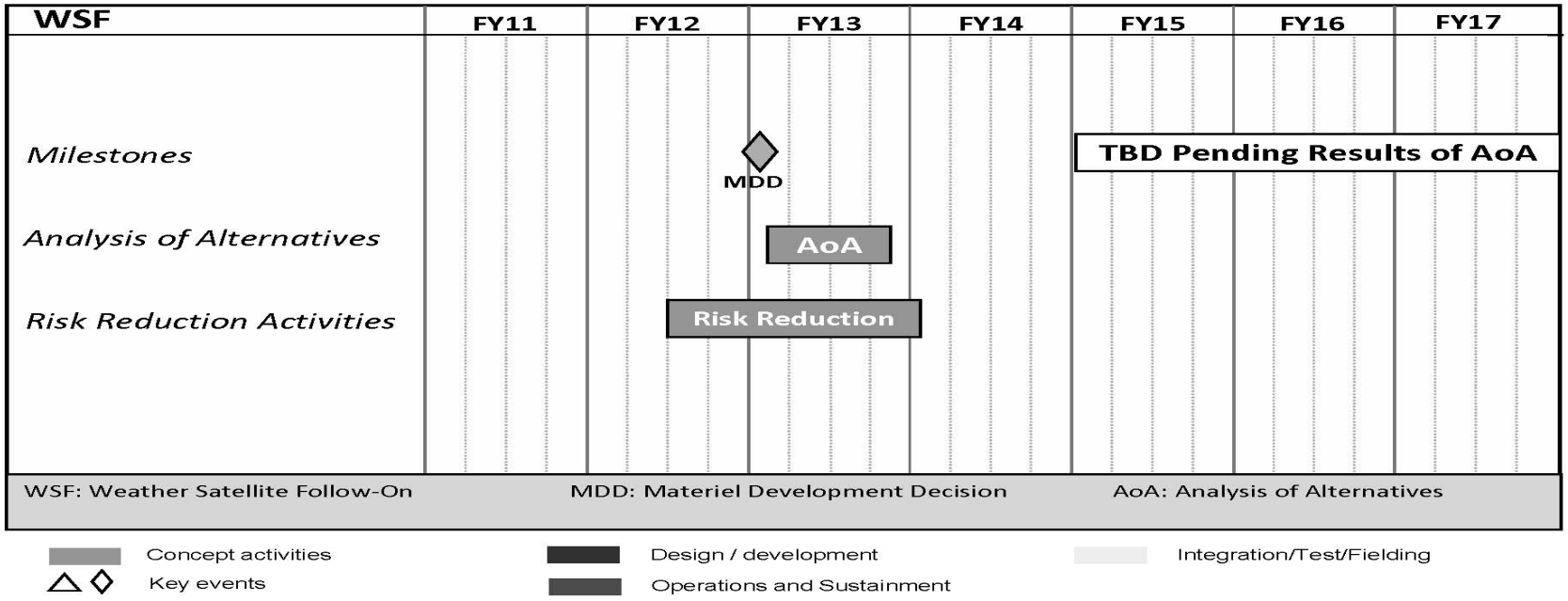


Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0604422F: *Weather System Follow-on*	PROJECT 644289: *Weather Satellite Follow-On*

Schedule Details

	Start		End	
Events	Quarter	Year	Quarter	Year
Materiel Development Decision	1	2013	1	2013
Analysis of Alternatives (AoA)	1	2013	3	2013
Risk Reduction Activities	3	2012	1	2014

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force											DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*					R-1 ITEM NOMENCLATURE PE 0604458F: *Air & Space Ops Center*							
COST ($ in Millions)	**All Prior Years**	**FY 2012**	**FY 2013#**	**FY 2014 Base**	**FY 2014 OCO ##**	**FY 2014 Total**	**FY 2015**	**FY 2016**	**FY 2017**	**FY 2018**	**Cost To Complete**	**Total Cost**
Total Program Element	-	0.000	0.000	58.861	-	58.861	58.909	0.000	0.000	0.000	Continuing	Continuing
644945: *AOC Inc 10.2*	-	0.000	0.000	58.861	-	58.861	58.909	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 OCO Request will be submitted at a later date

Note

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 for this major program.

AOC 10.2 is PRCP Program Number (PNO) N42.

A. Mission Description and Budget Item Justification

The Air Operations Center Weapons 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 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, has commenced with 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 will conduct 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 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.

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0604458F: *Air & Space Ops Center*

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) 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 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	0.000	0.000	0.000	-	0.000
Current President's Budget	0.000	0.000	58.861	-	58.861
Total Adjustments	0.000	0.000	58.861	-	58.861
• Congressional General Reductions	-	0.000			
• Congressional Directed Reductions	-	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	-	0.000			
• Congressional Directed Transfers	-	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	0.000	0.000	58.861	-	58.861

Change Summary Explanation

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 for this major program.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Title: AOC 10.2 Modernization	0.000	0.000	40.791
Description: AOC 10.2 infrastructure modernization and mission capability integration. Development of a robust, open, Net-Centric infrastructure with a Services Oriented Architecture (SOA). ***FY 2012 Accomplishments:*** N/A ***FY 2013 Plans:*** N/A ***FY 2014 Plans:*** Effort will complete prototyping and LEI activities to support risk reduction and operational feedback. Will perform EMD contract activities (upon achievement of MS B), including but not limited to the following: a) AOC 10.2 development, systems analysis, and			

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0604458F: *Air & Space Ops Center*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
corresponding documentation, b) capability provider engagement and integration, c) build-up and field the Help Desk (HD), d) Integration and Test Lab (ITL) operation and management, and e) continued planning, coordination, and execution of Contractor System Testing / Developmental Test and Evaluation / Operational Test and Evaluation. Will continue 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 10.2 Test and Evaluation ***Description:*** Test and Evaluation ***FY 2012 Accomplishments:*** N/A ***FY 2013 Plans:*** N/A ***FY 2014 Plans:*** Will plan and implement comprehensive Modernization contractor testing (in-plant integration and test, functional testing, security testing, etc.), 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.	0.000	0.000	1.710
Title: AOC 10.2 Training ***Description:*** Training ***FY 2012 Accomplishments:*** N/A ***FY 2013 Plans:*** N/A ***FY 2014 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.	0.000	0.000	2.160
Title: AOC 10.2 Systems Engineering ***Description:*** Systems Engineering	0.000	0.000	6.570

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0604458F: *Air & Space Ops Center*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
FY 2012 Accomplishments: N/A ***FY 2013 Plans:*** N/A ***FY 2014 Plans:*** System engineering activities will include requirements analyses, C2 integration and architecture studies, risk reduction assessments, review of technical documentation, prototyping activities and feedback assessments (both at the contractor's Integrated Test Lab and the Combined Air Operations Center-eXperimental location), system development, integration & test (System Test and Evaluation, etc.), performance evaluation (AOC 10.2 post-Critical Design Review, etc.), buildup and fielding of the help desk, and technical expertise to support MS C. This effort will ensure collaboration between the new Modernization contractor and multiple AF, DoD, and commercial providers to allow for successful development, integration, test and out-year sustainment.			
Title: AOC 10.2 Program Management Administration ***Description:*** Program Management Administration ***FY 2012 Accomplishments:*** N/A ***FY 2013 Plans:*** N/A ***FY 2014 Plans:*** Program Support efforts will include: Government contract oversight, technical expertise and program management office support associated with AOC WS activities.	0.000	0.000	7.630
Accomplishments/Planned Programs Subtotals	0.000	0.000	58.861

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• RDTE: BA07: PE 0207410F: *Air and Space Operations Center Weapon System (AOC WS)*	97.663	50.674	0.000		0.000	0.000	0.000	0.000	0.000	0.000	130.575

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0604458F: *Air & Space Ops Center*

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• OPAF: BA03: Line Item # 834530: *Air & Space Operations Ctr - WPN SYS*	0.000	0.000	1.806		1.806	5.984	54.010	57.227	58.258	Continuing	Continuing

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 Services 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 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0604458F: *Air & Space Ops Center*	PROJECT 644945: *AOC Inc 10.2*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
AOC 10.2 Modernization	C/Various	Northrop Grumman:Herndon, VA	-	0.000		0.000		40.791	Oct 2013	-		40.791	Continuing	Continuing	TBD
Training	C/Various	Various:Various,	-	0.000		0.000		2.160	Nov 2013	-		2.160	Continuing	Continuing	TBD
		Subtotal	0.000	0.000		0.000		42.951		0.000		42.951			

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test	Various	Various:Various,	-	0.000		0.000		1.710	Oct 2013	-		1.710	Continuing	Continuing	TBD
		Subtotal	0.000	0.000		0.000		1.710		0.000		1.710			

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Systems Engineering	SS/ Various	MITRE:Bedford, MA	-	0.000		0.000		6.570	Oct 2013	-		6.570	Continuing	Continuing	TBD
Program Management Administration	Various	Various:Hanscom AFB, MA	-	0.000		0.000		7.630	Oct 2013	-		7.630	Continuing	Continuing	TBD
		Subtotal	0.000	0.000		0.000		14.200		0.000		14.200			

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0604458F: *Air & Space Ops Center*	PROJECT 644945: *AOC Inc 10.2*	

	All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	0.000		0.000		58.861		0.000		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 for this major program.

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0604458F: *Air & Space Ops Center*	PROJECT 644945: *AOC Inc 10.2*

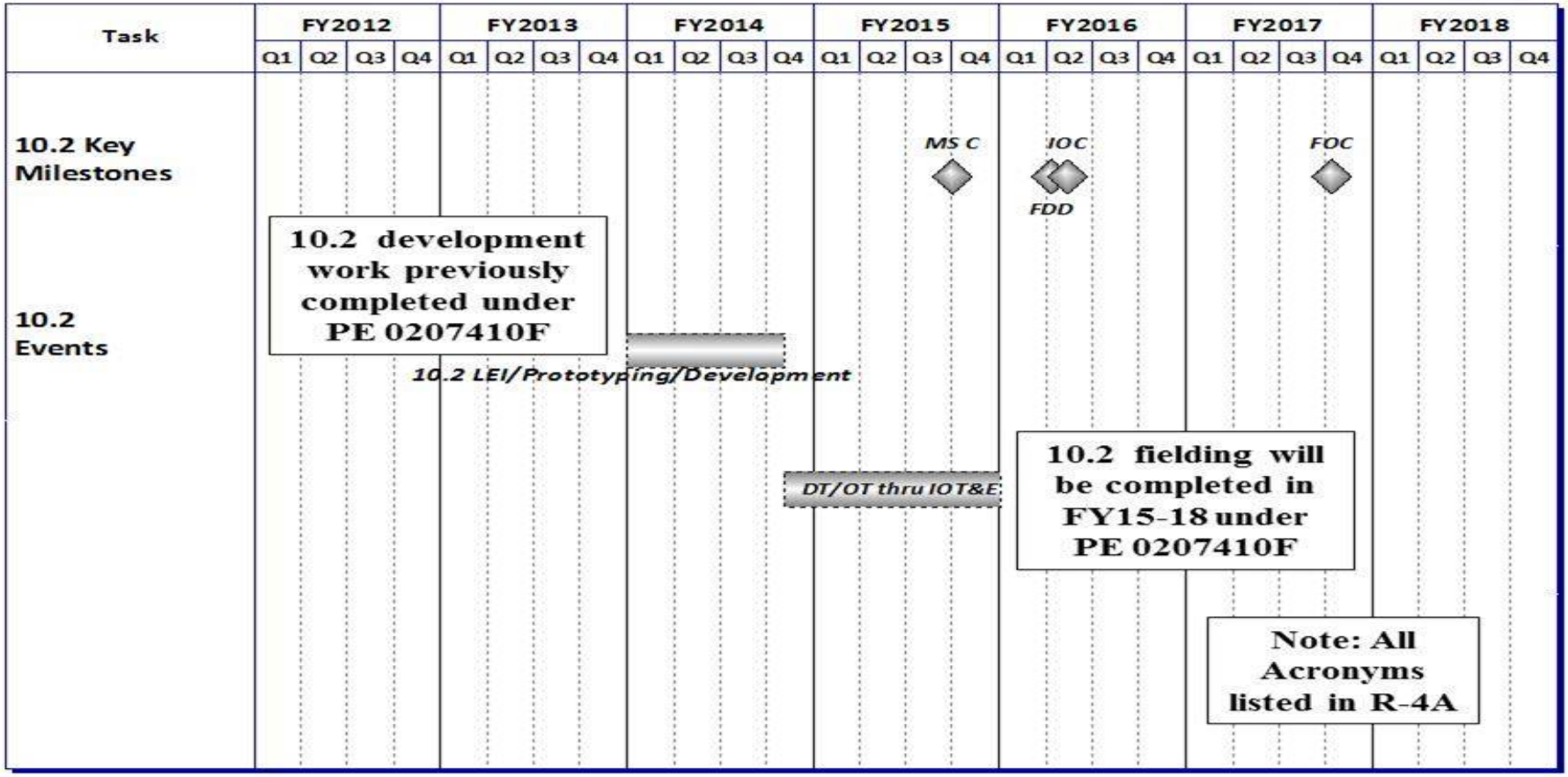


Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0604458F: *Air & Space Ops Center*	PROJECT 644945: *AOC Inc 10.2*

Schedule Details

	Start		End	
Events	Quarter	Year	Quarter	Year
AOC 10.2 Limited Early Install (LEI)/Prototyping/Development	1	2014	4	2014
Developmental Test (DT)/Operational Testing (OT) thru Independent Operational Test and Evaluation (IOT&E)	4	2014	4	2015
AOC 10.2 Milestone C (MS C)	4	2015	4	2015
AOC 10.2 Initial Operational Capability (IOC)	2	2016	2	2016
AOC 10.2 Full Deployment Decision (FDD)	2	2016	2	2016
AOC 10.2 Full Operational Capability (FOC)	4	2017	4	2017

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force											DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*					R-1 ITEM NOMENCLATURE PE 0604618F: *Joint Direct Attack Munition*							
COST ($ in Millions)	**All Prior Years**	**FY 2012**	**FY 2013#**	**FY 2014 Base**	**FY 2014 OCO ##**	**FY 2014 Total**	**FY 2015**	**FY 2016**	**FY 2017**	**FY 2018**	**Cost To Complete**	**Total Cost**
Total Program Element	-	0.000	0.000	2.500	-	2.500	2.500	0.000	0.000	0.000	Continuing	Continuing
674138: *JDAM DEVELOPMENT*	-	0.000	0.000	2.500	-	2.500	2.500	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 OCO Request will be submitted at a later date

Note

In FY 2014, BPAC 674138, JDAM Development includes new start efforts.

A. Mission Description and Budget Item Justification

The 5000 lb JDAM demonstration is an integration of BLU-113 warhead with a JDAM tail kit to provide accurate, reliable, hard target penetration capability. JDAM accuracy expands the drill down CONOPS used by the GBU-31 (2000 pound class warhead) to a 5000 pound concept, holding harder and deeper targets at risk. This is an objective requirement of the 2001 JDAM ORD. The 5000 lb JDAM 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 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 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	0.000	0.000	0.000	-	0.000
Current President's Budget	0.000	0.000	2.500	-	2.500
Total Adjustments	0.000	0.000	2.500	-	2.500
• Congressional General Reductions	-	0.000			
• Congressional Directed Reductions	-	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	-	0.000			
• Congressional Directed Transfers	-	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	0.000	0.000	2.500	-	2.500

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0604618F: *Joint Direct Attack Munition*

Change Summary Explanation

FY14 is a New Start. $2.5M will cover 5000 pount JDAM tail-kit development and prototyping efforts.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Title: Demonstration Development	0.000	0.000	2.500
Description: This is an FY14 New Start to 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 JDAM-113 Operational Flight Profile (OFP) with modified autopilot. ***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 JDAM-113 Operational Flight Profile (OFP) with modified autopilot.			
Accomplishments/Planned Programs Subtotals	0.000	0.000	2.500

D. Other Program Funding Summary ($ in Millions)

N/A

Remarks

E. Acquisition Strategy

Effort will be executed under a cost plus fixed fee contract and will be a sole source activity with Boeing.

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 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0604618F: *Joint Direct Attack Munition*	PROJECT 674138: *JDAM DEVELOPMENT*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Software Development and Hardware Fabrication	SS/TBD	Boeing:St. Charles, MO	-	0.000		0.000		2.100	Apr 2014	-		2.100	Continuing	Continuing	
		Subtotal	0.000	0.000		0.000		2.100		0.000		2.100			

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Flight Test	Various	96th Test Wing:Eglin AFB, Fl	-	0.000		0.000		0.300	Jul 2014	-		0.300	Continuing	Continuing	
		Subtotal	0.000	0.000		0.000		0.300		0.000		0.300			

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Administration (PMA)	Various	AFLMC/EGDJ:Eglin AFB, Fl	-	0.000		0.000		0.100		-		0.100	Continuing	Continuing	
		Subtotal	0.000	0.000		0.000		0.100		0.000		0.100			

	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	0.000		0.000		2.500		0.000		2.500			

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0604618F: *Joint Direct Attack Munition*	PROJECT 674138: *JDAM DEVELOPMENT*	

	All Prior Years	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0604618F: *Joint Direct Attack Munition*	PROJECT 674138: *JDAM DEVELOPMENT*

5K JDAM Demonstration Program Notional Schedule

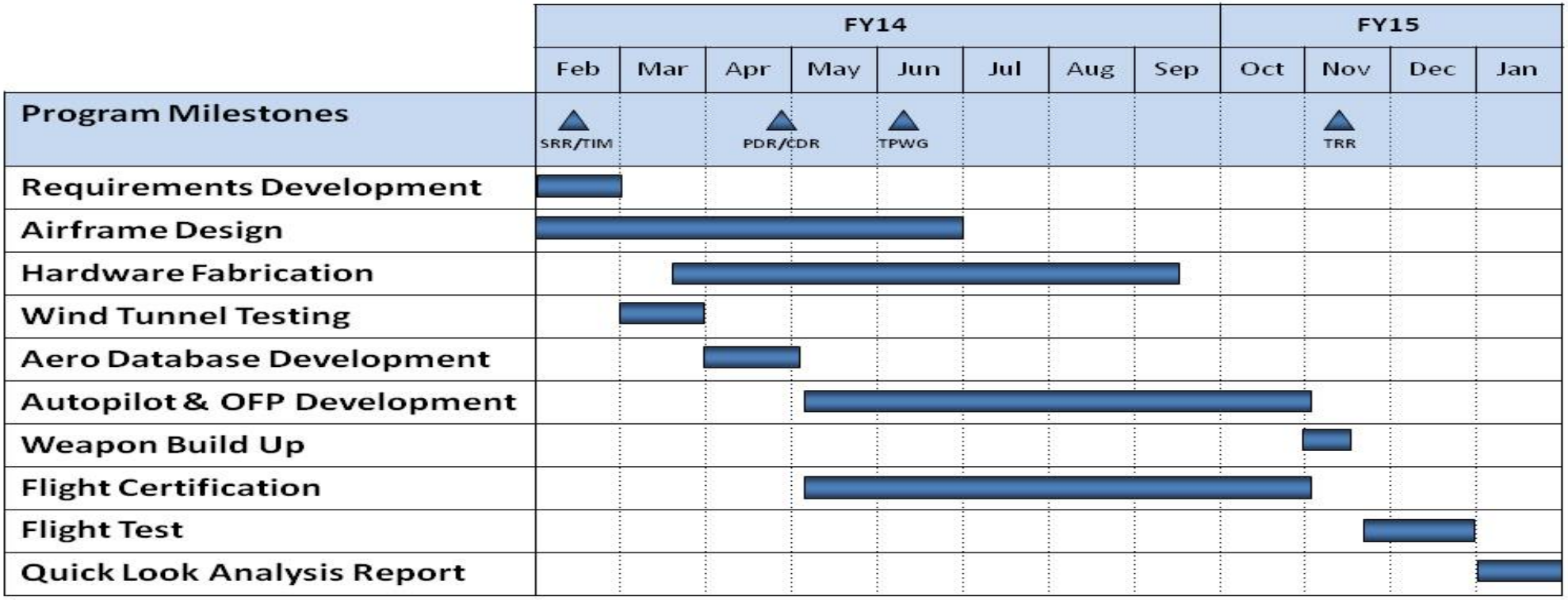


Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0604618F: *Joint Direct Attack Munition*	**PROJECT** 674138: *JDAM DEVELOPMENT*

Schedule Details

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

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force											DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*					R-1 ITEM NOMENCLATURE PE 0604635F: *Ground Attack Weapons Fuze Development*							
COST ($ in Millions)	**All Prior Years**	**FY 2012**	**FY 2013#**	**FY 2014 Base**	**FY 2014 OCO ##**	**FY 2014 Total**	**FY 2015**	**FY 2016**	**FY 2017**	**FY 2018**	**Cost To Complete**	**Total Cost**
Total Program Element	-	23.729	9.423	21.175	-	21.175	7.808	2.218	0.000	0.000	Continuing	Continuing
645312: *Hard Target Void Sensing Fuze*	-	23.729	9.423	21.175	-	21.175	7.808	2.218	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 OCO Request will be submitted at a later date

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. This Program Element 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 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	24.467	9.423	26.721	-	26.721
Current President's Budget	23.729	9.423	21.175	-	21.175
Total Adjustments	-0.738	0.000	-5.546	-	-5.546
• Congressional General Reductions	-	0.000			
• Congressional Directed Reductions	-	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	-	0.000			
• Congressional Directed Transfers	-	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	-0.738	0.000			
• Other Adjustments	0.000	0.000	-5.546	-	-5.546

Change Summary Explanation

Base FY 2014, Base BY1 Other Adjustment Row: -$5.546M, higher AF priorities

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0604635F: *Ground Attack Weapons Fuze Development*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Title: Engineering, Manufacturing, and Development Contract ***Description:*** Conduct HTVSF EMD effort. ***FY 2012 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 2013 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 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.	10.748	3.899	6.839
Title: Management Analysis and Program Management Administration (PMA) Support ***Description:*** Management/Analysis support: Ensure requirements are implemented. ***FY 2012 Accomplishments:*** Continued Management and Analysis Support for EMD program with emphasis on delta CDR. ***FY 2013 Plans:*** Continue management and analysis support for the HTVSF EMD program. ***FY 2014 Plans:*** N/A	1.189	1.278	0.000
Title: Test Support ***Description:*** Build "hard" targets and execute sled/flight test range events. ***FY 2012 Accomplishments:***	10.197	3.126	11.446

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0604635F: *Ground Attack Weapons Fuze Development*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Provided for acquisition of targets (lead-time articles) for sled and flight testing for HTVSF EMD program. Included building hard targets for sled/flight test events and support for the actual test events. ***FY 2013 Plans:*** Conduct Sled, Flight and Integration tests at Government facilities. These facilities include, but are not limited to, Eglin Air Force Base, Holloman Air Force Base, White Sands Missile Range, and Naval Weapons Station China Lake. ***FY 2014 Plans:*** HTVSF BLU 109/113 sled and flight developmental test program to include AFOTEC clearance, range support/development, weapon recovery and target demolition.			
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 2012 Accomplishments:*** Provided 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 Plans:*** Provide 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.	1.595	1.120	2.890
Accomplishments/Planned Programs Subtotals	23.729	9.423	21.175

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• PAAF: BA01: Line Item # 356120: *Fuzes*	0.000	0.130	19.280		19.280	38.500	39.512	41.616	41.616	Continuing	Continuing

Remarks

- PAAF dollars in WRM fund initial procurement of 225/225/1250/1650/1650 units FY 2014/FY 2015/FY 2016/FY 2017/FY 2018.

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0604635F: *Ground Attack Weapons Fuze Development*

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost

- 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
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-3, RDT&E Project Cost Analysis: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0604635F: *Ground Attack Weapons Fuze Development*	PROJECT 645312: *Hard Target Void Sensing Fuze*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
HTVSF EMD	C/FPIF	Alliant Techsystems Operations Inc.:Plymouth, MN	-	10.748	Jan 2012	3.899	Mar 2013	6.839	Oct 2013	-		6.839	0.000	21.486	TBD
		Subtotal	0.000	10.748		3.899		6.839		0.000		6.839	0.000	21.486	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
External Support	SS/CPAF	Raytheon, Boeing, SEEK EAGLE, AFOTEC:Various,	-	1.595	Jan 2012	1.120	Jan 2013	2.890	Jan 2014	-		2.890	0.000	5.605	
		Subtotal	0.000	1.595		1.120		2.890		0.000		2.890	0.000	5.605	

Remarks

Raytheon - Tucson AZ; Boeing - St. Louis MO; SEEK EAGLE - Eglin AFB, FL; AFOTEC - Eglin AFB, FL

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Target build and sled/flight test	Various	Eglin AFB (96 TW) / Holloman AFB / White Sands Missile Range:Various,	-	10.197	Feb 2012	3.126	Feb 2013	11.446	Jan 2014	-		11.446	Continuing	Continuing	
		Subtotal	0.000	10.197		3.126		11.446		0.000		11.446			

Remarks

Eglin AFB, Fort Walton Beach FL: Holloman AFB, Alamogordo NM; White Sands Missile Range, Las Cruces NM

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0604635F: *Ground Attack Weapons Fuze Development*	PROJECT 645312: *Hard Target Void Sensing Fuze*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Administration (PMA)/ Analysis support	Various	AFLCMC/ EBDZ:Eglin AFB, FL	-	1.189	Jan 2012	1.278	Feb 2013	0.000		-		0.000	0.000	2.467	
		Subtotal	0.000	1.189		1.278		0.000		0.000		0.000	0.000	2.467	

	All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	23.729		9.423		21.175		0.000		21.175			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0604635F: *Ground Attack Weapons Fuze Development*	PROJECT 645312: *Hard Target Void Sensing Fuze*

Schedule

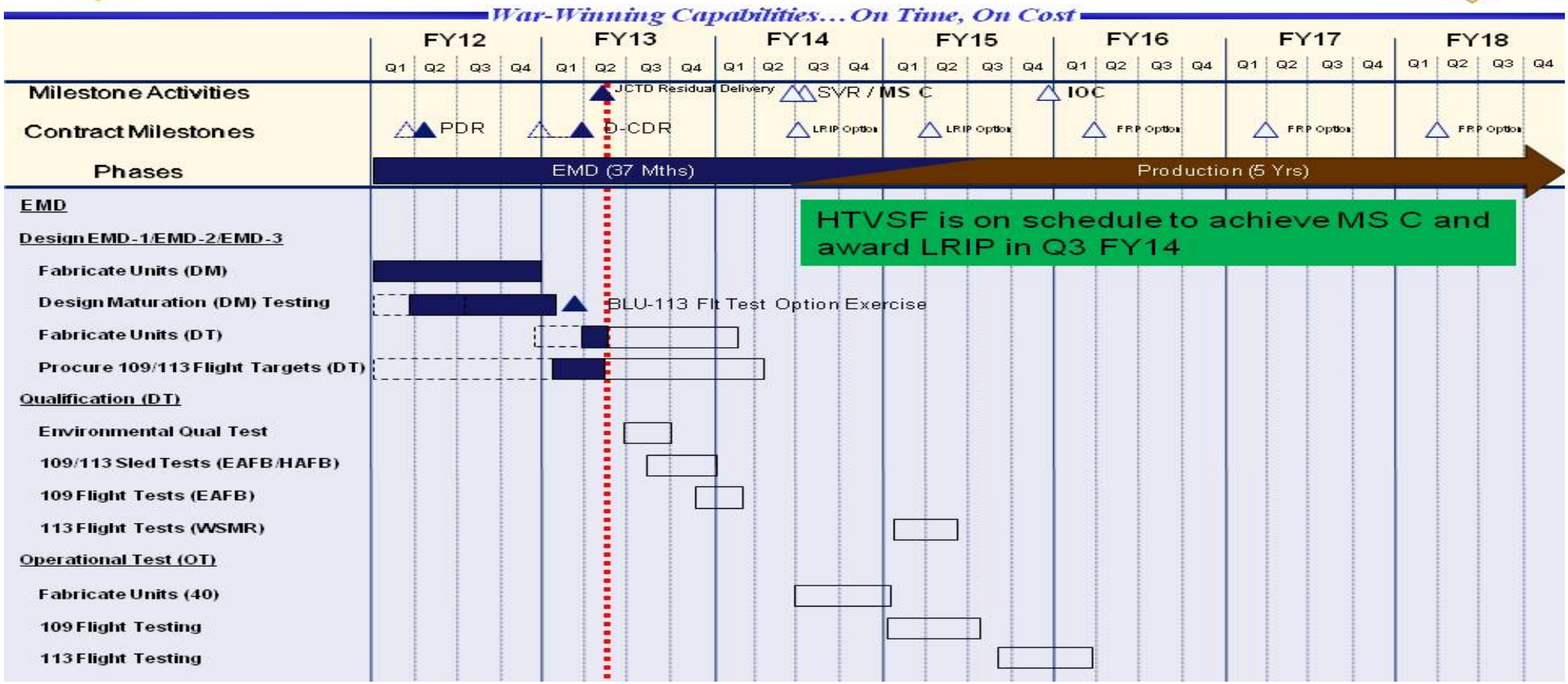


Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0604635F: *Ground Attack Weapons Fuze Development*	**PROJECT** 645312: *Hard Target Void Sensing Fuze*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Engineering, Manufacturing, and Development (EMD) Design FA8681-11-C-0039 25 Mar 2011-25 Apr 2014	1	2012	3	2015
Procure Flight Targets	1	2013	2	2014
Delta Critical Design Review (CDR)	1	2013	1	2013
BLU-109 Flight Test DT	4	2013	1	2014
Milestone C/LRIP Award	3	2014	3	2014
BLU-113 Flight Test DT	1	2015	2	2015

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force											DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*					R-1 ITEM NOMENCLATURE PE 0604857F: *Operationally Responsive Space*							
COST ($ in Millions)	**All Prior Years**	**FY 2012**	**FY 2013#**	**FY 2014 Base**	**FY 2014 OCO ##**	**FY 2014 Total**	**FY 2015**	**FY 2016**	**FY 2017**	**FY 2018**	**Cost To Complete**	**Total Cost**
Total Program Element	-	108.014	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
64A015: *ORS Common Services*	-	11.683	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
64A020: *AF Funded ORSSats*	-	96.331	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 OCO Request will be submitted at a later date

Note

Beginning in FY 2013, 0604857F, ORS, efforts are being descoped, and the remaining efforts transferred to other space programs in order to better integrate the ORS concept into the entire space architecture.

There is no funding required for this program beyond the FYDP.

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.

Since the ORS standup in 2007, the terms resiliency and responsiveness in association with space programs are now seen in almost every policy and guidance document, not just at the DoD level, but at a National level as well. Resilience has become a key criterion in evaluating alternative architectures, including cost-effective space system protection, hosting payloads on a mix of platforms in various orbits, drawing on distributed international and commercial partner capabilities, and developing and maturing responsive space capabilities. The Air Force is transitioning the activities of the ORS program, and synergistically applying its efforts to other space technology efforts.

This refocused effort will integrate the operationally responsive space efforts, lessons learned, principles, and activities into other Air Force Space and Missile Systems Center (SMC) programs of record. SMC will then be better able to improve resilience, survivability, and flexibility within programs across the SMC portfolio and to explore space mission augmentation options.

The Department of Defense will support the new approach by developing architectures for space mission areas that will include international cooperation and commercial solutions and will also look at how space missions are sustained and augmented to support the warfighter in all contingencies. The end result of the program's termination will be that operationally responsive space activities are fully integrated into SMC's ongoing architectures and Space Modernization Initiative, increasing resilience and flexibility in space systems.

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** 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 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	110.379	0.000	0.000	-	0.000
Current President's Budget	108.014	0.000	0.000	-	0.000
Total Adjustments	-2.365	0.000	0.000	-	0.000
• Congressional General Reductions	-	0.000			
• Congressional Directed Reductions	-	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	-	0.000			
• Congressional Directed Transfers	-	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	-2.365	0.000			
• Other Adjustments	0.000	0.000	0.000	-	0.000

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2012	FY 2013
Project: 64A020: *AF Funded ORSSats*		
Congressional Add: *Responsive Launch Capability*	25.000	-
Congressional Add Subtotals for Project: 64A020	25.000	0.000
Congressional Add Totals for all Projects	25.000	0.000

Change Summary Explanation

FY2012: -$2.365M for SBIR

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0604857F: *Operationally Responsive Space*	PROJECT 64A015: *ORS Common Services*	

COST ($ in Millions)	All Prior Years	FY 2012	FY 2013#	FY 2014 Base	FY 2014 OCO ##	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
64A015: *ORS Common Services*	-	11.683	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 OCO Request will be submitted at a later date

Note

Beginning in FY 2013, 0604857F, ORS, efforts are being descoped, and the remaining efforts transferred to other space programs in order to better integrate the ORS concept into the entire space architecture.

A. Mission Description and Budget Item Justification

ORS Common Services supports the entire ORS partnership (Services, Intelligence Community, Reserve Component, NASA, and our Allies). These activities include studies and analysis to maintain the ORS investment roadmap and coordination and planning activities across the ORS Enterprise. ORS Common Services works with Joint Force Commanders (JFC) and the Services to identify the most likely emergent space needs, make plans and preparations to meet those needs, evaluate results of operational experimentation, and prepare plans and procedures for operational employment and transition. These foundational activities ensure ORS enabler investments are optimally targeted to quickly mature ORS's ability to execute rapid responses to time-critical needs when they arise. Common Services identifies and presents options for concepts/solutions and experimentation including international efforts, conducts concepts development, solutions assessment, rapid evaluation of alternatives, experimentation planning, modeling and simulation, and develops budgetary recommendations for ORS solutions. Beginning in FY13, the effort in this BPAC is being continued in BPAC 64A020.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Title: Analysis, modeling, simulation, and program support	11.683	0.000	0.000
Description: Perform concepts and solutions for warfighter urgent needs. Perform modeling, simulations, and analyses for various alternative concepts, and develop conceptual requirements. Provides the total program management administration for the entire program. ***FY 2012 Accomplishments:*** Performed further kick-off studies for urgent needs as presented by JFCs. Continued to fund operations and transition support and joint military utility analyses for ORS-1 and TacSat-4. Supported the transition of the ORS Office and transfer of data to the Space and Missile Systems Center. Supported COCOM wargames and International MOU workshops. Performed space manuevering and nanosatellite performance studies.			
Accomplishments/Planned Programs Subtotals	11.683	0.000	0.000

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0604857F: *Operationally Responsive Space*	PROJECT 64A015: *ORS Common Services*

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Competitively award contracts through ORS Office or partner organizations.

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 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0604857F: *Operationally Responsive Space*	PROJECT 64A015: *ORS Common Services*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
ORS Concept Development	PO	Aerospace Corp:El Segundo, CA	-	2.972	Oct 2011	0.000		0.000		-		0.000	Continuing	Continuing	7.200
		Subtotal	0.000	2.972		0.000		0.000		0.000		0.000			7.200

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program support including engineering, management, security, information technology, administrative, and security. (PMA)	Various	Various:,	-	2.971	Oct 2011	0.000		0.000		-		0.000	Continuing	Continuing	TBD
Engineering Mgt, Systems engineering (PMA)	PO	Aerospace:El Segundo, CA	-	1.150	Oct 2011	0.000		0.000		-		0.000	Continuing	Continuing	TBD
Systems engineering (PMA)	C/T&M	Cobham:Albuquerque, NM	-	3.542	Oct 2011	0.000		0.000		-		0.000	Continuing	Continuing	TBD
Engineering Management (PMA)	C/T&M	Scitor:Herndon, VA	-	1.048	Oct 2011	0.000		0.000		-		0.000	Continuing	Continuing	TBD

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0604857F: *Operationally Responsive Space*	PROJECT 64A015: *ORS Common Services*

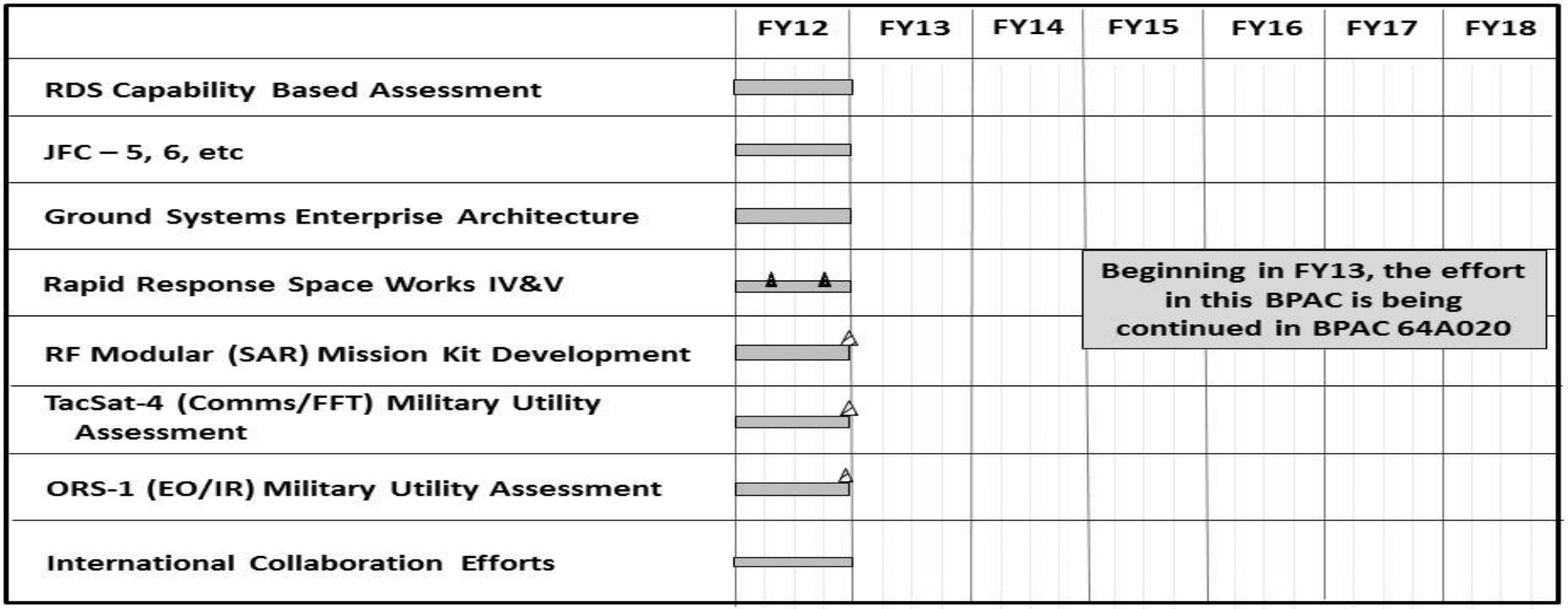
Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	8.711		0.000		0.000		0.000		0.000			

	All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	11.683		0.000		0.000		0.000		0.000			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0604857F: *Operationally Responsive Space*	PROJECT 64A015: *ORS Common Services*



Design / Modification / Enablers
Jumpstarts / JOD events
Deliverable

Comms – Communications
FFT – Friendly Force Tracking
HSI – Hyper-Spectral Imagery
IV&V – Independent Validation & Verification
JODs – Joint Operational Demonstrations

JFC – Joint Force Commander
MOU – Memorandum of Understanding
RDS – Rapidly Deployable Space
RRSW – Rapid Response Space Works
RF – Radio Frequency
SAR – Synthetic Aperture Radar

Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0604857F: *Operationally Responsive Space*	**PROJECT** 64A015: *ORS Common Services*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Rapidly Deployable Space (RDS) Capability Based Assessment	1	2012	4	2012
Additional JFC urgent need analyses	1	2012	4	2012
Ground Systems Enterprise Architecture for surveillance/reconnaissance, communications, and space situational awareness	1	2012	4	2012
RRSW IV&V	1	2012	4	2012
SAR Mission Kit Development Support	1	2012	4	2012
TacSat-4 military utility assessment	1	2012	4	2012
ORS-1 military utility assessment	1	2012	4	2012
International collaboration efforts	1	2012	4	2012

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0604857F: *Operationally Responsive Space*	PROJECT 64A020: *AF Funded ORSSats*	

COST ($ in Millions)	All Prior Years	FY 2012	FY 2013#	FY 2014 Base	FY 2014 OCO ##	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
64A020: *AF Funded ORSSats*	-	96.331	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 OCO Request will be submitted at a later date

Note

Beginning in FY 2013, 0604857F, ORS, efforts are being descoped, and the remaining efforts transferred to other space programs in order to better integrate the ORS concept into the entire space architecture.

A. Mission Description and Budget Item Justification

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 USCENTCOM's urgent need, validated by USSTRATCOM, to provide 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 is working with the University of Hawaii's (U of H) Hawaii Space Flight Laboratory (HSFL) and Sandia National Laboratory on the Low Earth Orbit Nanosatellite Integrated Defense Autonomous Systems (LEONIDAS) program. LEONIDAS is to design, fabricate, launch, and perform on-orbit operations of small and micro-satellites for early detection of missile launches by hostile forces.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Title: Cross Cutting	4.745	0.000	0.000
Description: Perform cross-cutting activities that support all three tiers of ORS activities. ***FY 2012 Accomplishments:*** Continued operations, transition support, and joint military utility analyses for ORS-1 and TacSat-4. Continued SEPM and IV&V for RRSW & the Modular Space Vehicle (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.			

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0604857F: *Operationally Responsive Space*	**PROJECT** 64A020: *AF Funded ORSSats*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Supported international Memorandum of Understanding workshops. Performed Space manuevering and Nanosatellite performance studies. Transferred lessons learned, designs, data, and processes to the Space and Missile Systems Center.			
Title: Tier-1 ***Description:*** Perform Tier-1 activities--establishing the use of exisitng space systems, operations, and processes to provide responsive effects in minutes to days from when need is established. ***FY 2012 Accomplishments:*** Continued to coordinate 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. Transferred the automated Toolkit to the Joint Space Operations Center Mission System. Continued ORS-1 operational support.	4.498	0.000	0.000
Title: Tier-2 ***Description:*** Perform Tier-2 deployment demonstrations to provide field-ready capabilities and enabler maturation projects. ***FY 2012 Accomplishments:*** Continued to support Rapid Response Space Works (RRSW) capabilities at the minimum level required to support ORS-2 MSV Bus delivery, ORS-3 Enabler Mission, ORS-4 Super Strypi FY13 launches, and maintain facility safety.	4.874	0.000	0.000
Title: Tier-3 ***Description:*** Perform Tier-3 design, fabrication, and integration to satisfy joint force commander needs. Provide strategic science and technology direction and execution and low cost launch vehicle development. ***FY 2012 Accomplishments:*** Continued development the ORS-2 MSV modular RF Payload to a pre-CDR design in order to complete and deliver 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) in FY13. Continued toward the ORS-3 Enabler Mission launch in 4QFY13. Continued the ORS-4 Super Strypi launcher (employing an Autonomous Flight Safety System) to launch a 300Kg microsatellite class space vehicle in 4QFY13.	57.214	0.000	0.000
Accomplishments/Planned Programs Subtotals	71.331	0.000	0.000

	FY 2012	FY 2013
Congressional Add: Responsive Launch Capability	25.000	-

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0604857F: *Operationally Responsive Space*	PROJECT 64A020: *AF Funded ORSSats*

	FY 2012	FY 2013
FY 2012 Accomplishments: Continued the ORS-3 Enabler Mission and selected launch vehicle improvements leading to a launch in 4QFY13. Continued developing the ORS-4 Super Strypi ultra-low cost, rail launched new small launch capability. Continued development and qualification testing of autonomous flight safety assemblies, on-board metric tracking, and space based range.		
Congressional Adds Subtotals	25.000	0.000

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• RDTE: BA04: Line Item # 0603430F: *Advanced EHF MILSATCOM (SPACE)*	0.000	1.500	1.500		1.500	1.500	1.500	1.500	0.000	Continuing	Continuing
• RDTE: BA04:Line Item # 0603438F: *Space Control Technology*	0.000	2.000	2.000		2.000	2.000	2.000	2.000	0.000	Continuing	Continuing
• RDTE: BA04: Line Item # 0604858F: *Tech Transition Program*	0.000	3.000	3.000		3.000	3.000	3.000	3.000	0.000	Continuing	Continuing
• RDTE: BA05: Line Item # 0604441F: *Space Based Infrared System (SBIRS) High EMD*	0.000	2.000	2.000		2.000	2.000	2.000	2.000	0.000	Continuing	Continuing
• RDTE: BA07: Line Item # 0603423F: *Global Positioning System III - Operational Control Segment*	0.000	1.500	1.500		1.500	1.500	1.500	1.500	0.000	Continuing	Continuing

Remarks

D. Acquisition Strategy

Expeditiously award contracts through ORS Office or partner organizations.

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 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0604857F: *Operationally Responsive Space*	PROJECT 64A020: *AF Funded ORSSats*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Tier 1 operational capabilities, development, and integration	Various	Various:,	-	2.968	Oct 2011	0.000		0.000		-		0.000	Continuing	Continuing	TBD
ORS-1 (JFC need #3) (Tier 1)	SS/CPFF	Goodrich:Danbury, CT	-	1.530	Oct 2011	0.000		0.000		-		0.000	Continuing	Continuing	212.800
Rapid Response Space Works	C/CPFF	Millenium Eng.:Arlington, VA	-	4.874	Oct 2011	0.000		0.000		-		0.000	Continuing	Continuing	TBD
MSV RF Modular Payload (SAR) (Tier 3)	C/CPFF	Sierra Nevada:Sparks, NV	-	9.080	Oct 2011	0.000		0.000		-		0.000	Continuing	Continuing	500.000
MSV Modular Bus (Tier 3)	C/CPFF	Northrop Grumman:Redondo Beach, CA	-	25.028	Oct 2011	0.000		0.000		-		0.000	Continuing	Continuing	500.000
Space Common Data Link (Tier 3)	C/CPFF	L3 Comm.:Salt Lake, UT	-	6.900	May 2012	0.000		0.000		-		0.000	Continuing	Continuing	TBD
Sys Eng, Launch & Range, TPED Enablers (Tier 3)	Various	Various:,	-	16.206	Oct 2011	0.000		0.000		-		0.000	Continuing	Continuing	TBD
Responsive Launch Capability (ORS-3)	C/FPIF	Orbital:Chandler, AZ	-	4.110	Oct 2011	0.000		0.000		-		0.000	Continuing	Continuing	
Responsive Launch Capability (ORS-4)	SS/CPFF	U. of HI:Honolulu, HI	-	10.006	Oct 2011	0.000		0.000		-		0.000	Continuing	Continuing	
Responsive Launch Capability	Various	Various:,	-	10.884	Oct 2011	0.000		0.000		-		0.000	Continuing	Continuing	57.100
		Subtotal	0.000	91.586		0.000		0.000		0.000		0.000			

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Systems Eng. and Technical Asst. (Cross Cutting)	C/T&M	GSA:San Antonio, TX	-	3.699	Oct 2011	0.000		0.000		-		0.000	Continuing	Continuing	TBD

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0604857F: *Operationally Responsive Space*	PROJECT 64A020: *AF Funded ORSSats*

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Perform modeling, simulation, analysis, and assess alternative concepts/requirements (Cross Cutting)	Various	Various:,	-	1.046	Oct 2011	0.000		0.000		-		0.000	Continuing	Continuing	TBD
		Subtotal	0.000	4.745		0.000		0.000		0.000		0.000			

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

	All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	96.331		0.000		0.000		0.000		0.000			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0604857F: *Operationally Responsive Space*	PROJECT 64A020: *AF Funded ORSSats*

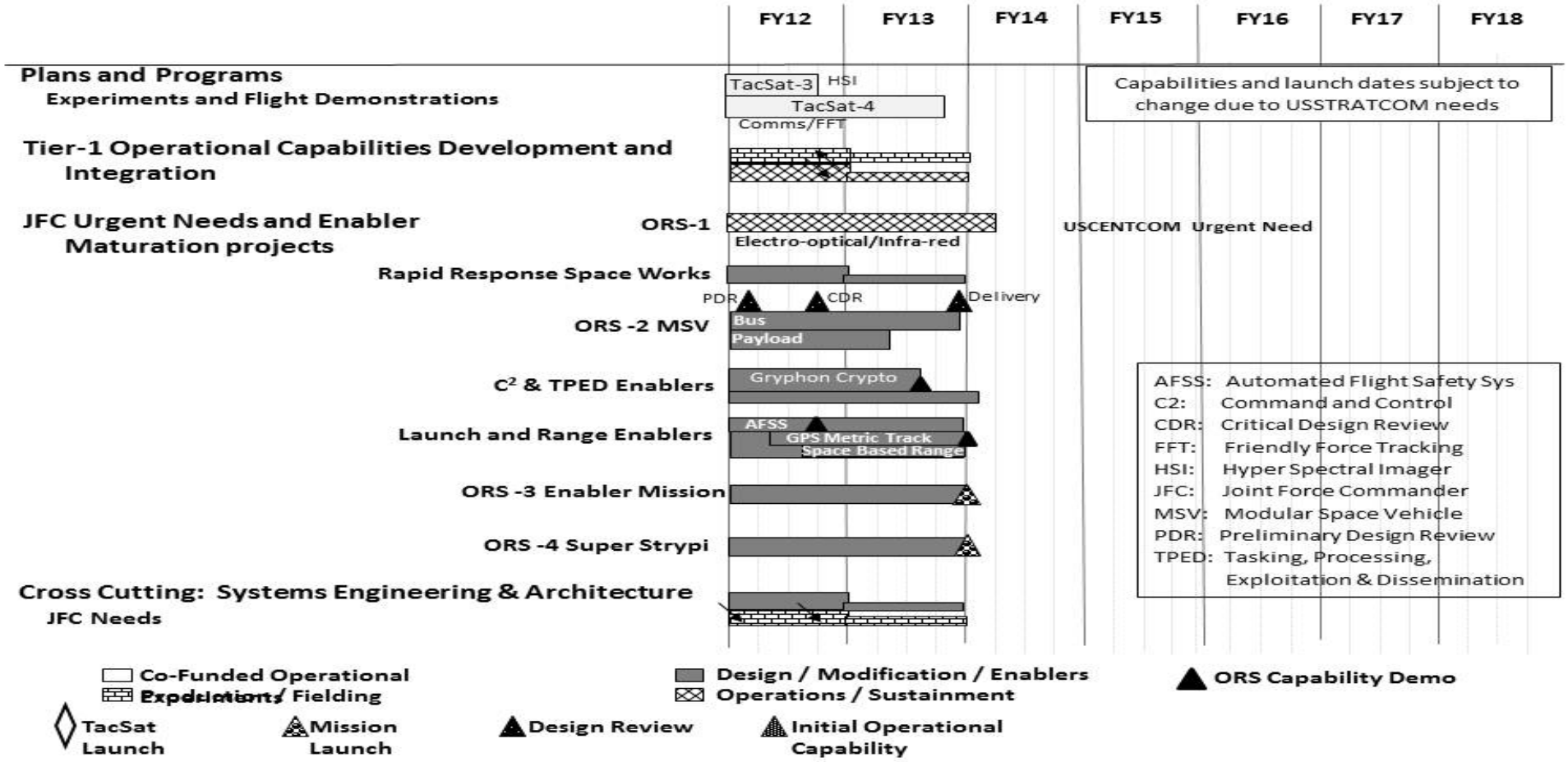


Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0604857F: *Operationally Responsive Space*	**PROJECT** 64A020: *AF Funded ORSSats*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
TacSat-3 launch and ops	1	2012	3	2012
TacSat-4 launch and ops	1	2012	4	2013
Cross-Cutting Activities: Systems Engineering & Architecture	1	2012	4	2013
Tier-1 Operational Capabilities Development and Integration	1	2012	4	2013
ORS-1 (CENTCOM Urgent Need)	1	2012	1	2014
MSV RF Modular Bus & Payload	1	2012	4	2013
C2 & TPED Enablers	1	2012	4	2013
ORS-3 Enabler Mission	1	2012	4	2013
ORS-4 Super Strypi	1	2012	4	2013
Launch and Range Enabler Maturation	1	2012	4	2013
Rapid Response Space Works	1	2012	4	2013

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force											DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*					R-1 ITEM NOMENCLATURE PE 0604858F: *Tech Transition Program*							
COST ($ in Millions)	**All Prior Years**	**FY 2012**	**FY 2013#**	**FY 2014 Base**	**FY 2014 OCO ##**	**FY 2014 Total**	**FY 2015**	**FY 2016**	**FY 2017**	**FY 2018**	**Cost To Complete**	**Total Cost**
Total Program Element	-	2.683	37.558	13.636	-	13.636	59.741	28.479	3.000	3.054	Continuing	Continuing
645350: *Transition Prioritization*	-	2.683	37.558	13.636	-	13.636	59.741	28.479	3.000	3.054	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 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. TTP funding will also provide for the demonstration of systems and technology to enable increasingly responsive, resilient, and affordable architectures via development of hostable payloads, small satellites, interface standards, and government/commercial hosting opportunities. These efforts are in Budget Activity 4, Advanced Component Development and Prototypes, since they involve system specific efforts that help expedite technology transition from the laboratory to operational use.

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0604858F: *Tech Transition Program*

B. Program Change Summary ($ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	2.766	37.558	16.833	-	16.833
Current President's Budget	2.683	37.558	13.636	-	13.636
Total Adjustments	-0.083	0.000	-3.197	-	-3.197
• Congressional General Reductions	-	0.000			
• Congressional Directed Reductions	-	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	-	0.000			
• Congressional Directed Transfers	-	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	-0.083	0.000			
• Other Adjustments	0.000	0.000	-3.197	-	-3.197

Change Summary Explanation

FY14 decrease due to higher DoD priorities.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Title: Technology Transition	2.683	0.000	0.000
Description: Technology transition project execution to facilitate long-term acquisition planning and budget development. ***FY 2012 Accomplishments:*** Complete the demonstration and transition of technologies supporting persistent wide area air and maritime surveillance to enable defense against threats in the interior of and in the approaches to North America. ***FY 2013 Plans:*** N/A ***FY 2014 Plans:*** N/A			
Title: Propulsion Technology Transition	0.000	34.558	10.636
Description: Next generation fuel efficient military propulsion system. ***FY 2012 Accomplishments:*** N/A ***FY 2013 Plans:***			

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0604858F: *Tech Transition Program*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Accomplish an adaptive turbine engine prototype conceptual design. Perform engine configuration definition and component conceptual design. Complete early performance, durability, and operability assessments. ***FY 2014 Plans:*** Complete component risk reduction and core engine design. Continue preliminary engine design activities, as well as weapons systems integration, common core studies, and material manufacturing readiness activities.			
Title: Space Technology Transistion ***Description:*** Responsive Resilient Space Technologies ***FY 2012 Accomplishments:*** N/A ***FY 2013 Plans:*** Pursue opportunities to mature systems and technologies which enable increasingly responsive, resilient and affordable architectures via hostable payloads, small satellites and government/commercial hosting opportunities. ***FY 2014 Plans:*** Pursue opportunities to mature systems and technologies which enable increasingly responsive, resilient and affordable architectures via hostable payloads, small satellites and government/commercial hosting opportunities.	0.000	3.000	3.000
Accomplishments/Planned Programs Subtotals	2.683	37.558	13.636

D. Other Program Funding Summary ($ in Millions)

N/A

Remarks

E. Acquisition Strategy

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.

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 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0604858F: *Tech Transition Program*	PROJECT 645350: *Transition Prioritization*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Propulsion Technologies	C/CPFF	GE and P&W:,	-	0.000		34.558	Oct 2012	10.636		-		10.636	Continuing	Continuing	TBD
Space Technologies	Various	TBD:TBD,	-	0.000		3.000		3.000		-		3.000	Continuing	Continuing	TBD
C2 Gap Filler project	Various	Various:Various,	-	2.683	Dec 2012	0.000		0.000		-		0.000	Continuing	Continuing	TBD
		Subtotal	0.000	2.683		37.558		13.636		0.000		13.636			

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

	All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	2.683		37.558		13.636		0.000		13.636			

Remarks

TBD

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0604858F: *Tech Transition Program*	**PROJECT** 645350: *Transition Prioritization*

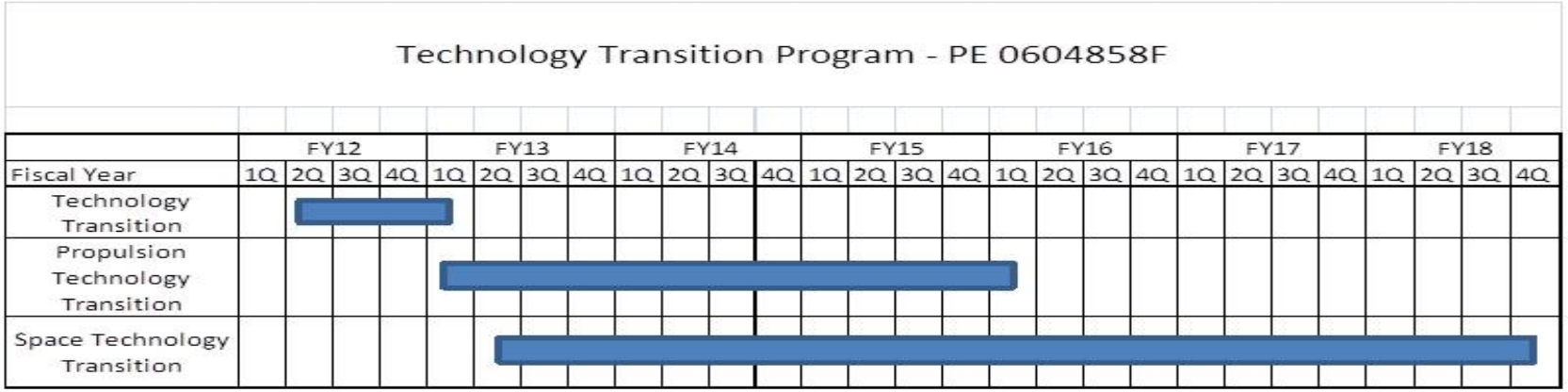


Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0604858F: *Tech Transition Program*	PROJECT 645350: *Transition Prioritization*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Technology Transition	2	2012	1	2013
Propulsion Technology Transition	1	2013	1	2016
Space Technology Transition	2	2013	4	2018

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force											DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*					R-1 ITEM NOMENCLATURE PE 0105921F: *Service Support to STRATCOM - Space Activities*							
COST ($ in Millions)	**All Prior Years**	**FY 2012**	**FY 2013#**	**FY 2014 Base**	**FY 2014 OCO ##**	**FY 2014 Total**	**FY 2015**	**FY 2016**	**FY 2017**	**FY 2018**	**Cost To Complete**	**Total Cost**
Total Program Element	-	0.000	0.000	2.799	-	2.799	3.173	2.573	3.273	2.747	Continuing	Continuing
643833: *Joint NavWar Center*	-	0.000	0.000	2.799	-	2.799	3.173	2.573	3.273	2.747	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		
MDAP/MAIS Code(s): 447												

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 OCO Request will be submitted at a later date

Note

A. Mission Description and Budget Item Justification

The Joint Navigation Warfare Center (JNWC) was established per DepSecDef Memorandum titled, "Navigation Warfare (NAVWAR) Implementation Guidance", dated 17 November 2004. The memorandum directed CDR/USSTRATCOM to "Establish a joint center for NAVWAR that leverages on the expertise and infrastructure of the Joint GPS Combat Effectiveness Joint Test & Evaluation program as part of the foundation to better integrate and coordinate NAVWAR Capabilities across the Department." JNWC's core RDT&E mission is to conduct Positioning Navigation Timing (PNT) Operational Field Assessments (POFA) to provide the essential discovery and basic knowledge building blocks for all other JNWC missions. POFAs use Combatant Command assets employed against representative threats of specific OPLANs, CONPLANs and Defense Planning Scenarios to determine the impact of and/or mitigation measures required to operate in an Anti-Access/Area-Denial (A2/AD) Contested PNT Environment. JNWC leverages the $3M/year POFAs to develop national-level NAVWAR guidance, develop joint Tactics Techniques and Procedures (TTPs), non-material solutions and to upgrade capabilities. The intent of POFAs is to provide timely information for near-term TTP development and realistic training in degraded space support environments. POFAs directly benefit and enhance US and coalition capabilities to operate in A2/AD contested PNT environments as those expected in the Air Sea Battle Concept.

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0105921F: *Service Support to STRATCOM - Space Activities*

B. Program Change Summary ($ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	0.000	0.000	0.000	-	0.000
Current President's Budget	0.000	0.000	2.799	-	2.799
Total Adjustments	0.000	0.000	2.799	-	2.799
• Congressional General Reductions	-	0.000			
• Congressional Directed Reductions	-	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	-	0.000			
• Congressional Directed Transfers	-	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	0.000	0.000	2.799	-	2.799

Change Summary Explanation

FY14: +$2.799M for Joint Navwar Center (JNWC) development test and evaluation support.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Title: Operational Field Assessment	0.000	0.000	2.799
Description: JNWC leverages the POFAs to develop national-level NAVWAR guidance, develop joint tactics techniques and procedures (TTPs), non-material solutions and to upgrade capabilities. The intent of POFAs is to provide timely information for near-term TTP development and realistic training in degraded space support environments. POFAs directly benefit and enhance US and coalition capabilities to operate in A2/AD contested PNT environments as those expected in the Air Sea Battle Concept. ***FY 2014 Plans:*** GYPSY Juliet POFA in FY14 will assess operational effects and effectiveness of red and blue force NAVWAR equipment in a live, joint environment; develop, assess and revise Joint NAVWAR TTPs, upgrade NAVWAR Modeling & Simulation tools; provide Combatant Command staffs the expertise to inform planning and operations in a PNT denied area.			
Accomplishments/Planned Programs Subtotals	0.000	0.000	2.799

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• 53: *O&M*	0.000	8.115	8.816		8.816	8.639	9.442	9.589	9.735	Continuing	Continuing

Remarks

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0105921F: *Service Support to STRATCOM - Space Activities*

E. Acquisition Strategy

No expected new projects to be funded in this program. Any new projects will be awarded using competitive procedures to the maximum extent possible.

F. Performance Metrics

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

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0105921F: *Service Support to STRATCOM - Space Activities*	PROJECT 643833: *Joint NavWar Center*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Operational Assessment Event Planning	MIPR	Joint Navigation Warfare Center: Kirtland AFB, NM:Albuquergue, NM	-	0.000		0.000		0.650	Oct 2013	-		0.650	Continuing	Continuing	TBD
		Subtotal	0.000	0.000		0.000		0.650		0.000		0.650			

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Operational Assessment Range Support	MIPR	Joint Navigation Warfare Center: Kirtland AFB, NM:Albuquerque, NM	-	0.000		0.000		1.000	Oct 2013	-		1.000	Continuing	Continuing	TBD
Additional Operational Assessment Support	MIPR	Joint Navigation Warfare Center: Kirtland AFB, NM:Albuquerque, NM	-	0.000		0.000		0.299	Oct 2013	-		0.299	Continuing	Continuing	TBD
		Subtotal	0.000	0.000		0.000		1.299		0.000		1.299			

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Operational Assessment Execution	MIPR	Joint Navigation Warfare Center: Kirtland AFB, NM:Albuquerque, NM	-	0.000		0.000		0.850	Oct 2013	-		0.850	Continuing	Continuing	TBD
		Subtotal	0.000	0.000		0.000		0.850		0.000		0.850			

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0105921F: *Service Support to STRATCOM - Space Activities*	PROJECT 643833: *Joint NavWar Center*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

	All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	0.000		0.000		2.799		0.000		2.799			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0105921F: *Service Support to STRATCOM - Space Activities*	PROJECT 643833: *Joint NavWar Center*

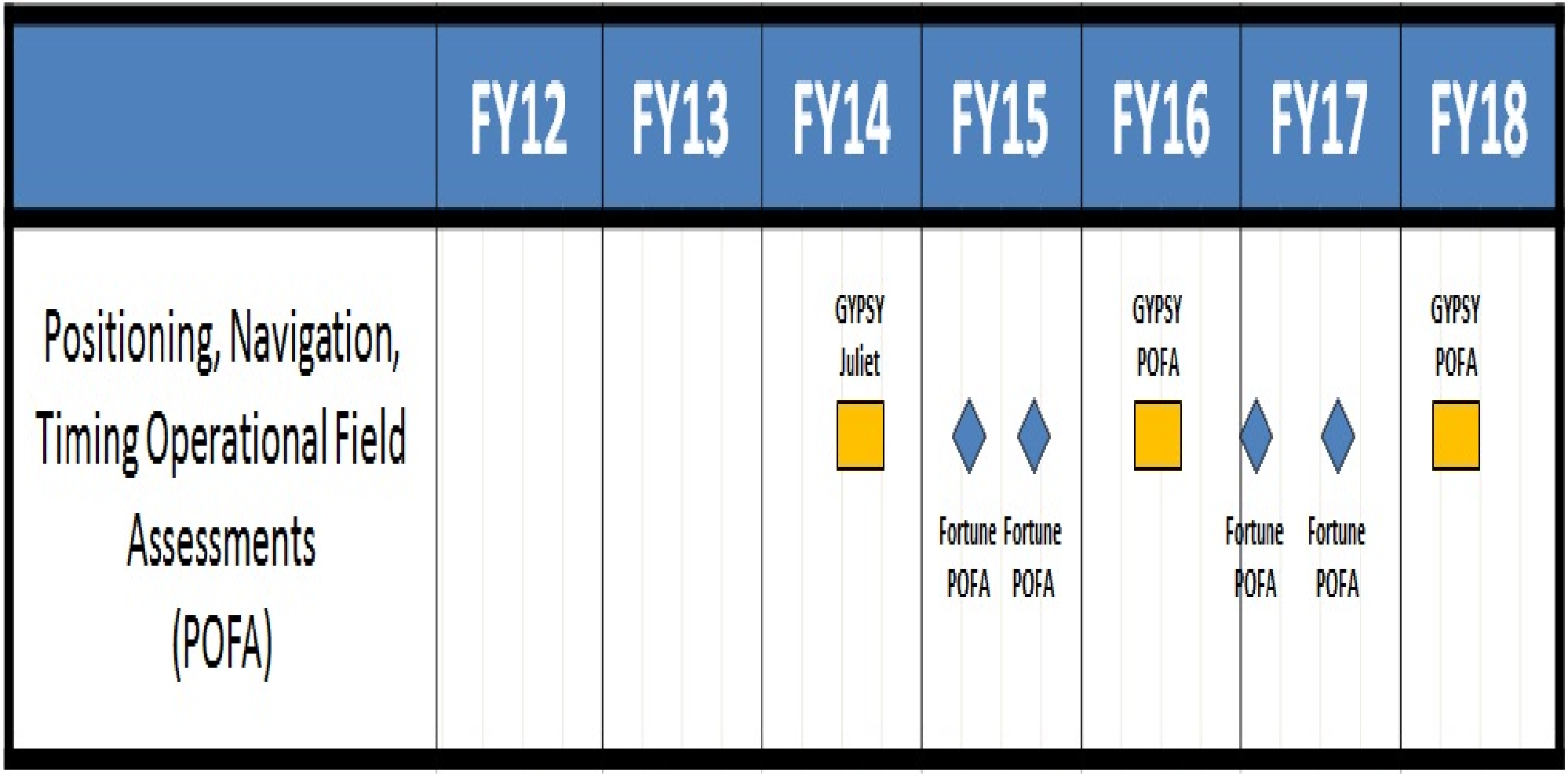


Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0105921F: *Service Support to STRATCOM - Space Activities*	**PROJECT** 643833: *Joint NavWar Center*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Gypsy Juliet	3	2014	4	2014

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force											DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*					R-1 ITEM NOMENCLATURE PE 0207455F: *Three Dimensional Long-Range Radar (3DELRR)*							
COST ($ in Millions)	**All Prior Years**	**FY 2012**	**FY 2013#**	**FY 2014 Base**	**FY 2014 OCO ##**	**FY 2014 Total**	**FY 2015**	**FY 2016**	**FY 2017**	**FY 2018**	**Cost To Complete**	**Total Cost**
Total Program Element	0.000	0.000	0.000	70.160	-	70.160	69.533	57.985	54.000	15.100	Continuing	Continuing
646002: *Three Dimensional Expeditionary Long Range Radar*	0.000	0.000	0.000	70.160	-	70.160	69.533	57.985	54.000	15.100	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

MDAP/MAIS Code(s): 393

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 OCO Request will be submitted at a later date

Note

In FY 2014, Project 6002, Three Dimensional Expeditionary Long Range Radar (3DELRR), efforts were transferred from PE 0604283F, Battle Management Command and Control (BMC2) Sensor Development, Project 6002, in order to provide this program its own Program Element.

Totals include funding for PRCP Program Number (PNO) 393, 3DELRR.

A. Mission Description and Budget Item Justification

Beginning in FY14, 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 USAF Joint Force Air Component Commander (JFACC) through the Theater Air Control System (TACS). The 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 close 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 Air Force's 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 Air Force's critically important role in the United States Govenment/DOD efforts to build partnership capacity via the Defense Exportability Features (DEF) pilot program. This new radar 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.

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0207455F: *Three Dimensional Long-Range Radar (3DELRR)*

FY14 completes the Pre-EMD period of the TD phase, including completion of three competing contracts. The EMD phase of the 3DELRR Program will begin after a MS-B decision in FY14. Acquisition activities for the EMD phase within the FY14 timeframe include, but are not limited to, a competitive source selection to award a single contract for the EMD Phase with contract options for Low Rate Initial Production (LRIP) and Full Rate Production (FRP), MS-B preparation, MS-B decision, Integrated Baseline Review (IBR), Critical Design Review (CDR), test planning/preparation and fabrication/test of system components/subsystems. A Critical Design Review (CDR) will be 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 will also include studies and analyses to support both current program planning and execution and future program planning.

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. Transition to Budget Activity 05 will occur after Milestone B decision approval to enter EMD Phase.

B. Program Change Summary ($ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	0.000	0.000	70.160	-	70.160
Current President's Budget	0.000	0.000	70.160	-	70.160
Total Adjustments	0.000	0.000	0.000	-	0.000
• Congressional General Reductions	-	0.000			
• Congressional Directed Reductions	-	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	-	0.000			
• Congressional Directed Transfers	-	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	0.000	0.000	0.000	-	0.000

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Title: Technology Development (TD)/EMD Phases	0.000	0.000	57.939
Description: Technology Development (TD)/EMD efforts associated with delivering a new long-range ground-based sensor.			
FY 2014 Plans: The 3DELRR TD Phase will conclude in FY14 with a competitive source selection to award a single contract for the EMD Phase with contract options for Low Rate Initial Production (LRIP) and Full Rate Production (FRP), MS-B preparation, and MS-B decision. The EMD Phase of the 3DELRR Program will begin after the MS-B decision in FY 14. Acquisition activities for the EMD phase within the FY 14 timeframe will include, but are not limited to, Integrated Baseline Review (IBR), Critical Design Review			

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0207455F: *Three Dimensional Long-Range Radar (3DELRR)*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
(CDR), test planning /preparation and fabrication/test of system components /subsystems. A Critical Design Review (CDR) will be 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 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 2014 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.	0.000	0.000	2.229
Title: Systems Engineering/Technical Support ***Description:*** Systems Engineering/Technical Support ***FY 2014 Plans:*** Systems Engineering/Technical Support	0.000	0.000	3.428
Title: Management Services ***Description:*** Management Services ***FY 2014 Plans:*** Management Services	0.000	0.000	6.564
Accomplishments/Planned Programs Subtotals	0.000	0.000	70.160

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• RDTE: BA04: PE 0604283F: *Three Dimensional Long Range Radar*	30.362	114.417	0.000		0.000	0.000	0.000	0.000	0.000	0.000	144.779
• OPAF: BA04: Line Item # 646002: *Three Dimensional Long Range Radar*	0.000	0.000	0.000		0.000	0.000	0.000	0.000	63.800	Continuing	Continuing

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0207455F: *Three Dimensional Long-Range Radar (3DELRR)*

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost

Remarks

E. Acquisition Strategy

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

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 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0207455F: *Three Dimensional Long-Range Radar (3DELRR)*	PROJECT 646002: *Three Dimensional Expeditionary Long Range Radar*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
EMD Phase	C/FPIF	TBD:TBD,	0.000	0.000		0.000		57.939	Mar 2014	-		57.939	Continuing	Continuing	TBD
		Subtotal	0.000	0.000		0.000		57.939		0.000		57.939			

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
System Engineering - A	SS/CPFF	MIT/Lincoln Laboratory:Lexington, MA	0.000	0.000		0.000		1.266	Jan 2014	-		1.266	Continuing	Continuing	TBD
System Engineering - C	SS/CPFF	Carnegie Mellon University:Pittsburgh, PA	0.000	0.000		0.000		0.575	Dec 2013	-		0.575	Continuing	Continuing	TBD
Government Furnished Equipment (GFE)	TBD	Various:TBD,	0.000	0.000		0.000		1.587	Sep 2014	-		1.587	Continuing	Continuing	TBD
		Subtotal	0.000	0.000		0.000		3.428		0.000		3.428			

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
46th Test Wing/Other Test Agencies	Various	Various:Various,	0.000	0.000		0.000		2.229	Oct 2013	-		2.229	Continuing	Continuing	TBD
		Subtotal	0.000	0.000		0.000		2.229		0.000		2.229			

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Administration	Various	Various:Various,	0.000	0.000		0.000		6.564	Oct 2013	-		6.564	Continuing	Continuing	TBD

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0207455F: *Three Dimensional Long-Range Radar (3DELRR)*	PROJECT 646002: *Three Dimensional Expeditionary Long Range Radar*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		6.564		0.000		6.564			

	All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	0.000		0.000		70.160		0.000		70.160			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0207455F: *Three Dimensional Long-Range Radar (3DELRR)*	PROJECT 646002: *Three Dimensional Expeditionary Long Range Radar*

3DELRR Program Schedule

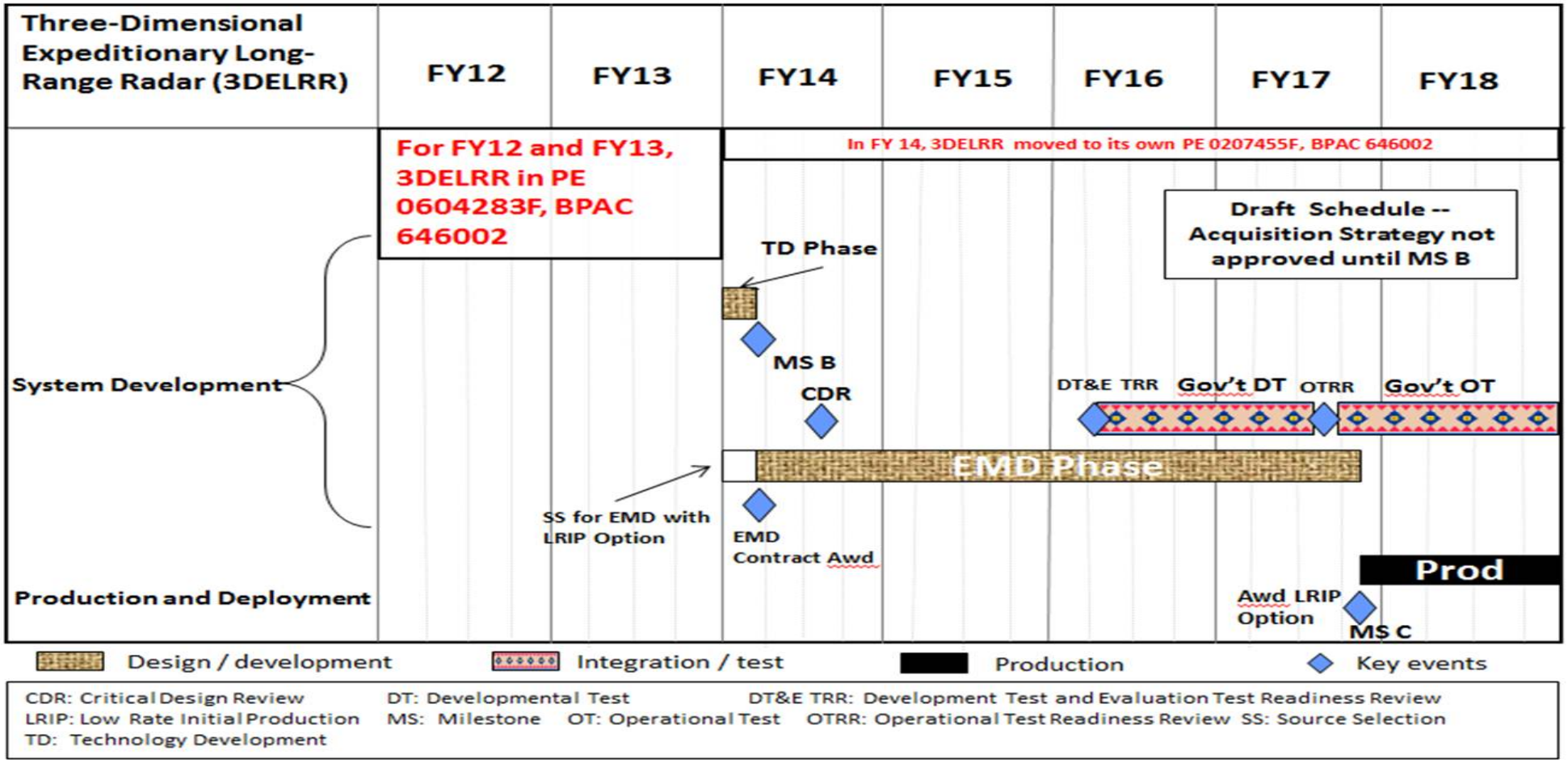


Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0207455F: *Three Dimensional Long-Range Radar (3DELRR)*	**PROJECT** 646002: *Three Dimensional Expeditionary Long Range Radar*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Tech Development (TD) Phase	1	2014	2	2014
Source Selection for EMD and LRIP Contract	4	2013	1	2014
Milestone B	1	2014	1	2014
EMD Contract Award	1	2014	1	2014
EMD Phase	1	2014	4	2017
Critical Design Review (CDR)	3	2014	3	2014
Developmental Test & Evaluation Test Readiness Review	2	2016	2	2016
Government Developmental Test	2	2016	3	2017
Operational Test Readiness Review (OTRR)	3	2017	3	2017
Government Operational Test	3	2017	4	2018
Milestone C	4	2017	4	2017
Production Phase (LRIP)	4	2017	4	2018

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force											DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*					R-1 ITEM NOMENCLATURE PE 0305164F: *NAVSTAR Global Positioning System (User Equipment) (SPACE)*							
COST ($ in Millions)	**All Prior Years**	**FY 2012**	**FY 2013#**	**FY 2014 Base**	**FY 2014 OCO ##**	**FY 2014 Total**	**FY 2015**	**FY 2016**	**FY 2017**	**FY 2018**	**Cost To Complete**	**Total Cost**
Total Program Element	0.000	0.000	96.840	137.233	-	137.233	158.614	153.769	157.390	98.840	Continuing	Continuing
643833: *MILITARY GLOBAL POSITIONING SYSTEM USER EQUIP*	0.000	0.000	96.840	137.233	-	137.233	158.614	153.769	157.390	98.840	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		
MDAP/MAIS Code(s): 166,447												

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 OCO Request will be submitted at a later date

A. Mission Description and Budget Item Justification

Starting in FY13, Military GPS User Equipment (MGUE) funding is transferred to this project in PE 0305164F.

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 2 is an effort to develop a government-defined Common GPS Module (CGM) and reduce the size, weight, power and cost (SWaP-C) of military GPS receivers. MGUE Increment 2 received Materiel Development Decision (MDD) approval and authorization for entry into Materiel Solution Analysis phase.

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 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0305164F: *NAVSTAR Global Positioning System (User Equipment) (SPACE)*

B. Program Change Summary ($ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	0.000	96.840	125.926	-	125.926
Current President's Budget	0.000	96.840	137.233	-	137.233
Total Adjustments	0.000	0.000	11.307	-	11.307
• Congressional General Reductions	-	0.000			
• Congressional Directed Reductions	-	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	-	0.000			
• Congressional Directed Transfers	-	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	0.000	0.000	11.307	-	11.307

Change Summary Explanation

FY 2014: $11.307M increase to fund risk reduction efforts for MGUE Increment 2.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Title: MGUE Increment 1 Technology Development	0.000	53.343	73.800
Description: The MGUE program will develop standard modernized receiver form factors for the service-nominated lead platforms identified in the draft MGUE CDD. ***FY 2013 Plans:*** Execute MGUE Increment 1 Technology Development phase. Complete System Requirements Review (SRR), System Design Review (SDR), prepare for Pre-EMD and MS-B reviews. ***FY 2014 Plans:*** Execute MGUE Increment 1 Technology Development phase. Complete Preliminary Design Review (PDR), Pre-EMD review, and MS-B review in preparation for FY15 MS-B approval. Commence EMD source selection with tech sample evaluation.			
Title: Advanced Technology	0.000	7.000	15.000
Description: Advanced Technology efforts include studies to mature technology for Increment 2 to satisfy the draft MGUE CDD. ***FY 2013 Plans:***			

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0305164F: *NAVSTAR Global Positioning System (User Equipment) (SPACE)*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Execute trade studies 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 2014 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) 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: SE&I ***Description:*** SE&I provides critical GPS program integration activities for successful synchronization with GPS Space and Ground segments. ***FY 2013 Plans:*** Support program reviews, testing, enterprise integration, security and performance certification activities. Continue coordinating interoperability of EA capabilities with other Navwar disciplines. ***FY 2014 Plans:*** Support program reviews, EMD source selection, testing, integration, security and performance certification activities. Continue coordinating interoperability of EA capabilities with other Navwar disciplines.	0.000	4.538	6.100
Title: Platform Integration & 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 Plans:*** Conduct external Navwar testing in support of Service lead platform integration. Support Army migration from handheld to embedded GPS. Develop policy and requirements related to performance certification. ***FY 2014 Plans:*** Continue lead platform integration planning and testing. Develop test vectors in support of performance certification.	0.000	2.800	5.240
Title: Information Assurance ***Description:*** Develop, implement and maintain GPS Security Certification programs. ***FY 2013 Plans:***	0.000	4.100	5.400

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0305164F: *NAVSTAR Global Positioning System (User Equipment) (SPACE)*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Conduct Modernized Security Evaluations for Selective Availability Anti-Spoofing Module (SAASM) receivers. Conduct pilot program with Modernized User Equipment (MUE) and develop requirements to security certify MUE and MGUE receivers. Develop process to security certify MGUE receivers. Achieve security handling for MUE delivered cards at a reduced classification level. ***FY 2014 Plans:*** Conduct Modernized Security Evaluations for SAASM receivers. Continue MGUE security certification planning activities to include security certification for other than lead platforms, such as munitions and handhelds.			
Title: Program & Technical Support ***Description:*** Provide program and technical support for prime contract execution, testing, integration, security and performance certification. ***FY 2013 Plans:*** Provide support for execution for 3 MGUE contracts and 3 MUE contracts. Support MGUE CDRLs review, and provide engineering support for requirements development for handheld and common GPS receivers. Develop EMD Request for Proposal (RFP). Update Technical Requirements Document (TRD). Provide approaches for Increment 2 acceleration. ***FY 2014 Plans:*** Continue support for execution of 3 MGUE contracts. Continue support of MGUE CDRL review, MGUE EMD source selection support, and engineering support for requirements development for handheld and common GPS receivers. Develop requirements for munitions and handheld Form Factors in order to implement PNT Analysis of Alternatives (AoA) recommendations. Initiate selected course of action for MGUE Increment 2 per OSD direction.	0.000	25.059	31.693
Accomplishments/Planned Programs Subtotals	0.000	96.840	137.233

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• OPAF: BA03: Line Item # 836730: *Navstar GPS Space*	2.008	2.031	2.061		2.061	2.093	3.661	13.907	16.193	2.245	44.199
• RDTE: BA07: PE 0305164F: *NAVSTAR Global Positioning System (User Equipment) (SPACE)*	125.935	29.621	0.000		0.000	0.000	0.000	0.000	0.000	0.000	155.556

Remarks

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0305164F: *NAVSTAR Global Positioning System (User Equipment) (SPACE)*

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. This effort will span contract award to PDR, including MGUE Increment 1 requirements and preliminary design development. There will be a down-select to two contractors for the EMD phase of the program which will develop aviation, ground, and CGM form factors to full-rate production. MGUE Increment 2 is in the Materiel Solutions Analysis phase.

F. Performance Metrics

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

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0305164F: *NAVSTAR Global Positioning System (User Equipment) (SPACE)*	PROJECT 643833: *MILITARY GLOBAL POSITIONING SYSTEM USER EQUIP*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 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	0.000		17.781	Jan 2013	24.600	Dec 2013	-		24.600	86.986	129.367	
MGUE Increment 1 Technology Development (Raytheon)	C/CPIF	Raytheon:El Segundo, CA	0.000	0.000		17.781	Jan 2013	24.600	Dec 2013	-		24.600	86.986	129.367	
MGUE Increment 1 Technology Development (L3)	C/CPIF	L3:Anaheim, CA	0.000	0.000		17.781	Jan 2013	24.600	Dec 2013	-		24.600	86.986	129.367	
Advanced Technology	C/CPAF	Various:Various,	0.000	0.000		7.000	Apr 2013	15.000	Feb 2014	-		15.000	14.278	36.278	
Integration	C/CPAF	Various:Various,	0.000	0.000		0.800	Mar 2013	1.240	Jan 2014	-		1.240	69.000	71.040	
Performance Certification	C/CPAF	Various:Various,	0.000	0.000		2.000	Feb 2013	2.000	Feb 2014	-		2.000	27.000	31.000	
Information Assurance	C/CPAF	Various:Various,	0.000	0.000		4.100	Apr 2013	5.400	Jan 2014	-		5.400	26.100	35.600	
SE&I	C/CPAF	Variuos:Various,	0.000	0.000		4.538	Feb 2013	6.100	Dec 2013	-		6.100	26.500	37.138	
		Subtotal	0.000	0.000		71.781		103.540		0.000		103.540	423.836	599.157	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test & Evaluation	Various	Various:Various,	0.000	0.000		0.000		2.000	Jan 2014	-		2.000	15.000	17.000	
		Subtotal	0.000	0.000		0.000		2.000		0.000		2.000	15.000	17.000	

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0305164F: *NAVSTAR Global Positioning System (User Equipment) (SPACE)*	PROJECT 643833: *MILITARY GLOBAL POSITIONING SYSTEM USER EQUIP*

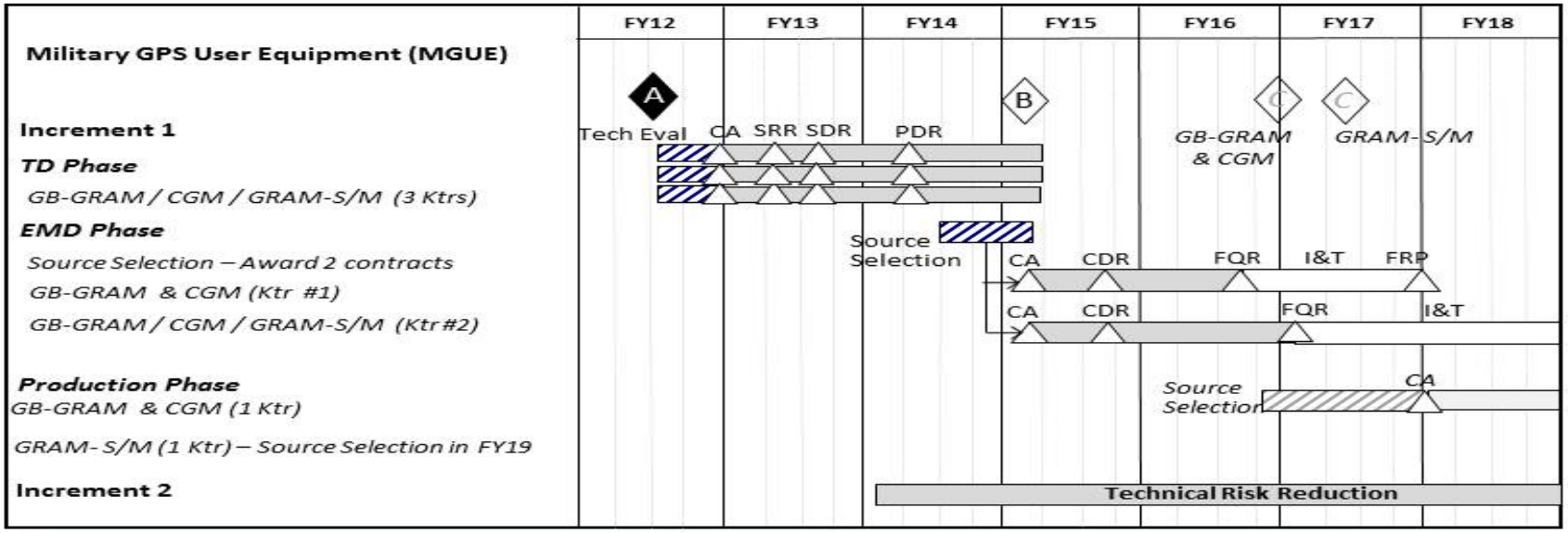
Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Office Engineering Support (FFRDC)	Various	Aerospace:El Segundo, CA	0.000	0.000		17.223	Jan 2013	20.678	Dec 2013	-		20.678	86.178	124.079	
Program Support (FFRDC)	Various	MITRE:El Segundo, CA	0.000	0.000		7.836	Feb 2013	11.015	Dec 2013	-		11.015	43.599	62.450	
		Subtotal	0.000	0.000		25.059		31.693		0.000		31.693	129.777	186.529	

	All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	0.000		96.840		137.233		0.000		137.233	568.613	802.686	

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0305164F: *NAVSTAR Global Positioning System (User Equipment) (SPACE)*	**PROJECT** 643833: *MILITARY GLOBAL POSITIONING SYSTEM USER EQUIP*



FRP -- Full Rate Production
GB – Ground Embedded
PDR- Preliminary Design Review
CA – Contract Award
FQT – Functional Qualification Testing
S/M – Standard Electronics Model
EMD-Engr & Manufacturing Development
CGM-- Common GPS Module
SRR – System Requirements Review
Ktr – Contractor (s)
GRAM – GPS Receiver Applications Module
I & T – Integration and Test
SDR – System Design Review
CDR – Critical Design Review

Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0305164F: *NAVSTAR Global Positioning System (User Equipment) (SPACE)*	**PROJECT** 643833: *MILITARY GLOBAL POSITIONING SYSTEM USER EQUIP*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
MGUE Contract Award	4	2012	4	2012
System Requirements Review (SRR)	2	2013	2	2013
System Design Review (SDR)	3	2013	3	2013
Preliminary Design Review (PDR)	2	2014	2	2014

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force											DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*					R-1 ITEM NOMENCLATURE PE 0305178F: *National Polar-Orbiting Operational Environmental Satellite System (NPOESS)*							
COST ($ in Millions)	**All Prior Years**	**FY 2012**	**FY 2013#**	**FY 2014 Base**	**FY 2014 OCO ##**	**FY 2014 Total**	**FY 2015**	**FY 2016**	**FY 2017**	**FY 2018**	**Cost To Complete**	**Total Cost**
Total Program Element	-	43.000	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
644056: *National Polar-orbiting Operational Env. Sat. Syst.*	-	43.000	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

MDAP/MAIS Code(s): 239

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 OCO Request will be submitted at a later date

Note

The restructure from the National Polar-orbiting Operational Envronmental Satellite System (NPOESS) program to the Defense Weather Satellite System (DWSS) was finalized in FY 2011. The DWSS program was terminated per Congressional direction in FY 2012. DoD will utilize the remaining Defense Meteorological Satellite Program (DMSP) satellites to satisfy the DoD overhead weather requirements until a follow-on capability can be acquired. All FY 2012 activities in this PE support DWSS program termination.

A. Mission Description and Budget Item Justification

Presidential Decision Directive/National Science and Technology Council-2 (PDD/NCTC-2) (May 1994) directed the DoD, Department of Commerce (DOC), and the National Aeronautics and Space Administration (NASA) to establish a converged national polar-orbiting weather satellite program. The converged program, the National Polar-orbiting Operational Environmental Satellite System (NPOESS), combined the follow-on to DoD's Defense Meteorological Satellite System (DMSP) and the DOC's Polar-orbiting Operational Environmental Satellite (POES) program.

On 1 February 2010, the Executive Office of the President announced a restructure of the NPOESS program which directed the acquisition and development of separate military and civil weather satellite programs. The Air Force began acquisition of the Defense Weather Satellite System (DWSS) to satisfy military weather requirements. The National Oceanographic and Atmospheric Administration (NOAA) will acquire the Joint Polar Satellite System (JPSS) and a shared common ground system to address civil weather and environmental requirements. The DWSS system was designed to produce environmental data records for regional/ global meteorological, oceanographic, environmental, climatic data, and space environmental remote sensing information. DWSS capabilities would enable the anticipation and exploitation of atmospheric and space environment conditions for military operations planning. DWSS data would also be instrumental to civilian weather forecasters as they work to improve climate forecasting and severe weather modeling and prediction, reducing the potential for loss of civilian life and property.

The DWSS program was designed to satisfy DoD's environmental monitoring requirements in the early morning orbit by developing and launching two satellites [flight-1 (F1) and flight-2 (F2)], each with an electro-optical sensor, Space Environment Monitor (SEM-N), and a microwave sensor, with a planned initial launch capability no earlier than 2018.

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0305178F: *National Polar-Orbiting Operational Environmental Satellite System (NPOESS)*

RDT&E funds in FY 2012 were used to support DWSS program termination activities such as: leveraging and/or transitioning government investments in the NPOESS/ DWSS program including electro-optical, microwave, and space weather sensors, spacecraft, materials, algorithms and other DoD-specific elements of the common ground system; acquiring if necessary, any intellectual property rights and data; storage of program assets for potential future use; and covering any contractor or government liabilities incurred while performing termination activities.

BA-4 - This program is a Budget Activity 4, Advanced Component Development and Prototypes (ACP&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 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	43.000	0.000	0.000	-	0.000
Current President's Budget	43.000	0.000	0.000	-	0.000
Total Adjustments	0.000	0.000	0.000	-	0.000
• Congressional General Reductions	-	0.000			
• Congressional Directed Reductions	-	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	-	0.000			
• Congressional Directed Transfers	-	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	0.000	0.000	0.000	-	0.000

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Title: DWSS	43.000	0.000	0.000
Description: Develop and acquire DWSS satellites and sensors, fund development of DoD-specific elements within the common ground system, and develop algorithms.			
FY 2012 Accomplishments: Provided termination notification and direction to all contractors and labs. Continued to oversee orderly termination, disposition of assets, and contract cleanup including contractor performance assessment reports (CPARs) and settlement of equitable adjustments and engineering change proposals. Termination efforts have been transitioned to the Defense Contract Management Agency (DCMA).			
FY 2013 Plans: No funding in FY2013.			
FY 2014 Plans:			

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0305178F: *National Polar-Orbiting Operational Environmental Satellite System (NPOESS)*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
No funding in FY2014.			
Accomplishments/Planned Programs Subtotals	43.000	0.000	0.000

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• :: *N/A*	0.000	0.000	0.000		0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

Remarks

E. Acquisition Strategy

The restructure from the National Polar-orbiting Operational Environmental Satellite System (NPOESS) program to the Defense Weather Satellite System (DWSS) was finalized in FY 2011. The DWSS program was terminated per Congressional direction in FY 2012. DoD will utilize the remaining Defense Meteorological Satellite Program (DMSP) satellites to satisfy DoD overhead weather requirements until a follow-on capability can be acquired. All FY 2012 activities in this PE supported DWSS program termination.

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 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0305178F: *National Polar-Orbiting Operational Environmental Satellite System (NPOESS)*	PROJECT 644056: *National Polar-orbiting Operational Env. Sat. Syst.*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
DWSS Development and System Integration	C/CPIF	Northrop Grumman:Redondo Beach, CA	-	41.916	Jan 2013	0.000		0.000		-		0.000	0.000	41.916	
GFE Sensor Development	MIPR	Naval Research Lab and Johns Hopkins Applied Physics Lab:Laurel, MD & Wash, DC,	-	0.000		0.000		0.000		-		0.000	0.000	0.000	
		Subtotal	0.000	41.916		0.000		0.000		0.000		0.000	0.000	41.916	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
System Program Office Support	Various	Space and Missile Systems Center (SMC); Los Angeles Air Force Base:El Segundo, CA	-	0.000		0.000		0.000		-		0.000	0.000	0.000	

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0305178F: *National Polar-Orbiting Operational Environmental Satellite System (NPOESS)*	PROJECT 644056: *National Polar-orbiting Operational Env. Sat. Syst.*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Systems Engineering	MIPR	Aerospace:El Segundo, CA	-	0.000		0.000		0.000		-		0.000	0.000	0.000	
Program Support	Various	Space and Missile Systems Center (SMC); Los Angeles Air Force Base:El Segundo, CA	-	1.084	Sep 2012	0.000		0.000		-		0.000	0.000	1.084	
		Subtotal	0.000	1.084		0.000		0.000		0.000		0.000	0.000	1.084	

	All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	43.000		0.000		0.000		0.000		0.000	0.000	43.000	

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0305178F: *National Polar-Orbiting Operational Environmental Satellite System (NPOESS)*	**PROJECT** 644056: *National Polar-orbiting Operational Env. Sat. Syst.*

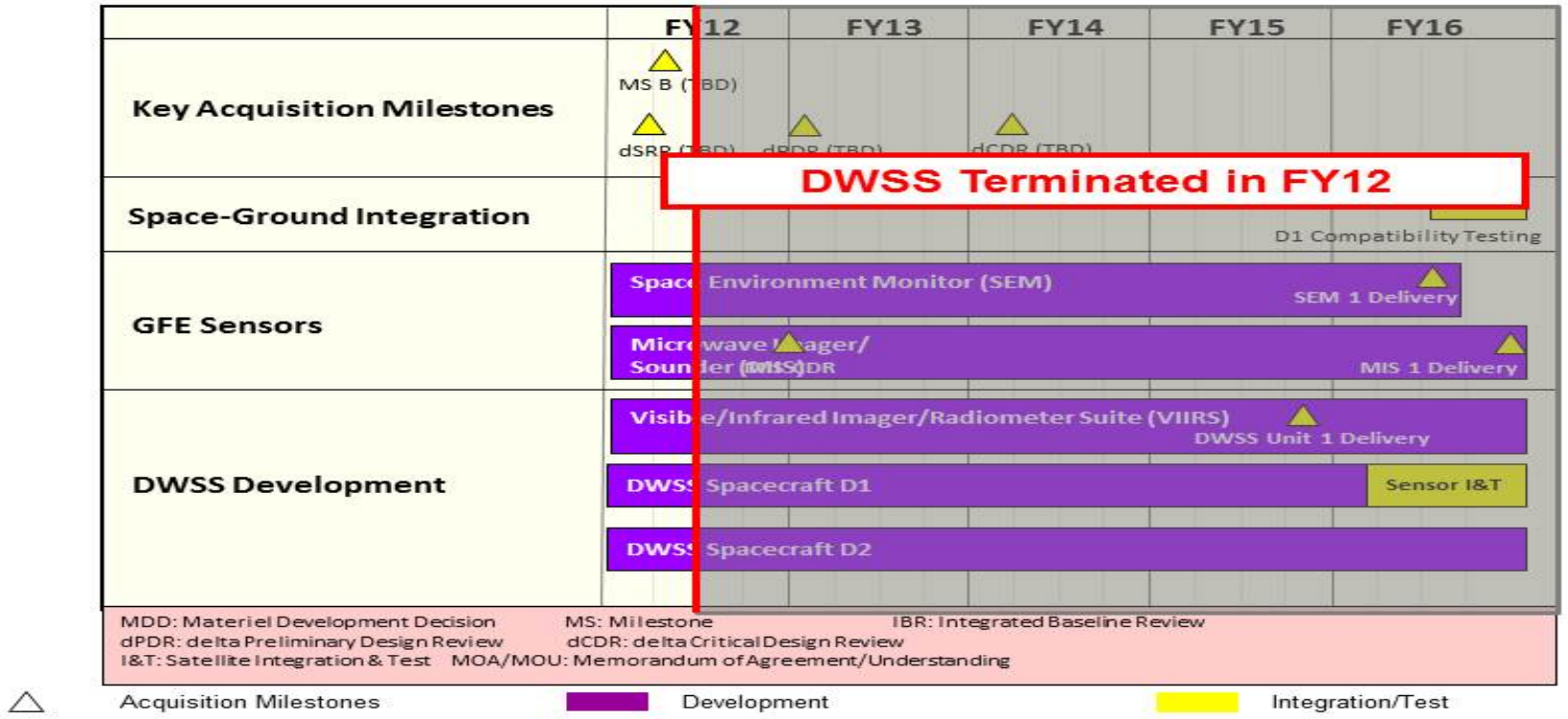


Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0305178F: *National Polar-Orbiting Operational Environmental Satellite System (NPOESS)*	**PROJECT** 644056: *National Polar-orbiting Operational Env. Sat. Syst.*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Microwave Sensor for DWSS F1	1	2012	4	2012
Early Electrical Power Subsystem and Attitude Control Subsytem Electrical Engineering Model Testbed (EEMTB)	1	2012	4	2012
Electro-optical Sensor for DWSS F1	1	2012	4	2012
DWSS Program Termination Settlement	2	2012	4	2015

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force											DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*					R-1 ITEM NOMENCLATURE PE 0603260F: *Intelligence Advanced Development*							
COST ($ in Millions)	**All Prior Years**	**FY 2012**	**FY 2013#**	**FY 2014 Base**	**FY 2014 OCO ##**	**FY 2014 Total**	**FY 2015**	**FY 2016**	**FY 2017**	**FY 2018**	**Cost To Complete**	**Total Cost**
Total Program Element	-	0.000	0.000	0.977	-	0.977	1.123	1.130	1.145	1.165	Continuing	Continuing
652053: *National Air Intel Center*	-	0.000	0.000	0.977	-	0.977	1.123	1.130	1.145	1.165	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 OCO Request will be submitted at a later date

Note

In FY 2014, Project Number 652053, National Air Intelligence Center, efforts were transferred from PE 0604750F, Intelligence Equipment, Project Number 652053, National Air Intelligence Center, to increase management efficiency, reduce administrative actions, and minimize activity 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), works directly with users, employing evolutionary approaches and integrating finished modules directly into 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) into 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 (AF ISR Agency). 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 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0603260F: *Intelligence Advanced Development*

B. Program Change Summary ($ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	0.000	0.000	0.000	-	0.000
Current President's Budget	0.000	0.000	0.977	-	0.977
Total Adjustments	0.000	0.000	0.977	-	0.977
• Congressional General Reductions	-	0.000			
• Congressional Directed Reductions	-	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	-	0.000			
• Congressional Directed Transfers	-	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	0.000	0.000	0.977	-	0.977

Change Summary Explanation

In FY 2014, Project Number 652053, National Air Intelligence Center, efforts were transferred from PE 0604750F, Intelligence Equipment, Project Number 652053, National Air Intelligence Center, in order to increase management efficiency, reduce administrative actions, and ensure continued minimization of effort duplication.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Title: Project Theo	0.000	0.000	0.335
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:*** Will release prototype 1.3 to operational community for evaluation and initiate final combination of Project Theo's components. Will release Final prototype.			
Title: High Performance Aero Vehicle Modeler (HP-AVM)	0.000	0.000	0.285
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:*** Will release prototype 1.2 and initiate and release final prototype of HP-AVM.			
Title: Space, Air, and Terrestrial Modeling & Simulation Initiative	0.000	0.000	0.335

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0603260F: *Intelligence Advanced Development*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
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:*** Will initiate development of prototype.			
Title: PMA ***Description:*** Maintains a Program Management Office, including program supervision, finance and acquisition strategy execution. ***FY 2014 Plans:*** Will maintain a Program Management Office, including program supervision, finance and acquisition strategy execution.	0.000	0.000	0.022
Accomplishments/Planned Programs Subtotals	0.000	0.000	0.977

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• RDTE: BA05: 0604750F: *Intelligence Equipment*	0.995	0.803	0.000		0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

Remarks

E. Acquisition Strategy

Requirements of 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-3, RDT&E Project Cost Analysis: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0603260F: *Intelligence Advanced Development*	PROJECT 652053: *National Air Intel Center*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Theo	C/CPFF	Northrop Grumman Mission Systems, General Dynamics, and Janya:Fairborn, OH	-	0.000		0.000		0.335	Nov 2013	-		0.335	Continuing	Continuing	TBD
High Performance Aero Vehicle Modeler (HP-AVM)	C/CPFF	Northrop Grumman Mission Systems:Fairborn, OH	-	0.000		0.000		0.285	Nov 2013	-		0.285	Continuing	Continuing	TBD
Space Air & Terrestrial Modeling &Simulation Initiative	C/CPAF	TBD:TBD,	-	0.000		0.000		0.335	Oct 2013	-		0.335	Continuing	Continuing	TBD
		Subtotal	0.000	0.000		0.000		0.955		0.000		0.955			

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
PMA	Various	Air Force Research Laboratory -	-	0.000		0.000		0.022	Oct 2013	-		0.022	Continuing	Continuing	TBD

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0603260F: *Intelligence Advanced Development*	PROJECT 652053: *National Air Intel Center*	

Management Services ($ in Millions)

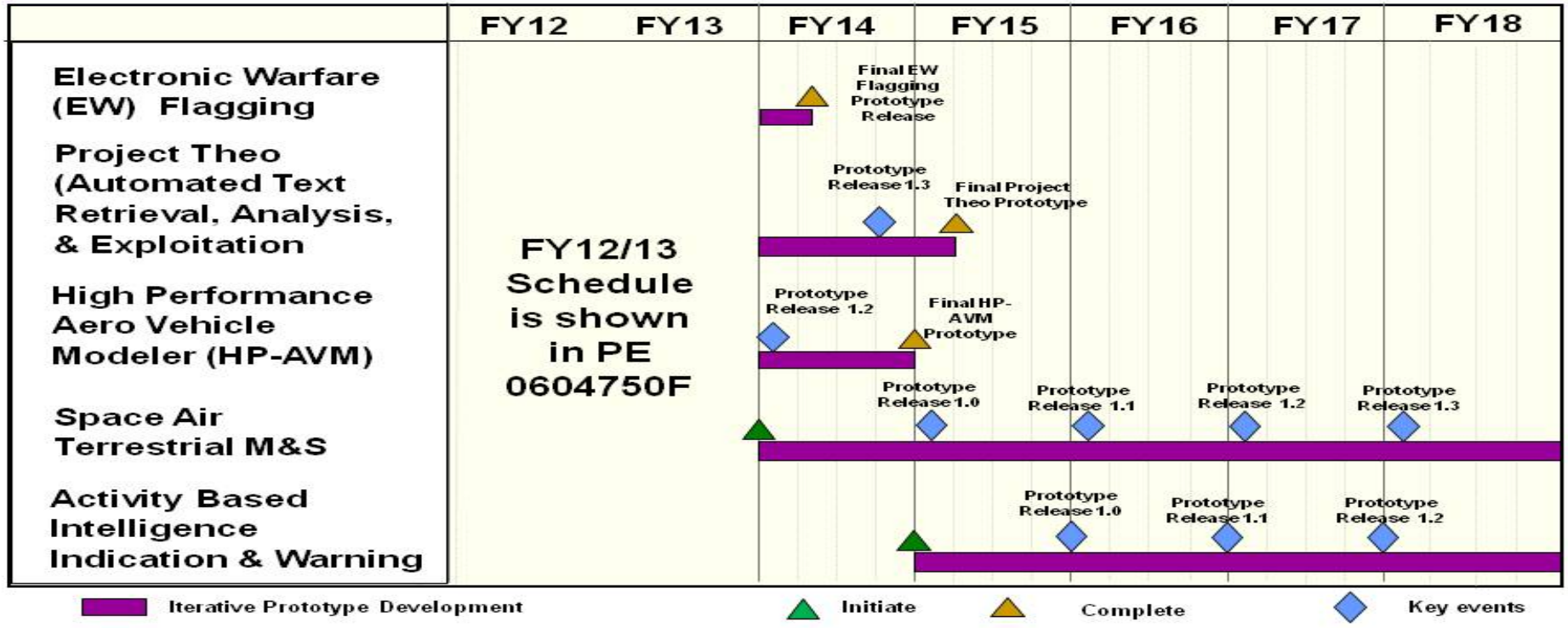
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Information Directorate:Rome, NY													
		Subtotal	0.000	0.000		0.000		0.022		0.000		0.022			

	All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	0.000		0.000		0.977		0.000		0.977			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0603260F: *Intelligence Advanced Development*	PROJECT 652053: *National Air Intel Center*

Intelligence Advanced Development
Project Number 652053



FY14 PB

Depicted by installation/production flow

Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0603260F: *Intelligence Advanced Development*	**PROJECT** 652053: *National Air Intel Center*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Electronic Warfare (EW) Flagging Prototype Development	1	2014	2	2014
Final EW Flagging Prototype Release	2	2014	2	2014
Project Theo Prototype Development	1	2014	1	2015
Release Project Theo Prototype 1.3	4	2014	4	2014
Final Project Theo Prototype Release	2	2015	2	2015
HP-AVM Prototype Development	1	2014	4	2014
Release HP-AVM Prototype 1.2	1	2014	1	2014
Final HP-AVM Prototype Release	4	2014	4	2014
Space Air Terrestrial M&S Prototype Development	1	2014	4	2018
Space Air Terrestrial M&S Prototype Release 1.0	1	2015	1	2015
Space Air Terrestrial M&S Prototype Release 1.1	1	2016	1	2016
Space Air Terrestrial M&S Prototype Release 1.2	1	2017	1	2017
Space Air Terrestrial M&S Prototype Release1.3	1	2018	1	2018
Activity Based Intelligence Indication & Warning Prototype Development	1	2015	4	2018
Activity Based Intelligence Indication & Warning Prototype Release 1.0	1	2016	1	2016
Activity Based Intelligence Indication & Warning Prototype Release 1.1	1	2017	1	2017
Activity Based Intelligence Indication & Warning Prototype Release 1.2	1	2018	1	2018

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force											DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*					R-1 ITEM NOMENCLATURE PE 0603840F: *Global Broadcast Service (GBS)*							
COST ($ in Millions)	**All Prior Years**	**FY 2012**	**FY 2013#**	**FY 2014 Base**	**FY 2014 OCO ##**	**FY 2014 Total**	**FY 2015**	**FY 2016**	**FY 2017**	**FY 2018**	**Cost To Complete**	**Total Cost**
Total Program Element	-	5.631	14.652	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
65A023: *Satellite Broadcast Management Transition*	-	5.631	14.652	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		
MDAP/MAIS Code(s): 326												

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 OCO Request will be submitted at a later date

A. Mission Description and Budget Item Justification

Global Broadcast Service provides 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 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.

Currently, 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 DECC will utilize a new hardware and software architecture to resolve impending Commercial Off the Shelf (COTS) obsolescence, Information Assurance compliance and sustainment issues.

During FY09 to the present, the broadcast creation transitions to existing Defense Information Systems Agency (DISA) Defense Enterprise Computing Centers (DECCs). This transition addresses SBM hardware/software obsolescence 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. Funding for this effort ended in FY13.

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 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0603840F: *Global Broadcast Service (GBS)*

B. Program Change Summary ($ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	5.631	14.652	0.000	-	0.000
Current President's Budget	5.631	14.652	0.000	-	0.000
Total Adjustments	0.000	0.000	0.000	-	0.000
• Congressional General Reductions	-	0.000			
• Congressional Directed Reductions	-	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	-	0.000			
• Congressional Directed Transfers	-	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	0.000	0.000	0.000	-	0.000

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Title: Satellite Broadcast Management Transition	5.631	14.652	0.000
Description: Develop a robust satellite broadcast management architecture and implement systems transmission security (TRANSEC). ***FY 2012 Accomplishments:*** Continued development of a robust satellite broadcast management architecture and implemented systems TRANSEC. ***FY 2013 Plans:*** Completes development and transition of the TRANSEC compliant satellite broadcast management architecture to DISA DECC.			
Accomplishments/Planned Programs Subtotals	5.631	14.652	0.000

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• OPAF: BA03: Line Item # 836780: *MILSATCOM Space*	16.117	0.000	0.000		0.000	0.000	0.000	0.000	0.000	0.000	129.979

Remarks

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0603840F: *Global Broadcast Service (GBS)*

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-3, RDT&E Project Cost Analysis: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0603840F: *Global Broadcast Service (GBS)*	PROJECT 65A023: *Satellite Broadcast Management Transition*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
DECC Transition	C/CPFF	Lockheed Martin Information Systems and Global Services:Gaithersburg, MD	-	1.117	Oct 2011	7.768	Oct 2012	0.000		-		0.000	Continuing	Continuing	
Phase 2 Government System Integration	Various	Various:Various,	-	2.960	Nov 2011	5.363	Oct 2012	0.000		-		0.000	Continuing	Continuing	
		Subtotal	0.000	4.077		13.131		0.000		0.000		0.000			

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Support (Various)	Various	Various:,	-	0.796	Oct 2011	0.000		0.000		-		0.000	Continuing	Continuing	
		Subtotal	0.000	0.796		0.000		0.000		0.000		0.000			

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test and Evaluation (Various)	Various	Various:Various,	-	0.758	Nov 2011	0.773	Oct 2012	0.000		-		0.000	Continuing	Continuing	
		Subtotal	0.000	0.758		0.773		0.000		0.000		0.000			

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Administration	Various	Various:Various,	-	0.000		0.748	Oct 2012	0.000		-		0.000	Continuing	Continuing	
		Subtotal	0.000	0.000		0.748		0.000		0.000		0.000			

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0603840F: *Global Broadcast Service (GBS)*	PROJECT 65A023: *Satellite Broadcast Management Transition*	

	All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	5.631		14.652		0.000		0.000		0.000			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0603840F: *Global Broadcast Service (GBS)*	**PROJECT** 65A023: *Satellite Broadcast Management Transition*

GBS DECC Schedule

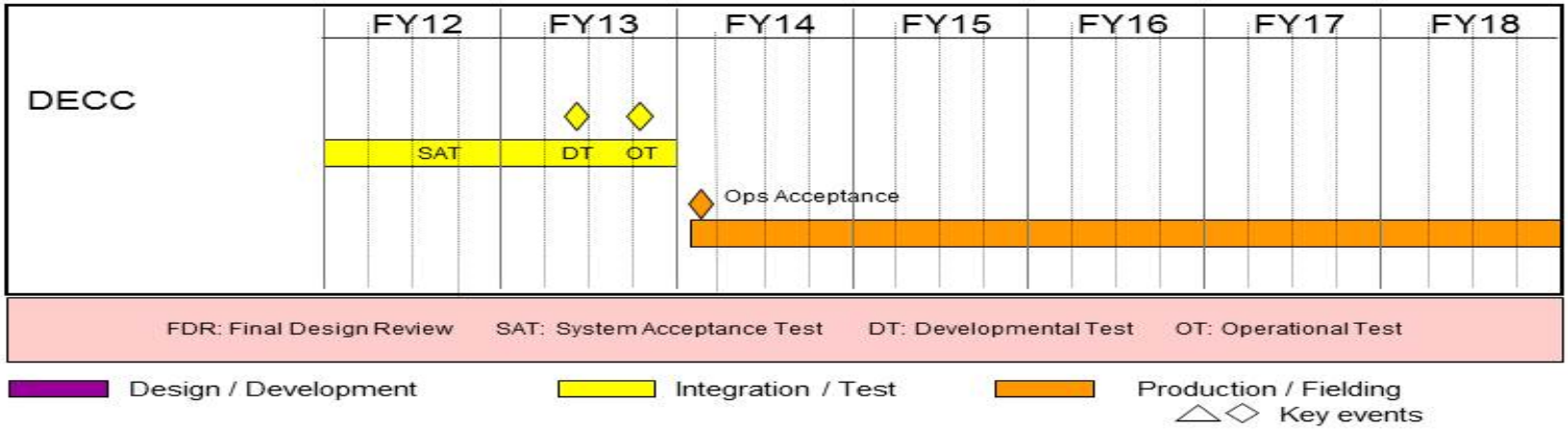


Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0603840F: *Global Broadcast Service (GBS)*	**PROJECT** 65A023: *Satellite Broadcast Management Transition*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Systems Acceptance Test	3	2012	3	2012
Development Test	3	2013	3	2013
Operational Test	4	2013	4	2014
Operational Acceptance	1	2014	1	2014

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force											DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*					R-1 ITEM NOMENCLATURE PE 0604222F: *Nuclear Weapons Support*							
COST ($ in Millions)	**All Prior Years**	**FY 2012**	**FY 2013#**	**FY 2014 Base**	**FY 2014 OCO ##**	**FY 2014 Total**	**FY 2015**	**FY 2016**	**FY 2017**	**FY 2018**	**Cost To Complete**	**Total Cost**
Total Program Element	-	22.170	25.713	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
654236: *Engineering Analysis*	-	4.096	3.813	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
654807: *Nuclear Weapons & CP Technologies*	-	6.332	6.717	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
655708: *Nuclear Weapons Support*	-	11.742	15.183	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 OCO Request will be submitted at a later date

Note

Efforts FY14 and beyond are now documented under O&M PE 14222.

A. Mission Description and Budget Item Justification

The Air Force Nuclear Weapons Center, Kirtland AFB, NM, is the executing agency for this program. The Air Force is tasked with maintaining and providing technical expertise on all AF nuclear weapons and weapon systems and with developing and maintaining counter-chemical, biological, radiological, and nuclear (C-CBRN) capabilities. This program provides resources for technical and programmatic activities which includes performing independent analyses on all AF nuclear weapons systems activities including weapons development and sustainment; interoperability; compatibility; safety, security, and reliability; Air Force legacy nuclear stockpile management/retirement; C-CBRN assessments; and nuclear certification and nuclear certification management.

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 2014 Air Force					DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*			R-1 ITEM NOMENCLATURE PE 0604222F: *Nuclear Weapons Support*		
B. Program Change Summary ($ in Millions)	**FY 2012**	**FY 2013**	**FY 2014 Base**	**FY 2014 OCO**	**FY 2014 Total**
Previous President's Budget	18.475	25.713	27.226	-	27.226
Current President's Budget	22.170	25.713	0.000	-	0.000
Total Adjustments	3.695	0.000	-27.226	-	-27.226
• Congressional General Reductions	-	0.000			
• Congressional Directed Reductions	-	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	-	0.000			
• Congressional Directed Transfers	-	0.000			
• Reprogrammings	3.695	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	0.000	0.000	-27.226	-	-27.226

Change Summary Explanation

FY12 funding increased by $3.695M for reprogrammings covering Nuclear Surety and Certification and Legacy Nuclear Stockpile Management.

FY14 realigned and documented in PE 0104222 (O&M).

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604222F: *Nuclear Weapons Support*	PROJECT 654236: *Engineering Analysis*	

COST ($ in Millions)	All Prior Years	FY 2012	FY 2013#	FY 2014 Base	FY 2014 OCO ##	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
654236: *Engineering Analysis*	-	4.096	3.813	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 OCO Request will be submitted at a later date

Note

In FY2014, the engineering analysis project is documented in O&M PE 0104222.

A. Mission Description and Budget Item Justification

Provide for the technical oversight of all Air Force (AF) nuclear weapons, delivery systems, and support systems to include all phases of acquisition. Provide the engineering and technical management expertise required in critical areas of nuclear weapons safety, security, reliability, operations, modernization, testing, certification, and counter proliferation.

Analyze and document nuclear weapons issues related to risk assessment, data collection, model development, model validation, and weapon effectiveness in support of the DoD-DoE Annual Surety Report; DoE Stockpile Stewardship Plan; DoD-DoE Nuclear Weapon Annual Assessment; and DoD-DoE nuclear stockpile planning and requirements assessment.

Air Force Legacy Nuclear Stockpile: In accordance with DoDI 5030.55 and AFI 63-103, funding is used for scheduled, planned, and unplanned activities that support current active and inactive stockpile. Activities include stockpile maintenance; exploratory testing associated with significant finding investigations; DoD leadership, management, and oversight of the Air Force-led, joint DoD-DoE Nuclear Project Officer and Life Extension Groups to manage the B61, B83, W78, W87, W80 and W84 nuclear warheads and associated weapons; testing in support of DoE; associated AF components, and independent technical reviews of DoE National Laboratory processes.

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 2012	FY 2013	FY 2014
Title: W78 LEP	0.585	0.000	0.000
Description: Execute W78 Life Extension Program (LEP), specifically identifying, assessing, and integrating design features, to both extend W78 service life and enhance the nuclear security of Minuteman III (MM III) and MMIII follow-on missile systems, to include engineering and production development through First Production Unit.			

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604222F: *Nuclear Weapons Support*	PROJECT 654236: *Engineering Analysis*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
FY 2012 Accomplishments: Provided DoD leadership, management, and oversight of the Air Force-led ICBM Warheads Project Officer's Group (POG) and W78/W87 stockpile. Prepared for the future W78 Life Extension Program via the W78 Joint Life Extension Study (JLES). Effort transfers to PE 0604933F, ICBM Fuze Modernization, project number 655082 in FY13. ***FY 2013 Plans:*** N/A ***FY 2014 Plans:*** N/A			
Title: Air Force Legacy Nuclear Stockpile ***Description:*** In accordance with DoDI 5030.55 and AFI 63-103, funding is used for scheduled, planned, and unplanned activities that support current active and inactive stockpile activities to include, but not limited to, stockpile maintenance, exploratory testing associated with significant finding investigations, DoD leadership, management, and oversight of the Air Force-led, joint DoD-DOE Nuclear Project Officer and Life Extension Groups to manage the B61, B83, W78, W87, W80 and W84 nuclear weapon active and inactive stockpile, conduct ground and flight tests in support of DOE, independent technical reviews of National Laboratory process with stakeholders, and studies and analyses. ***FY 2012 Accomplishments:*** Conducted oversight responsibilities for the Air Force Legacy Nuclear Stockpile in accordance with DoDI 5030.55 and AFI 63-103. Performed activities supporting current active and inactive stockpile including: stockpile maintenance analysis, stockpile logisitcs planning; provided DoD leadership, management, and oversight of the Air Force-led, joint DoD-DOE Nuclear Project Officer and Life Extension Groups to manage the B61, B83, W78, W87, W80 and W84 nuclear weapon active and inactive stockpile; conducted independent technical reviews of National Laboratory process with stakeholders; performed nuclear data management; and conducted studies and analyses as required to meet stockpile planning needs. ***FY 2013 Plans:*** Conduct oversight responsibilities for the Air Force Legacy Nuclear Stockpile in accordance with DoDI 5030.55 and AFI 63-103. Perform activities supporting current active and inactive stockpile including: stockpile maintenance analysis; stockpile logisitcs planning; providing DoD leadership, management, and oversight of the Air Force-led, joint DoD-DOE Nuclear Project Officer and Life Extension Groups to manage the B61, B83, W78, W87, W80 and W84 nuclear weapon active and inactive stockpile; conducting independent technical reviews of National Laboratory process with stakeholders; performing nuclear data management; and conducting studies and analyses as required to meet stockpile planning needs. Activity will increase over prior	2.126	3.271	0.000

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604222F: *Nuclear Weapons Support*	PROJECT 654236: *Engineering Analysis*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
year as Lead Project Officers support ongoing life extension activities (B61-12 and W78-1) and prepare for future life extension activities. ***FY 2014 Plans:*** *The following Accomplishments will be continued in O&M PE 0104222 beginning FY14* Conduct oversight responsibilities for the Air Force Legacy Nuclear Stockpile in accordance with DoDI 5030.55 and AFI 63-103. Perform activities supporting current active and inactive stockpile including: stockpile maintenance analysis; stockpile logisitcs planning; providing DoD leadership, management, and oversight of the Air Force-led, joint DoD-DOE Nuclear Project Officer and Life Extension Groups to manage the B61, B83, W78, W87, W80 and W84 nuclear weapon active and inactive stockpile; conducting independent technical reviews of National Laboratory process with stakeholders; performing nuclear data management; and conducting studies and analyses as required to meet stockpile planning needs. Activity will increase over prior year due to expected ramp-up in Lead Project Officer support to ongoing life extension programs and increased support for aging active and inactive stockpile weapons.			
Title: Technical Analysis ***Description:*** Provide leadership to and managment of the AF-led Project Officer's Group (POG) for the Air Force legacy nuclear active and inactive stockpile. Includes technical analysis and studies in support of nuclear sustainment and Life Extension Programs. ***FY 2012 Accomplishments:*** Worked with national laboratories to recode legacy software so it will operate on modern computing systems. Developed Nuclear Weapons support tools and models. Effort combined with AF Legacy Nuclear Stockpile in FY13. ***FY 2013 Plans:*** N/A ***FY 2014 Plans:*** N/A	0.843	0.000	0.000
Title: PMA ***Description:*** Travel, supplies, and program management administration. ***FY 2012 Accomplishments:*** Travel, supplies, and program management administration. ***FY 2013 Plans:***	0.542	0.542	0.000

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604222F: *Nuclear Weapons Support*	PROJECT 654236: *Engineering Analysis*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Travel, supplies, and program management administration. ***FY 2014 Plans:*** *Efforts will be continued in O&M PE 0104222 beginning FY14*			
Accomplishments/Planned Programs Subtotals	4.096	3.813	0.000

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• RDT&E: BA05: PE 0101125F: *Nuclear Weapons Modernization*	91.269	80.200	67.874		67.874	200.634	215.976	210.200	155.121	Continuing	Continuing
• RDT&E: BA05: PE 0604933F: *ICBM Fuze Modernization*	0.000	73.512	129.411		129.411	214.836	275.952	353.256	396.568	Continuing	Continuing
• RDT&E: BA05: PE 0604932F: *Long Range Standoff Weapon*	0.000	2.004	5.000		5.000	40.500	203.600	349.300	440.300	Continuing	Continuing

Remarks

D. Acquisition Strategy

Cost Plus Award Fee (CPAF) and Military Interdepartmental Purchase Requests (MIPRs) are/will be used to obtain technical analyses and technical support for safety, operations and counterproliferation assessments. Supporting activities are contracted separately using contract strategies deemed most appropriate to the effort. All contracts will be openly competed.

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 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604222F: *Nuclear Weapons Support*	PROJECT 654236: *Engineering Analysis*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Stockpile Analysis Engineering Support	C/CPAF	SURVIAC:Albuquerque, NM	-	2.969	Feb 2012	2.891	Feb 2013	0.000		-		0.000	Continuing	Continuing	TBD
		Subtotal	0.000	2.969		2.891		0.000		0.000		0.000			

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Life Extension/ Modernization Programs	Various	*See Remarks:Various,	-	0.585	Feb 2012	0.380	Feb 2013	0.000		-		0.000	Continuing	Continuing	TBD
		Subtotal	0.000	0.585		0.380		0.000		0.000		0.000			

Remarks

*ITT Systems, Albuquerque, NM; Los Alamos National Labs, Los Alamos, NM; SAIC, Arlington, VA; ANSER, Arlington, VA

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Administration	Various	Various:,	-	0.542	Nov 2011	0.542	Nov 2012	0.000		-		0.000	Continuing	Continuing	TBD
		Subtotal	0.000	0.542		0.542		0.000		0.000		0.000			

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604222F: *Nuclear Weapons Support*	PROJECT 654236: *Engineering Analysis*	

	All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	4.096		3.813		0.000		0.000		0.000			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604222F: *Nuclear Weapons Support*	PROJECT 654236: *Engineering Analysis*

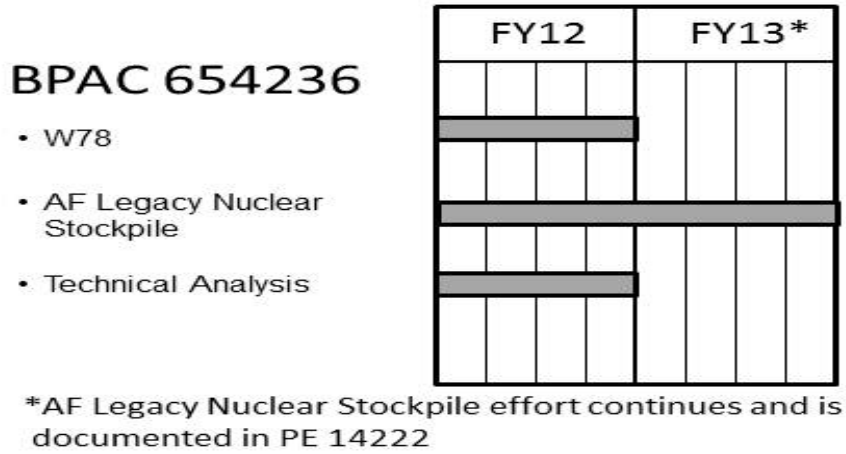


Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604222F: *Nuclear Weapons Support*	PROJECT 654236: *Engineering Analysis*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
W78 LEP	1	2012	4	2012
AF Legacy Nuclear Stockpile Support	1	2012	4	2013
Technical Analysis	1	2012	4	2012

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604222F: *Nuclear Weapons Support*	PROJECT 654807: *Nuclear Weapons & CP Technologies*	

COST ($ in Millions)	All Prior Years	FY 2012	FY 2013#	FY 2014 Base	FY 2014 OCO ##	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
654807: *Nuclear Weapons & CP Technologies*	-	6.332	6.717	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 OCO Request will be submitted at a later date

Note

In FY2014, radiological and nuclear (RN) efforts were transferred from project 654807 to the Engineering Analysis project in O&M PE 0104222.

A. Mission Description and Budget Item Justification

Perform engineering analyses across the counter chemical and biological (C-CB) pillars for countering Weapons of Mass Destruction (WMD) with emphasis on asymmetric threats, specifically C-CB, and other difficult to attack targets. Execute technical & operational analysis support for system specific programs, using commands, and leadership as directed.

Develop proposed materiel solutions. Transition selected nuclear and non-nuclear concepts into an acquisition development effort to include identifying funding, and developing technical, schedule, and programmatic content.

Prepare the necessary acquisition-related documentation to support program and/or decision reviews.

Develop, evaluate, and utilize tools required for the employment of current inventory and new concepts for combating WMD weapons to include intelligence, surveillance, and reconnaissance; battle damage assessment; and target defeat and collateral effects predictions for current and future operations.

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 2012	FY 2013	FY 2014
Title: Strategic System Capabilities Assessments (SSCA)	1.008	1.063	0.000
Description: This effort was previously identified Air-Delivered Studies. Strategic System Capabilities Assessments (SSCA) of warheads and their associated air delivered and/or ground based weapon systems to analyze current and future capabilites and vulnerabilities to provide recommendations for system level implementation to maintain the Air Force portion of our nuclear deterrent.			

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604222F: *Nuclear Weapons Support*	PROJECT 654807: *Nuclear Weapons & CP Technologies*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
FY 2012 Accomplishments: Assessed threats to air delivered strategic weapon systems to include warheads, cruise missiles, direct attack munitions and their associated platforms risks and shortfalls in order to assure system viability. Continued evaluation of the gaps that currently exist in their Air Force current capabilities, and analyzed future technologies and capabilities to address these gaps. This effort evaluated, directed, and integrated warhead efforts, platform integration, and operational suitability. ***FY 2013 Plans:*** Continuation of FY12 efforts addressing threats air delivered and/or ground based strategic weapon systems' risks and shortfalls, to include warheads, delivery vehicles and and their associated launch systems, to assure system viability. Continue evaluation of the gaps that currently exist in their Air Force current capabilities, and analyzed future technologies and capabilities to address these gaps. This effort will evaluate, direct, and integrate warhead efforts, platform integration, and operational suitability. ***FY 2014 Plans:*** *Efforts will be continued in O&M PE 0104222 beginning FY14*			
Title: Counter-Chemical and Biological (C-CB)	4.682	5.004	0.000
Description: Note: Radiological and nuclear activities from this effort transferred to project 654236, Engineering Analysis, in FY2014. The Counter Chemical and Biological (C-CB) studies and evaluation effort will address capability gaps, and conduct concept studies and technical assessments for countering CB threats from state and non-state entities to provide recommendations for system level implementation to maintain the nuclear deterrent. Additionally, the effort will address the evaluation of warhead and associated system capabilities relative to vulnerabilities, weapon effects, and hardness assessments to enable US forces to survive and operate efficiently and effectively. ***FY 2012 Accomplishments:*** Continued comprehensive review of the Counter-Chemical and Biological (C-CB) counterforce technologies that were currently being pursued by the Air Force. Completed the evaluation of their effectiveness and operational value to the warfighter and helped develop an incremental investment strategy to achieve counterforce capability goals. Continued to update assessments of current capabilities to C-CB threats based on current and future threat environments with identification of gaps that currently exist in our required capabilities, and an analysis of potential technologies and capabilities to address these gaps. Continued collaborations with Headquarters Air Force, Air Combat Command, Air Force Global Strike Command, the Defense Threat Reduction Agency (DTRA) and United Kingdom's Ministry of Defense in order to address identified gaps and leverage their robust capabilities to evaluate Weapons of Mass Destruction (WMD). Conducted intelligence and technical evaluations to support			

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604222F: *Nuclear Weapons Support*	PROJECT 654807: *Nuclear Weapons & CP Technologies*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
national level decision making in the direction of real world operations. Initiated C-CB counterforce requirement validation project; draft briefing accomplished, initial data call information collected. Worked with USSTRATCOM FY14-18 Integrated Priority List (IPL). ***FY 2013 Plans:*** Continue and update comprehensive review of the Counter-Chemical and Biological (C-CB) counterforce technologies that are being pursued. Complete the evaluation of their effectiveness and operational value to the warfighter and help develop an incremental investment strategy to achieve counterforce capability goals. Continue update of assessments of current capabilities to C-CB threats based on current and future threat environments, evaluation of gaps that currently exist in our required capabilities, and an analysis of technologies and capabilities to address these gaps. Continue collaborations with the United Kingdom's Ministry of Defense in order to address identified gaps and leverage their robust capabilities to evaluate Weapons of Mass Destruction (WMD). Continue efforts to upgrade, develop, and manage a comprehensive data base system mission planning tool and associated models, to verify the nuclear air-delivered system safe-escape certification criteria, profiles, and planning tables for effective weapon employment. ***FY 2014 Plans:*** *Efforts will be continued in O&M PE 0104222 beginning FY14*			
Title: PMA ***Description:*** TDY, Supply, and A&AS Support ***FY 2012 Accomplishments:*** TDY, Supply, and A&AS Support ***FY 2013 Plans:*** TDY, Supply, and A&AS Support ***FY 2014 Plans:*** *Activities will be continued in O&M PE 0104222 beginning FY14*	0.642	0.650	0.000
Accomplishments/Planned Programs Subtotals	6.332	6.717	0.000

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• None: *N/A*	0.000	0.000	0.000		0.000	0.000	0.000	0.000	0.000	0.000	0.000

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604222F: *Nuclear Weapons Support*	PROJECT 654807: *Nuclear Weapons & CP Technologies*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost

Remarks

D. Acquisition Strategy

Multiple Cost Plus Fixed Fee (CPFF) and/or Time and Materials (T&M) contracts (the emphasis is minimal use), and Military Interdepartmental Purchase Requests (MIPRs) are/will be used to obtain technical analyses and technical support for safety, operations and counterproliferation assessments. All contracts will be competed.

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 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604222F: *Nuclear Weapons Support*	PROJECT 654807: *Nuclear Weapons & CP Technologies*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
SSCA	MIPR	SNL:Albuquerque, NM	-	1.062	Dec 2011	1.069	Dec 2012	0.000		-		0.000	Continuing	Continuing	TBD
RN Engineering Analysis	C/CPFF	*See Remarks:Various,	-	2.082	Nov 2011	2.248	Nov 2012	0.000		-		0.000	Continuing	Continuing	TBD
CB Engineering Analysis	C/CPFF	**See Remarks:Various,	-	2.546	Jan 2012	2.750	Jan 2013	0.000		-		0.000	Continuing	Continuing	TBD
		Subtotal	0.000	5.690		6.067		0.000		0.000		0.000			

Remarks

*Exelis (formerly ITT/AES), Albuquerque, NM; Development Test & Evaluation: ELM, SERPENT C-CBRN modeling codes; DTRA, Ft Belvoir VA, Survivability and Vulnerability Information Analysis Center, Dayton Ohio

**Operational Test & Evaluation: AFLCMC/MIT Lincoln Labs, Boston, MA; AFRL, Albuquerque, NM; AFLCMC Wright-Patterson AFB, OH; AFLCMC, Eglin AFB, FL; White Sands Missile Range, Alamagordo, NM

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604222F: *Nuclear Weapons Support*	PROJECT 654807: *Nuclear Weapons & CP Technologies*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Administration (SSCA)	Various	Various:Various,	-	0.088	Nov 2011	0.090	Nov 2012	0.000		-		0.000	Continuing	Continuing	TBD
Program Management Administration (CBRN)	Various	Various:Various,	-	0.554	Nov 2011	0.560	Nov 2012	0.000		-		0.000	Continuing	Continuing	TBD
		Subtotal	0.000	0.642		0.650		0.000		0.000		0.000			

	All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	6.332		6.717		0.000		0.000		0.000			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604222F: *Nuclear Weapons Support*	PROJECT 654807: *Nuclear Weapons & CP Technologies*

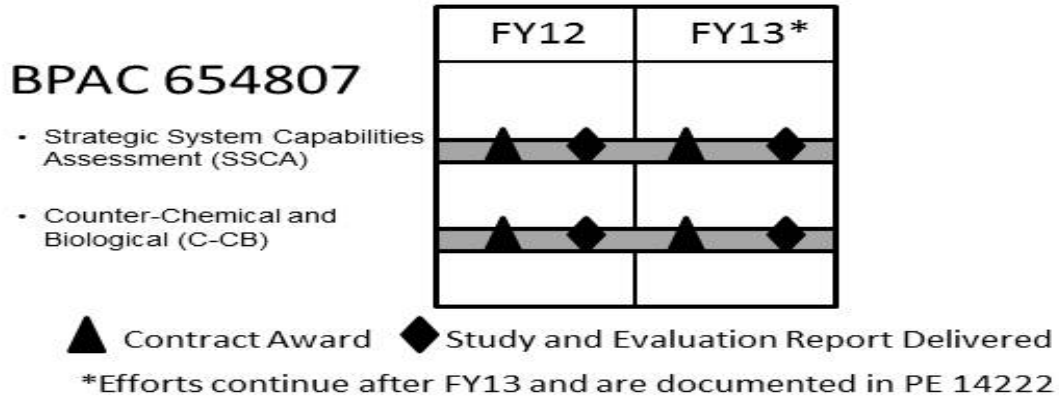


Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604222F: *Nuclear Weapons Support*	PROJECT 654807: *Nuclear Weapons & CP Technologies*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Strategic System Capability Assessments (SSCA)	1	2012	4	2013
C-CB Engineering Analysis	1	2012	4	2013

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604222F: *Nuclear Weapons Support*	PROJECT 655708: *Nuclear Weapons Support*	

COST ($ in Millions)	All Prior Years	FY 2012	FY 2013#	FY 2014 Base	FY 2014 OCO ##	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
655708: *Nuclear Weapons Support*	-	11.742	15.183	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 OCO Request will be submitted at a later date

Note

In FY2014 the Nuclear Surety and Certification effort was transferred to the Engineering Analysis program code in O&M PE 0104222.

A. Mission Description and Budget Item Justification

Provides civilian pay for acquisition professional functional expertise in support of Air Force Nuclear Weapons Center nuclear warhead capability efforts. Prepare nuclear surety design criteria, standards, specifications, and related requirements documents for all nuclear capable Air Force ground launched missile, cruise missile, and gravity bomb systems; including nuclear certification program management.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Title: Nuclear Surety and Certification	2.953	5.014	0.000
Description: Prepare nuclear surety design criteria, standards, specifications, and related requirements documents for all nuclear capable Air Force ground launched missile, cruise missile, and gravity bomb systems. Includes nuclear certification program management. ***FY 2012 Accomplishments:*** Continued to perform the engineering and surety analysis role by continuing studies and analyses. Continued to study issues and implement improvements to Air Force nuclear weapons, facilities, and support equipment. ***FY 2013 Plans:*** Continued to perform the engineering and surety analysis role by continuing studies and analyses. Continued to study issues and implement improvements to Air Force nuclear weapons, facilities, and support equipment. ***FY 2014 Plans:*** In FY14, this effort moves to the Engineering Analysis project in O&M PE 0104222.			
Title: Nuclear Surety Support	8.789	10.169	0.000

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604222F: *Nuclear Weapons Support*	PROJECT 655708: *Nuclear Weapons Support*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Description: Provides civilian pay for acquisition professional functional expertise in support of Air Force Nuclear Weapons Center nuclear warhead capability efforts. ***FY 2012 Accomplishments:*** Provided civilian pay for acquisition professional functional expertise in support of the Nuclear Warhead Capability efforts as new systems and items are introduced or existing systems and items were modified. ***FY 2013 Plans:*** Provide civilian pay for acquisition professional functional expertise in support of the Nuclear Warhead Capability efforts as new systems and items are introduced or existing systems and items are modified. ***FY 2014 Plans:*** In FY2014, this effort continues in O&M PE 0104222.			
Accomplishments/Planned Programs Subtotals	11.742	15.183	0.000

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• 0: *N/A*	0.000	0.000	0.000		0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

Remarks

D. Acquisition Strategy

Research, Development, Test, and Evaluation (RDT&E) projects performed by AF organizations are direct funded, other DoD and government agencies by Military Interdepartmental Purchase Request (MIPR) or other appropriate means. Contractor efforts are accomplished via cost plus award fee (CPAF) contracts awarded as a result of 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-3, RDT&E Project Cost Analysis: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604222F: *Nuclear Weapons Support*	PROJECT 655708: *Nuclear Weapons Support*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Nuclear Surety and Certfication	C/CPAF	Technical Engineering Analysis Support:Albuquerque, NM	-	2.953	Nov 2011	2.000	Nov 2012	0.000		-		0.000	Continuing	Continuing	TBD
Studies, Analyses, & Evaluations	Various	*See Remarks:*See Remarks,	-	0.000	Feb 2012	1.764	Feb 2013	0.000		-		0.000	Continuing	Continuing	TBD
		Subtotal	0.000	2.953		3.764		0.000		0.000		0.000			

Remarks

* Defense Threat Reduction Agency (DTRA), Ft Belvoir, VA; DOE national laboratories such as Sandia National Laboratories (SNL), Kirtland AFB, NM & Livermore, CA, & Lawrence Livermore National Laboratory (LLNL), Livermore, CA; others as needed

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Nuclear Surety Support/ Civilian Payroll	TBD	AFNWC:Kirtland AFB, NM	-	8.789	Oct 2011	10.169	Oct 2012	0.000		-		0.000	Continuing	Continuing	TBD
Program Management Administration	Various	Various:,	-	0.000		0.725	Nov 2012	0.000		-		0.000	Continuing	Continuing	TBD

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604222F: *Nuclear Weapons Support*	PROJECT 655708: *Nuclear Weapons Support*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Management and Professional Support Services	C/CPAF	MacAulay Brown:Albuquerque, NM	-	0.000		0.525	Dec 2012	0.000		-		0.000	Continuing	Continuing	TBD
		Subtotal	0.000	8.789		11.419		0.000		0.000		0.000			

	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	11.742		15.183		0.000		0.000		0.000			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604222F: *Nuclear Weapons Support*	PROJECT 655708: *Nuclear Weapons Support*

BPAC 655708

- Nuclear Surety and Certification
- Civilian Pay

FY12	FY13*

*Efforts continue after FY13 and are documented in PE 14222

Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604222F: *Nuclear Weapons Support*	PROJECT 655708: *Nuclear Weapons Support*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Nuclear Surety/Certification Support	1	2012	4	2013
Civilian Pay	1	2012	4	2013

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force											DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*					R-1 ITEM NOMENCLATURE PE 0604233F: *Specialized Undergraduate Flight Training*							
COST ($ in Millions)	**All Prior Years**	**FY 2012**	**FY 2013#**	**FY 2014 Base**	**FY 2014 OCO ##**	**FY 2014 Total**	**FY 2015**	**FY 2016**	**FY 2017**	**FY 2018**	**Cost To Complete**	**Total Cost**
Total Program Element	-	19.725	6.583	3.601	-	3.601	10.957	9.008	8.426	13.742	Continuing	Continuing
654102: *Joint Primary Aircraft Training System (JPATS)*	-	4.578	3.836	2.327	-	2.327	4.195	2.598	2.430	2.474	Continuing	Continuing
654376: *T-38 Avionics Upgrade Program (AUP)*	-	1.232	1.146	0.225	-	0.225	2.158	1.653	1.144	1.164	Continuing	Continuing
655340: *Advanced Trainer Replacement T-X*	-	13.915	1.601	1.049	-	1.049	4.604	4.757	4.852	10.104	Continuing	Continuing
MDAP/MAIS Code(s): 436,560												

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 OCO Request will be submitted at a later date

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.

This program element is in Budget Activity 5, System Development and Demonstration (SDD), because it primarily involves the adaptation of commercial derivative and essentially non-developmental aircraft, equipment, and components for military purpose.

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force					DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*			R-1 ITEM NOMENCLATURE PE 0604233F: *Specialized Undergraduate Flight Training*		
B. Program Change Summary ($ in Millions)	**FY 2012**	**FY 2013**	**FY 2014 Base**	**FY 2014 OCO**	**FY 2014 Total**
Previous President's Budget	21.780	6.583	9.209	-	9.209
Current President's Budget	19.725	6.583	3.601	-	3.601
Total Adjustments	-2.055	0.000	-5.608	-	-5.608
• Congressional General Reductions	-	0.000			
• Congressional Directed Reductions	-	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	-	0.000			
• Congressional Directed Transfers	-	0.000			
• Reprogrammings	-1.400	0.000			
• SBIR/STTR Transfer	-0.655	0.000			
• Other Adjustments	0.000	0.000	-5.608	-	-5.608

Change Summary Explanation

FY2012 includes a Below Threshold Reprogramming (BTR) to support a higher Air Force priority. FY2014 includes reductions in funding for both the Advanced Trainer Replacement, the requirement for which has been deferred, and the T-38 Avionics Upgrade Program (AUP).

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604233F: *Specialized Undergraduate Flight Training*	PROJECT 654102: *Joint Primary Aircraft Training System (JPATS)*	

COST ($ in Millions)	All Prior Years	FY 2012	FY 2013#	FY 2014 Base	FY 2014 OCO ##	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
654102: *Joint Primary Aircraft Training System (JPATS)*	-	4.578	3.836	2.327	-	2.327	4.195	2.598	2.430	2.474	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 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. In FY2014, JPATS funding will be used to develop and test upgrades and enhancements to hardware and software components.

FY2013 and FY2015 include funding to upgrade software and threat libraries for the Simulator for Electronic Combat Technology (SECT), a generic electronic warfare simulator used to train student combat systems officers. Although in the same project, SECT is unrelated to the JPATS program.

This program element is in Budget Activity 5, System Development and Demonstration (SDD), because it primarily involves the adaptation of commercial derivative aircraft, equipment, and components for military purpose.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Title: JPATS	4.578	2.340	2.327
Description: JPATS studies & development efforts			
FY 2012 Accomplishments: JPATS studies and development activities to include safe/arm handle development and Engine Accelerated Mission Testing.			
FY 2013 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604233F: *Specialized Undergraduate Flight Training*	PROJECT 654102: *Joint Primary Aircraft Training System (JPATS)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
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:*** 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: SECT ***Description:*** Simulator for Electronic Combat Technology (SECT) ***FY 2012 Accomplishments:*** N/A ***FY 2013 Plans:*** Update threat database definitions and threat library. ***FY 2014 Plans:*** N/A	0.000	1.496	0.000
Accomplishments/Planned Programs Subtotals	4.578	3.836	2.327

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• APAF: BA06: Line Item # 000999: *Initial Spares/Repair Parts*	1.944	0.021	0.626		0.626	0.957	0.926	0.861	0.876	Continuing	Continuing
• APAF: BA05: Line Item # JPAT00: *T-6*	15.826	15.494	6.427		6.427	14.631	14.240	13.632	13.877	Continuing	Continuing
• APN: BA03: Line Item # 033900: *JPATS*	234.900	278.884	249.080		249.080	16.886	0.000	0.000	0.000	0.000	2,036.997
• APN: BA05: Line Item # 057100: *JPATS Series*	0.524	1.552	1.576		1.576	1.603	1.646	1.674	1.704	Continuing	Continuing
• APN: BA06: Line Item # 060500: *Spares and Repair Parts*	1.717	7.434	2.610		2.610	0.000	0.000	0.000	0.000	Continuing	Continuing

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604233F: *Specialized Undergraduate Flight Training*	PROJECT 654102: *Joint Primary Aircraft Training System (JPATS)*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• APA: BA01: Line Item # A11300: *Utility F/W Aircraft*	0.000	16.159	13.760		13.760	0.000	0.000	0.000	0.000	Continuing	Continuing

Remarks

D. Acquisition Strategy

JPATS was competitively awarded with the intent of maximizing the use of commercially available equipment and best commercial practices. Initially, the JPATS Program competitively awarded two contracts: a Firm Fixed Price (FFP) Contractor Logistics Support (CLS) Operations and Maintenance funded contract and a Fixed Price Incentive Firm Target (FPIF) manufacturing development (MD)/production contract with seven options. The FY2002 (Lots 9-13) production contract for both the air vehicle and GBTS is Firm Fixed Price, FAR Part 12 (commercial). The FY2007 production follow-on contract for both the air vehicle and GBTS was awarded as a FAR Part 15 action. In FY2012 a new FFP CLS Operations and Maintenance funded contract was awarded as a FAR Part 15 action.

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 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604233F: *Specialized Undergraduate Flight Training*	PROJECT 654102: *Joint Primary Aircraft Training System (JPATS)*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
JPATS Engine CIP	PO	Arnold Engineering Development Center:Arnold AFB, TN	-	3.454	Mar 2012	1.505	May 2013	0.717	Jan 2014	-		0.717	0.000	5.676	5.676
Engine High Cycle Fatigue	C/CPFF	Universal Technology Corp:Dayton, OH	-	0.140	Feb 2012	0.194	Apr 2013	0.149	Apr 2014	-		0.149	Continuing	Continuing	TBD
Parachute Surveillance	C/FFP	Martin Baker Aircraft Co LTD:, UK	-	0.000		0.641	Jun 2013	0.452	Apr 2014	-		0.452	0.000	1.093	2.589
JPATS Other	Various	Various:Various,	-	0.984	Feb 2012	0.000		1.009	Dec 2013	-		1.009	Continuing	Continuing	TBD
SECT Upgrade	C/FFP	BowHead Systems Management, Inc.:King George, VA	-	0.000		1.496	Dec 2012	0.000		-		0.000	Continuing	Continuing	
		Subtotal	0.000	4.578		3.836		2.327		0.000		2.327			

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604233F: *Specialized Undergraduate Flight Training*	PROJECT 654102: *Joint Primary Aircraft Training System (JPATS)*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

	All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	4.578		3.836		2.327		0.000		2.327			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604233F: *Specialized Undergraduate Flight Training*	PROJECT 654102: *Joint Primary Aircraft Training System (JPATS)*

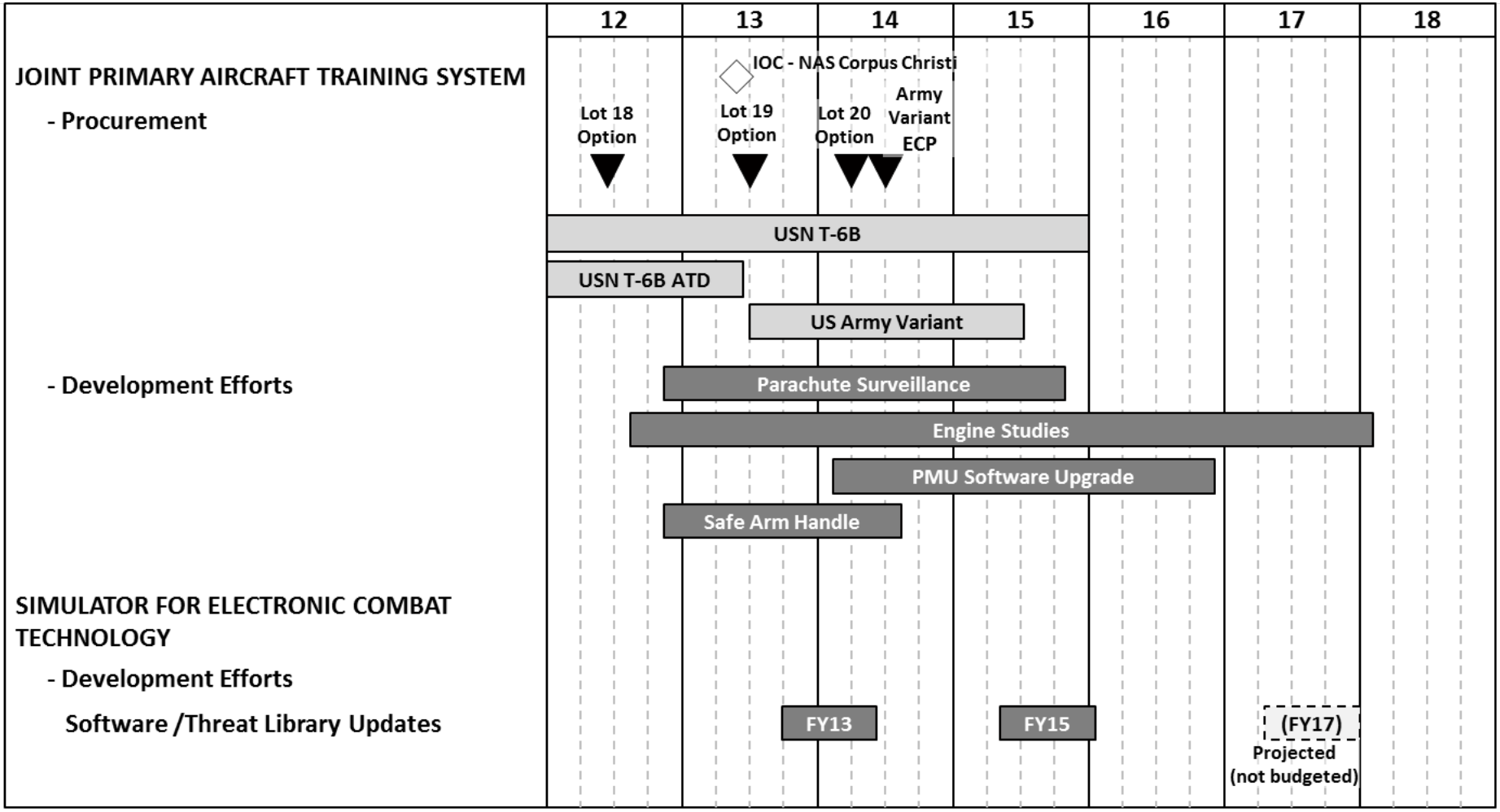


Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0604233F: *Specialized Undergraduate Flight Training*	**PROJECT** 654102: *Joint Primary Aircraft Training System (JPATS)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
JPATS Parachute Surveillance System Development	4	2012	4	2015
JPATS Engine Studies	3	2012	1	2018
JPATS Power Management Unit (PMU) Software Upgrade	1	2014	4	2016
Award JPATS Lot 18 Contract Option	2	2012	2	2012
Award JPATS Lot 19 Contract Option	2	2013	2	2013
JPATS Safe Arm Handle Development	4	2012	3	2014
JPATS IOC NAS Corpus Christi	2	2013	2	2013
Award JPATS Lot 20 Contract Option	1	2014	1	2014
Award Army Variant ECP	2	2014	2	2014
Continuing USN T-6B Deliveries	1	2012	4	2015
US Army Variant Deliveries	2	2013	2	2015
Continuing USN T-6B Aircrew Training Device (ATD) Deliveries	1	2012	2	2013
Update SECT Software and Threat Library (FY2013)	4	2013	2	2014
Update SECT Software and Threat Library (FY2015)	2	2015	1	2016

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604233F: *Specialized Undergraduate Flight Training*	PROJECT 654376: *T-38 Avionics Upgrade Program (AUP)*	

COST ($ in Millions)	All Prior Years	FY 2012	FY 2013#	FY 2014 Base	FY 2014 OCO ##	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
654376: *T-38 Avionics Upgrade Program (AUP)*	-	1.232	1.146	0.225	-	0.225	2.158	1.653	1.144	1.164	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 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 contract. 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.

This project is in Budget Activity 5, System Development and Demonstration (SDD), because it primarily involves the adaptation of NDI or COTS equipment and components for military purpose.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Title: T-38 AUP	1.007	0.921	0.000
Description: T-38 Avionics Post Production Support (APPS) software block upgrades, Communication Navigation Surveillance / Air Traffic Management (CNS/ATM) compliance and Joint Mission Planning System (JMPS) support.			
FY 2012 Accomplishments: Completed test and fielding of Block 9 aircraft, Aircrew Training Device (ATD) hardware/software upgrades and JMPS mission planning software. Began requirements analysis of Block 10. Developed and replaced proprietary ATD software with unlimited government rights to ensure future viability of the aircraft and ATD systems. Designed and developed hardware/software solution			

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604233F: *Specialized Undergraduate Flight Training*	PROJECT 654376: *T-38 Avionics Upgrade Program (AUP)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
for requirements driven by DoD and FAA/NAS mandates, and incorporated improvements identified during test and evaluation and AETC operations. ***FY 2013 Plans:*** Continue requirement analysis of Block 10 aircraft and Aircrew Training Device (ATD) hardware/software upgrade and determine JMPS planning software upgrade requirements. Accomplish government testing of ATD software being developed to replace contractor proprietary software with software that provides unlimited government rights to ensure future viability of the aircraft and ATD systems. Integrate the T-38C program in to 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. Design and develop hardware and software solutions for requirements driven by DoD and FAA/NAS mandates, and deficiencies identified during test and evaluation and AETC operations. ***FY 2014 Plans:*** Complete requirement analysis for Block 10 and begin software development for required aircraft and Aircrew Training Device (ATD) hardware/software upgrades. Finalize JMPS mission planning software upgrade requirements and begin development 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. Design and develop hardware and software solutions for requirements driven by DoD and FAA/NAS mandates, and deficiencies identified during test and evaluation and AETC operations.			
Title: T-38 AUP Program Management Administration (PMA) ***Description:*** T-38 AUP software development PMA costs such as travel, Other Government Costs (OGC), and Advisory and Assistance Services (A&AS). ***FY 2012 Accomplishments:*** T-38 AUP PMA. ***FY 2013 Plans:*** T-38 AUP PMA. ***FY 2014 Plans:*** T-38 AUP PMA.	0.225	0.225	0.225
Accomplishments/Planned Programs Subtotals	1.232	1.146	0.225

C. Other Program Funding Summary ($ in Millions)

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604233F: *Specialized Undergraduate Flight Training*	PROJECT 654376: *T-38 Avionics Upgrade Program (AUP)*

C. Other Program Funding Summary ($ in Millions)

Remarks

D. Acquisition Strategy

T-38C block updates were cost plus award fee options through Block 9 under a contract negotiated in FY 2004, which terminated in 4Q FY12. The Avionics Post Production Support (APPS) effort was awarded in FY12 through a competitive bid, C type, Firm-Fixed-Priced contract with a period of performance from April FY12 through March FY17. The block 10 software update will be a Firm-Fixed-Priced 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.

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 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604233F: *Specialized Undergraduate Flight Training*	PROJECT 654376: *T-38 Avionics Upgrade Program (AUP)*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Avionics Upgrade Program (AUP)	C/FFP	The Boeing Corporation:St. Louis, MO	-	0.503	Oct 2011	0.921	Oct 2012	0.000		-		0.000	Continuing	Continuing	TBD
		Subtotal	0.000	0.503		0.921		0.000		0.000		0.000			

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
PMA Contract Support	C/FFP	Not specified.:,	-	0.155	Jan 2012	0.155	Jan 2013	0.035	Jan 2014	-		0.035	Continuing	Continuing	TBD
Other Government Costs	Various	Not specified.:,	-	0.070	Feb 2012	0.070	Feb 2013	0.070	Feb 2014	-		0.070	Continuing	Continuing	
JMPS Support	C/FFP	Not specified.:,	-	0.023	Mar 2012	0.000		0.120	Mar 2014	-		0.120	Continuing	Continuing	TBD
		Subtotal	0.000	0.248		0.225		0.225		0.000		0.225			

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
AUP T&E	C/FFP	TBD:,	-	0.481	Jun 2012	0.000		0.000		-		0.000	Continuing	Continuing	TBD
		Subtotal	0.000	0.481		0.000		0.000		0.000		0.000			

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

	All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	1.232		1.146		0.225		0.000		0.225			

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604233F: *Specialized Undergraduate Flight Training*	PROJECT 654376: *T-38 Avionics Upgrade Program (AUP)*	

	All Prior Years	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604233F: *Specialized Undergraduate Flight Training*	PROJECT 654376: *T-38 Avionics Upgrade Program (AUP)*

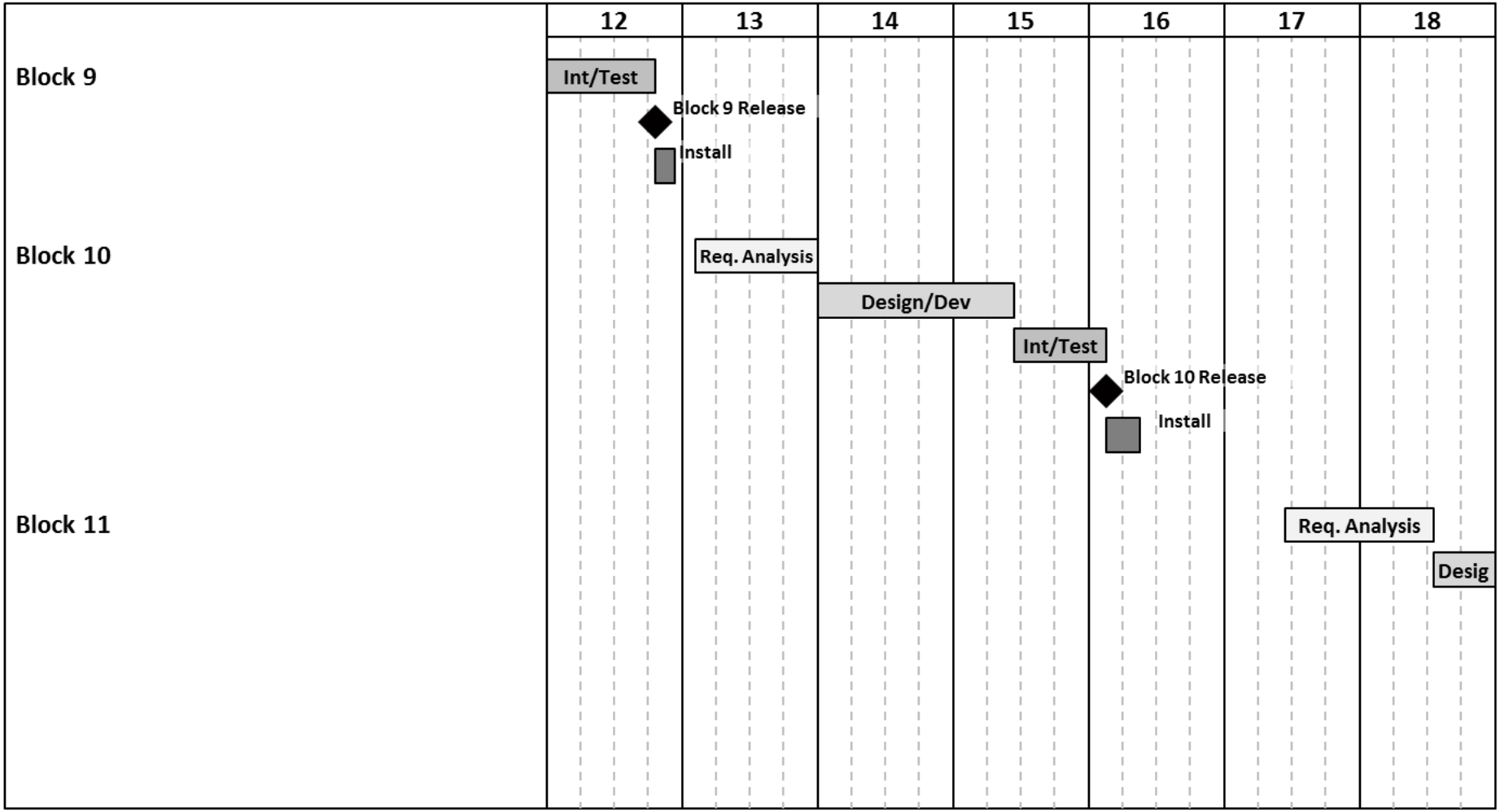


Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0604233F: *Specialized Undergraduate Flight Training*	**PROJECT** 654376: *T-38 Avionics Upgrade Program (AUP)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
AUP Block 9 Integration/Test	1	2012	3	2012
AUP Block 9 Fielding	4	2012	4	2012
AUP Block 9 Release	4	2012	4	2012
AUP Block 10 Requirements	1	2013	4	2013
AUP Block 10 Design/Development	1	2014	2	2015
AUP Block 10 Integration and Test	2	2015	1	2016
AUP Block 10 Fielding	1	2016	2	2016
AUP Block 10 Release	1	2016	1	2016
AUP Block 11 Requirements	2	2017	3	2018
AUP Block 11 Design/Development	3	2018	4	2018

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604233F: *Specialized Undergraduate Flight Training*	PROJECT 655340: *Advanced Trainer Replacement T-X*	

COST ($ in Millions)	All Prior Years	FY 2012	FY 2013#	FY 2014 Base	FY 2014 OCO ##	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
655340: *Advanced Trainer Replacement T-X*	-	13.915	1.601	1.049	-	1.049	4.604	4.757	4.852	10.104	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 OCO Request will be submitted at a later date

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. FY2014 will consist of studies, analysis and acquisition activities to reduce risk in support of future technology, engineering and manufacturing development. Studies and analyses may consist of, but 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, and USAF Airworthiness Certification gap analysis of NDI alternatives. Air Education and Training Command (AETC) is conducting an Analysis of Alternatives (AoA) refresh that is due to complete by the third quarter of FY2013.

This project is in Budget Activity 5, System Development and Demonstration (SDD), because it primarily involves the adaptation of essentially non-developmental aircraft, equipment, and components for military purpose.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Title: Advanced Pilot Training (APT) Family of Systems (FoS)	11.650	0.201	0.000
Description: Conduct studies, analysis and acquisition activities to reduce risk in support of technology, engineering and manufacturing development.			
FY 2012 Accomplishments: Conducted studies and analysis of T-X concepts supporting Technical Development and Engineering Manufacturing Development. Activities included evaluation of the non-developmental item (NDI) industrial base through 2020, initial assessment of required activities for NDI alternatives to obtain USAF Airworthiness Certifications, analysis of anthropometric suitability of NDI alternatives, programmatic acquisition activities, and requirements refinement.			
FY 2013 Plans: Conduct studies, analysis and acquisition activities to reduce risk in support of technology, engineering and manufacturing development. Studies and analyses may consist of, but are not limited to, Live Virtual Constructive training concepts and			

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604233F: *Specialized Undergraduate Flight Training*	PROJECT 655340: *Advanced Trainer Replacement T-X*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
applicability to AETC pilot training transformation efforts, non-developmental item (NDI) industrial base beyond 2020, USAF/DoD militarization of foreign NDI alternatives, and USAF Airworthiness Certification gap analysis of NDI alternatives. ***FY 2014 Plans:*** N/A			
Title: APT Program Management Administration (PMA) ***Description:*** APT PMA costs such as travel, Other Government Costs (OGC), and Advisory and Assistance Services (A&AS). ***FY 2012 Accomplishments:*** APT PMA activities. ***FY 2013 Plans:*** APT PMA activities. ***FY 2014 Plans:*** APT PMA activities.	2.265	1.400	1.049
Accomplishments/Planned Programs Subtotals	13.915	1.601	1.049

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

A full and open competitive source selection is anticipated with a specific acquisition strategy to be determined.

E. Performance Metrics

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

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604233F: *Specialized Undergraduate Flight Training*	PROJECT 655340: *Advanced Trainer Replacement T-X*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Product Development - Studies and Analysis	Various	Various:Various,	-	0.000		0.000		0.000		-		0.000	0.000	0.000	
Product Development - TBD	C/TBD	TBD:TBD,	-	11.650		0.000		0.000		-		0.000	Continuing	Continuing	
		Subtotal	0.000	11.650		0.000		0.000		0.000		0.000			

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
PMA - Contractor Services	C/FFP	AFLCMC:Dayton, OH	-	1.989	May 2012	1.601	Jul 2013	1.000	Mar 2014	-		1.000	Continuing	Continuing	TBD
PMA - Government Costs	C/Various	AFLCMC:Dayton, OH	-	0.276		0.000		0.049		-		0.049	Continuing	Continuing	TBD
		Subtotal	0.000	2.265		1.601		1.049		0.000		1.049			

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604233F: *Specialized Undergraduate Flight Training*	PROJECT 655340: *Advanced Trainer Replacement T-X*	

	All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	13.915		1.601		1.049		0.000		1.049			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604233F: *Specialized Undergraduate Flight Training*	PROJECT 655340: *Advanced Trainer Replacement T-X*

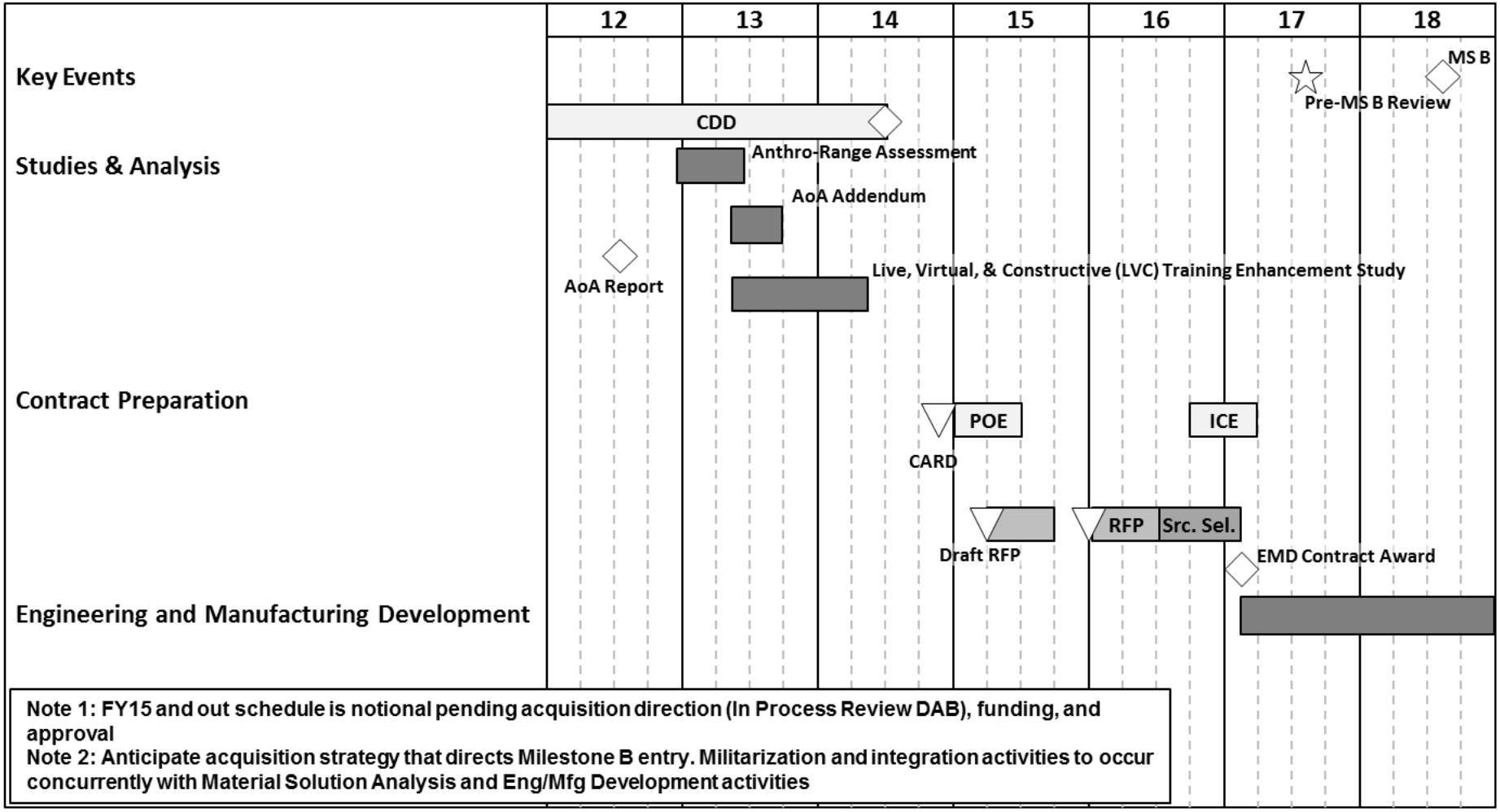


Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604233F: *Specialized Undergraduate Flight Training*	PROJECT 655340: *Advanced Trainer Replacement T-X*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Capability Development Document	1	2012	3	2014
Analysis of Alternatives Report	3	2012	3	2012
Anthropomertric Range Assessment	4	2012	2	2013
Analysis of Alternatives Addendum	2	2013	4	2013
Live / Virtual / Constructive Training Enhancement Study	2	2013	2	2014
Cost Analysis Requirements Document	4	2014	4	2014
Program Office Estimate	1	2015	2	2015
Draft Request for Proposal	1	2015	4	2015
Request for Proposal	1	2016	2	2016
Source Selection	2	2016	1	2017
Independent Cost Estimate	4	2016	1	2017
EMD Contract Award	1	2017	1	2017
Engineering and Manufacturing Development (EMD)	1	2017	4	2018
Pre-Milestone B Review	3	2017	3	2017
Milestone B	3	2018	3	2018

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force											DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*					R-1 ITEM NOMENCLATURE PE 0604270F: *Electronic Warfare Development*							
COST ($ in Millions)	**All Prior Years**	**FY 2012**	**FY 2013#**	**FY 2014 Base**	**FY 2014 OCO ##**	**FY 2014 Total**	**FY 2015**	**FY 2016**	**FY 2017**	**FY 2018**	**Cost To Complete**	**Total Cost**
Total Program Element	-	16.397	1.975	1.971	-	1.971	1.990	1.989	2.023	2.059	Continuing	Continuing
653891: *Advanced IR Counter Measures (AIRCM)*	-	1.767	1.975	1.971	-	1.971	1.990	1.989	2.023	2.059	Continuing	Continuing
655305: *MALD-J*	-	7.000	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
657004: *MALD-J Increment II*	-	7.630	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 OCO Request will be submitted at a later date

Note

In FY 2013, Project 657004, MALD-J Increment II is terminated.

A. Mission Description and Budget Item Justification

This Program Element (PE) 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.

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force					DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*			R-1 ITEM NOMENCLATURE PE 0604270F: *Electronic Warfare Development*		
B. Program Change Summary ($ in Millions)	**FY 2012**	**FY 2013**	**FY 2014 Base**	**FY 2014 OCO**	**FY 2014 Total**
Previous President's Budget	16.880	1.975	1.971	-	1.971
Current President's Budget	16.397	1.975	1.971	-	1.971
Total Adjustments	-0.483	0.000	0.000	-	0.000
• Congressional General Reductions	-	0.000			
• Congressional Directed Reductions	-	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	-	0.000			
• Congressional Directed Transfers	-	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	-0.483	0.000			
• Other Adjustments	0.000	0.000	0.000	-	0.000

Change Summary Explanation

No Significant Changes

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604270F: *Electronic Warfare Development*	PROJECT 653891: *Advanced IR Counter Measures (AIRCM)*	

COST ($ in Millions)	All Prior Years	FY 2012	FY 2013#	FY 2014 Base	FY 2014 OCO ##	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
653891: *Advanced IR Counter Measures (AIRCM)*	-	1.767	1.975	1.971	-	1.971	1.990	1.989	2.023	2.059	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 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 2012	FY 2013	FY 2014
Title: IR Flare Testing	1.747	1.955	1.951
Description: IR flare testing and qualification on aircraft ***FY 2012 Accomplishments:*** Activities included qualification of IR flare cocktails on F-16 and A-10 aircraft. ***FY 2013 Plans:*** Activities include qualification of IR flare cocktails on various aircraft. ***FY 2014 Plans:*** Activities include qualification of IR flare cocktails on various aircraft.			
Title: PMA	0.020	0.020	0.020
Description: Program Management Administration			

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604270F: *Electronic Warfare Development*	PROJECT 653891: *Advanced IR Counter Measures (AIRCM)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
FY 2012 Accomplishments: Program Office/Government Support ***FY 2013 Plans:*** Program Office/Government Support ***FY 2014 Plans:*** Program Office/Government Support			
Accomplishments/Planned Programs Subtotals	1.767	1.975	1.971

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• PAAF: BA01: Line Item # 356010: *Flares*	40.461	31.102	34.931		34.931	64.624	74.853	76.200	77.572	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-3, RDT&E Project Cost Analysis: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604270F: *Electronic Warfare Development*	PROJECT 653891: *Advanced IR Counter Measures (AIRCM)*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Aircraft/Unit Support	MIPR	AATC:Tucson, AZ	-	0.114	Nov 2012	0.355	May 2013	0.326	May 2014	-		0.326	Continuing	Continuing	
Mission Planning	MIPR	TBD:,	-	0.000		0.180	May 2013	0.250	May 2014	-		0.250	Continuing	Continuing	
		Subtotal	0.000	0.114		0.535		0.576		0.000		0.576			

Remarks

Performing activities dependent on test participants.

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Modeling and Simulation	MIPR	Air Force Research Laboratory:WPAFB, OH	-	0.200	Nov 2012	0.220	May 2013	0.275	May 2014	-		0.275	Continuing	Continuing	
Range Test	MIPR	96th Test Wing:Eglin AFB, FL	-	1.244	Nov 2012	1.100	May 2013	1.000	May 2013	-		1.000	Continuing	Continuing	
Test Support	MIPR	Various:,	-	0.189	Nov 2012	0.100	May 2013	0.100	May 2013	-		0.100	Continuing	Continuing	
		Subtotal	0.000	1.633		1.420		1.375		0.000		1.375			

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Office/ Government Support	Various	AATC:Tucson, AZ	-	0.020	Nov 2012	0.020	May 2013	0.020	May 2014	-		0.020	Continuing	Continuing	

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604270F: *Electronic Warfare Development*	PROJECT 653891: *Advanced IR Counter Measures (AIRCM)*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			0.000	0.020		0.020		0.020		0.000		0.020			

Remarks

Performing activity dependent on test participants.

	All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	1.767		1.975		1.971		0.000		1.971			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604270F: *Electronic Warfare Development*	PROJECT 653891: *Advanced IR Counter Measures (AIRCM)*

Schedule

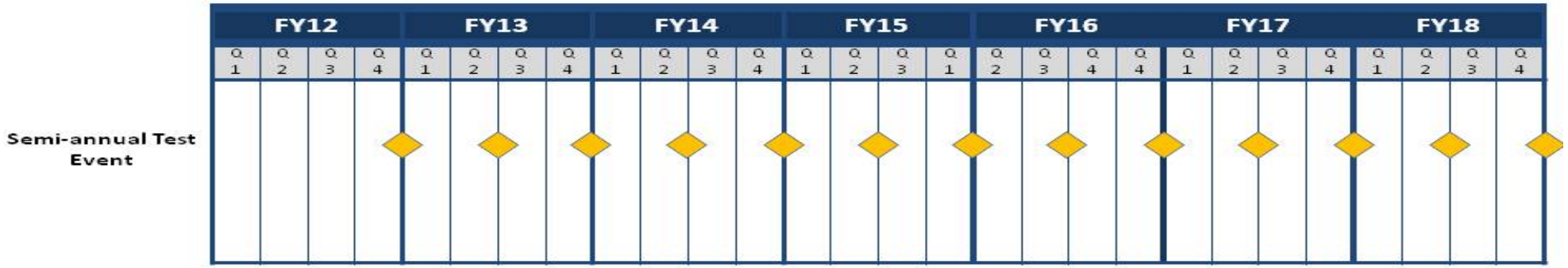


Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0604270F: *Electronic Warfare Development*	**PROJECT** 653891: *Advanced IR Counter Measures (AIRCM)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
FY12 Test Event	4	2012	1	2013
First FY13 Semi-Annual Test Event	3	2013	3	2013
Second FY13 Semi-Annual Test Event	4	2013	4	2013
First FY14 Semi-Annual Test Event	2	2014	2	2014
Second FY14 Semi-Annual Test Event	4	2014	4	2014
First FY15 Semi-Annual Test Event	2	2015	2	2015
Second FY15 Semi-Annual Test Event	4	2015	4	2015

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604270F: *Electronic Warfare Development*	PROJECT 655305: *MALD-J*	

COST ($ in Millions)	All Prior Years	FY 2012	FY 2013#	FY 2014 Base	FY 2014 OCO ##	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
655305: *MALD-J*	-	7.000	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 OCO Request will be submitted at a later date

A. Mission Description and Budget Item Justification

This project develops the Miniature Air Launched Decoy Jammer (MALD-J). The jammer is a variant of the MALD decoy and will be able to operate in both decoy and jammer modes. The decoy and jammer configurations are key enablers supporting the Air Force Global Strike, Global Response, Space and C4ISR, and the Air and Space Expeditionary Force Concept of Operations. MALD-J will provide stand-in jamming capability for the Airborne Electronic Attack System of Systems. It will be launched against a preplanned target and jam specific radars in a stand-in role to degrade or deny the Integrated Air Defense System (IADS) detection of friendly aircraft or munitions.

Planned efforts for this program are risk reduction (to include prototyping), Engineering Manufacturing and Development (EMD), and Initial Operational Test and Evaluation (IOT&E) of the jammer configuration and any other direct increment or variant. This will include design, development, test, aircraft integration, and seamless verification.

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 2012	FY 2013	FY 2014
Title: System Test & Eval/Aircraft Integration ***Description:*** Conduct MALD-J Initial Operational Test and Evaluation ***FY 2012 Accomplishments:*** Completed MALD-J Initial Operational Test and Evaluation	3.047	0.000	0.000
Title: Management Services ***Description:*** MALD-J Program Office/Government Support ***FY 2012 Accomplishments:*** Misc admin cost, travel, PMA, IT support, and Directorate support.	3.953	0.000	0.000
Accomplishments/Planned Programs Subtotals	7.000	0.000	0.000

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604270F: *Electronic Warfare Development*	PROJECT 655305: *MALD-J*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• APAF: BA05: Line Item #95: *War Consumables*	83.124	87.556	89.348		89.348	92.448	94.987	95.059	96.770	Continuing	Continuing

Remarks

D. Acquisition Strategy

A full and open competition for MALD was held in FY03 resulting in award of a cost plus award fee contract to Raytheon.

In 2010, the program completed MS B and an Engineering and Manufacturing Decision (EMD) contract was awarded to Raytheon.

EMD and MS C were completed by Mar 2012.

First MALD-J production contract awarded Sep 2011.

E. Performance Metrics

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

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604270F: *Electronic Warfare Development*	PROJECT 655305: *MALD-J*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Operational Test Assets and Support	SS/FFP	Raytheon Missile Systems:Tucson, AZ	-	1.263	Feb 2013	0.000		0.000		-		0.000	0.000	1.263	
Mission Planning	Various	Northrup Grumman:Bethpage, NY	-	0.078	Jun 2012	0.000		0.000		-		0.000	0.000	0.078	
B-52 Aircraft Integration	MIPR	B-52 Program Office:,	-	0.133	Feb 2013	0.000		0.000		-		0.000	0.000	0.133	
F-16 Aircraft Integration	MIPR	F-16 Program Office:,	-	0.070	Sep 2012	0.000		0.000		-		0.000	0.000	0.070	
Design Studies	SS/ Various	Raytheon Missile Systems:Tucson, AZ	-	0.010	Oct 2012	0.000		0.000		-		0.000	0.000	0.010	
Software Updates	SS/ Various	Raytheon Missile Systems:Tucson, AZ	-	1.270	Apr 2013	0.000		0.000		-		0.000	0.000	1.270	
		Subtotal	0.000	2.824		0.000		0.000		0.000		0.000	0.000	2.824	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
IOT&E Modeling and Simulation Support	Various	Various:,	-	0.161	Dec 2012	0.000		0.000		-		0.000	0.000	0.161	
Government Test Planning	Various	Various:,	-	0.062	Sep 2012	0.000		0.000		-		0.000	0.000	0.062	
		Subtotal	0.000	0.223		0.000		0.000		0.000		0.000	0.000	0.223	

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604270F: *Electronic Warfare Development*	PROJECT 655305: *MALD-J*

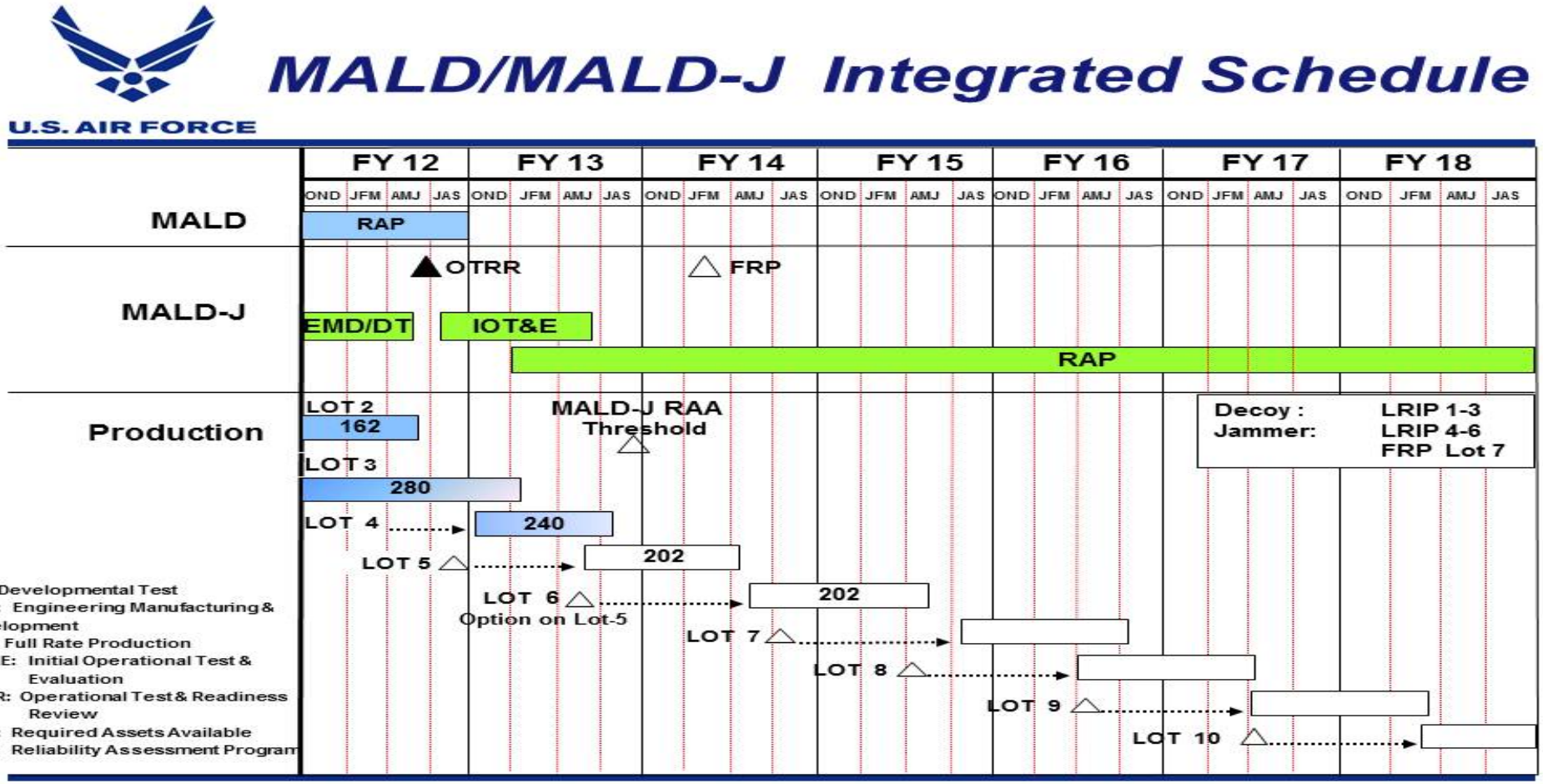
Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
PMA - Contractor Support	Various	Various:,	-	3.409	Dec 2012	0.000		0.000		-		0.000	0.000	3.409	
PMA - Government Costs	Various	Various:,	-	0.544	Dec 2012	0.000		0.000		-		0.000	0.000	0.544	
		Subtotal	0.000	3.953		0.000		0.000		0.000		0.000	0.000	3.953	

	All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	7.000		0.000		0.000		0.000		0.000	0.000	7.000	

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604270F: *Electronic Warfare Development*	PROJECT 655305: *MALD-J*



Integrity - Service - Excellence

Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0604270F: *Electronic Warfare Development*	**PROJECT** 655305: *MALD-J*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
MALD-J Initial Operational Test and Evaluation	4	2012	3	2013
MALD-J Required Assets Available	4	2013	4	2013
MALD-J Full Rate Production Decision	2	2014	2	2014

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604270F: *Electronic Warfare Development*	PROJECT 657004: *MALD-J Increment II*	

COST ($ in Millions)	All Prior Years	FY 2012	FY 2013#	FY 2014 Base	FY 2014 OCO ##	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
657004: *MALD-J Increment II*	-	7.630	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 OCO Request will be submitted at a later date

Note

Project 657004, MALD-J Increment II is terminated.

A. Mission Description and Budget Item Justification

This project develops the Miniature Air Launched Decoy Jammer (MALD-J) Increment II. Increment II will have increased effective radiated power, sensitivity, and improved techniques to counter emerging threats and will be able to operate in both decoy and improved jammer modes. Increment II will be a key enabler for the Airborne Electronic Attack System of Systems supporting the Air Force Global Strike, Global Response, Space and C4ISR, and the Air and Space Expeditionary Force Concept of Operations. It will be launched against a preplanned target and jam specific radars in a stand-in role to degrade or deny Integrated Air Defense System (IADS) detection of friendly aircraft or munitions.

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.

This program is terminated. The Air Force completed concept refinement and program shutdown activities.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Title: Development & Demonstration	7.630	0.000	0.000
Description: MALD-J Increment II is terminated. ***FY 2012 Accomplishments:*** MALD-J Increment II is terminated.			
Accomplishments/Planned Programs Subtotals	7.630	0.000	0.000

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604270F: *Electronic Warfare Development*	PROJECT 657004: *MALD-J Increment II*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• APAF: BA05: Line Item #95: *War Consumables*	83.124	87.556	89.348		89.348	92.448	94.987	95.059	96.770	Continuing	Continuing

Remarks

D. Acquisition Strategy

Project 657004, MALD-J Increment II is terminated.

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 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604270F: *Electronic Warfare Development*	PROJECT 657004: *MALD-J Increment II*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Technology Development and Demonstration	SS/CPFF	Raytheon Missile Systems:Tucson, AZ	-	7.630		0.000		0.000		-		0.000	0.000	7.630	
		Subtotal	0.000	7.630		0.000		0.000		0.000		0.000	0.000	7.630	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

	All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	7.630		0.000		0.000		0.000		0.000	0.000	7.630	

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604270F: *Electronic Warfare Development*	PROJECT 657004: *MALD-J Increment II*

PE 64270F BPAC 657004 MALD J Increment II

No Schedule – Program Terminated

Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0604270F: *Electronic Warfare Development*	**PROJECT** 657004: *MALD-J Increment II*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Program Termination	2	2012	2	2012

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force											DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*					R-1 ITEM NOMENCLATURE PE 0604280F: *Joint Tactical Radio*							
COST ($ in Millions)	**All Prior Years**	**FY 2012**	**FY 2013#**	**FY 2014 Base**	**FY 2014 OCO ##**	**FY 2014 Total**	**FY 2015**	**FY 2016**	**FY 2017**	**FY 2018**	**Cost To Complete**	**Total Cost**
Total Program Element	-	0.000	2.594	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	2.594
655068: *Joint Tactical Radio System (JTRS)*	-	0.000	2.594	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	2.594
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 OCO Request will be submitted at a later date

Note

In FY2014, Project 655068, Joint Tactical Radio System (JTRS) efforts transferred to PE 0605030F, Joint Tactical Network Center, Project 655068, Joint Tactical Radio System in order to better identify Air Force efforts for this program

A. Mission Description and Budget Item Justification

The JTRS Budget Item Justification is located in the Navy's FY 2014 President's Budget under Joint Tactical Radio System Program (PE 0604280N, BA 5). The JTRS development program is a joint program managed through the JTRS JPEO. The funding for the program resides in the Navy budget. Joint Tactical Radio System (JTRS) is the Department of Defense family of common software-defined programmable radios that will form the foundation of radio frequency information transmission for Joint Vision 2020. JTRS radios are intended to interoperate with existing radio systems and provide the warfighter with additional communications capability to access maps and other visual data, communicate via voice and video and obtain information directly from battlefield sensors. JTRS will provide internet protocol (IP)-based capability to the warfighter and will replace all existing tactical radios based on the Services' migration plans. The JTRS program is built around an open Software Communications Architecture (SCA), allowing common software waveform applications to be implemented across the family of radios to provide joint-service, allied, and coalition interoperability. JTRS is a key enabler that will provide dynamic connectivity throughout the battle space to operate within the network centric operational environment. Activities also include studies and analysis to support both current program planning and execution and future program planning.

This program is in Budget Activity 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 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604280F: *Joint Tactical Radio*

B. Program Change Summary ($ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	180.364	64.848	29.823	-	29.823
Current President's Budget	0.000	2.594	0.000	-	0.000
Total Adjustments	-180.364	-62.254	-29.823	-	-29.823
• Congressional General Reductions	-	0.000			
• Congressional Directed Reductions	-	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	-	0.000			
• Congressional Directed Transfers	-	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	-180.364	-62.254	-29.823	-	-29.823

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) via RMD. This annual transfer of funds to the Navy PE is the cause of the seemingly drastic change from current ($65M in FY13, and $30M in FY14) to future fiscal years. The reduction in funding in RDT&E predicted from FY 2013 to 2014 is based upon the anticipated maturation of program development.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Title: JTRS	0.000	2.594	0.000
Description: The JTRS budget justification is located in the Navy's FY 2014 President's Budget under Joint Tactical Radio System Program (PE 0604280N, BA 5). ***FY 2012 Accomplishments:*** The JTRS budget justification is located in the Navy's FY 2013 President's Budget under Joint Tactical Radio System Program (PE 0604280N, BA 5) since the JTRS program is a joint program and the funding resides in the Navy's Budget. ***FY 2013 Plans:*** The JTRS budget justification is located in the Navy's FY 2013 President's Budget under Joint Tactical Radio System Program (PE 0604280N, BA 5) since the JTRS program is a joint program and the funding resides in the Navy's Budget. Remaining funds are for higher AF priorities. ***FY 2014 Plans:***			

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0604280F: *Joint Tactical Radio*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
The JTRS budget justification is located in the Navy's FY 2014 President's Budget under Joint Tactical Radio System Program (PE 0604280N, BA 5) since the JTRS program is a joint program and the funding resides in the Navy's Budget.			
Accomplishments/Planned Programs Subtotals	0.000	2.594	0.000

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• APAF: BA05: Line Item # OTHACF: *Other Aircraft*	58.416	11.639	3.290		3.290	4.547	0.000	0.000	0.000	Continuing	Continuing
• OPAF: BA03: Line Item # 837100: *Tactical C-E Equipment*	38.567	56.229	13.816		13.816	67.153	32.999	23.714	24.141	Continuing	Continuing
• RDTE: BA07: PE 0207423F: *Advanced Comm Systems*	20.715	0.000	0.000		0.000	0.000	0.000	0.000	0.000	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-3, RDT&E Project Cost Analysis: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604280F: *Joint Tactical Radio*	PROJECT 655068: *Joint Tactical Radio System (JTRS)*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
The JTRS budget justification is located in the Navy's FY 2013 President's Budget under Joint Tactical Radio System Program (PE 0604280N, BA 5). Remaining funds are for higher AF priorities.	TBD	TBD:TBD,	-	0.000	Oct 2011	2.594	Oct 2012	0.000		-		0.000	Continuing	Continuing	TBD
		Subtotal	0.000	0.000		2.594		0.000		0.000		0.000			

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604280F: *Joint Tactical Radio*	PROJECT 655068: *Joint Tactical Radio System (JTRS)*	

	All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	0.000		2.594		0.000		0.000		0.000			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604280F: *Joint Tactical Radio*	PROJECT 655068: *Joint Tactical Radio System (JTRS)*

JTRS Development Schedule

The JTRS budget justification is located in the Navy's FY2014 Budget under Joint Tactical Radio System program (PE 0604280N, BA5) since the JTRS program is a joint program and the funding resides in the Navy's budget.

Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0604280F: *Joint Tactical Radio*	**PROJECT** 655068: *Joint Tactical Radio System (JTRS)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
The JTRS budget justification is located in the Navy's FY 2013 Budget under Joint Tactical Radio System Program (PE 0604280N, BA 5) since the JTRS program is a joint program.	1	2012	4	2018

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force											DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*					R-1 ITEM NOMENCLATURE PE 0604281F: *Tactical Data Networks Enterprise*							
COST ($ in Millions)	**All Prior Years**	**FY 2012**	**FY 2013#**	**FY 2014 Base**	**FY 2014 OCO ##**	**FY 2014 Total**	**FY 2015**	**FY 2016**	**FY 2017**	**FY 2018**	**Cost To Complete**	**Total Cost**
Total Program Element	-	45.104	24.534	51.456	-	51.456	46.999	35.686	21.863	22.257	Continuing	Continuing
655050: *TDL System Integration*	-	30.683	20.310	14.544	-	14.544	18.999	20.017	21.863	22.257	Continuing	Continuing
655262: *Family of Gateways*	-	14.421	4.224	15.512	-	15.512	20.600	15.669	0.000	0.000	Continuing	Continuing
657003: *Airborne Networking Enterprise*	-	0.000	0.000	21.400	-	21.400	7.400	0.000	0.000	0.000	Continuing	Continuing

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 OCO Request will be submitted at a later date

Note

In FY 2014, Project Number 657003, Airborne Networking Enterprise, received funds for a classified effort. This is a New Start.

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, and future 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, 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, 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, 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

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604281F: *Tactical Data Networks Enterprise*

operational effects not possible within individual networks. 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 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 will also support quick reaction response capability requests by the warfighter and support activities associated with the Joint Aerial Layer Network (JALN) Analysis of Alternatives and its follow-on activities as directed by the JALN Council.

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 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	47.057	24.534	25.116	-	25.116
Current President's Budget	45.104	24.534	51.456	-	51.456
Total Adjustments	-1.953	0.000	26.340	-	26.340
• Congressional General Reductions	-	0.000			
• Congressional Directed Reductions	-	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	-	0.000			
• Congressional Directed Transfers	-	0.000			
• Reprogrammings	-0.664	0.000			
• SBIR/STTR Transfer	-1.289	0.000			
• Other Adjustments	0.000	0.000	26.340	-	26.340

Change Summary Explanation

FY14 funding increase due to the addition of $10.0M for 5th to 4th Generation Gateway, partially offset by $5.060M reduction for higher Air Force priorities.

FY14 $21.4M in Project 657003 for classified effort.

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604281F: *Tactical Data Networks Enterprise*	PROJECT 655050: *TDL System Integration*	

COST ($ in Millions)	All Prior Years	FY 2012	FY 2013#	FY 2014 Base	FY 2014 OCO ##	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
655050: *TDL System Integration*	-	30.683	20.310	14.544	-	14.544	18.999	20.017	21.863	22.257	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 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, 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, 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, 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, Cursor on Target, Tactical Edge Network C2 (TEN C2) efforts, 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, the Joint Aerial Layer Network (JALN) Analysis of Alternatives (AoA) and follow-on activities, Data Link Test Facility (DTF), Air Force Participating Test Unit (AFPTU), Joint Airborne Network Tactical Edge (JAN-TE) Network Centric Capability Assessment (NCCA), the Joint Warfighting Integrated NetOps (JWIN) Joint Concept Technology Demonstration (JCTD), and Tactical Communications Suite (TCS). 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

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
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and Technical) process for program requirements analysis and architectural design development/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 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 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 2012	FY 2013	FY 2014
Title: TDN Integration	8.819	7.921	7.478
Description: TDN Integration efforts include DTF, AFPTU, NCCA, JAN-TE, coalition interoperability, JALN AoA and follow-on, and JWIN JCTD. ***FY 2012 Accomplishments:*** Funding provided training, logistics, development, and certification to individual TDL implementations to joint/allied standards. ***FY 2013 Plans:*** Funding is providing training, logistics, development, and certification to individual TDL implementations to joint/allied standards. ***FY 2014 Plans:*** Funding will provide training, logistics, development, and certification to individual TDL implementations to joint/allied standards.			
Title: Joint Interoperability of Tactical Command and Control Systems (JINTACCS)	2.539	3.363	2.531
Description: JINTACCS ensures interoperability of AF TDL systems with associated joint, allied, and coalition systems and includes development, interoperability certification, TDL message standard implementation utilizing iSMART (e.g., Links 11A/B, 16, 22, VMF, IBS, MADL), and configuration management of standards. ***FY 2012 Accomplishments:*** Funding ensured compatibility and interoperability of TDLs by conducting necessary joint compatibility and interoperability tests. ***FY 2013 Plans:*** Funding is ensuring compatibility and interoperability of TDLs by conducting necessary joint compatibility and interoperability tests. ***FY 2014 Plans:*** Funding will ensure compatibility and interoperability of TDLs by conducting necessary joint compatibility and interoperability tests.			
Title: Cursor on Target (CoT)	0.144	0.024	0.123

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Description: CoT is an extensible, 'What, When, Where' (W3) XML message format for interconnecting tactical information systems. The CoT suite consists of the W3 base schema, 14 tailored sub-schemas, and a set of S/W plug-ins and translators that faciliate machine to machine (M2M) transmission of C2, ISR, and situational awareness data at reduced cost compared with traditional integration methods. ***FY 2012 Accomplishments:*** Funding supported development, test, certification and accreditation of new CoT apps/plug-ins/schema and transitioning of apps/plug-ins/schema to sustainment. ***FY 2013 Plans:*** Funding is supporting development, test, certification and accreditation of new CoT apps/plug-ins/schema and transitioning of apps/plug-ins/schema to sustainment. ***FY 2014 Plans:*** Funding will support development, test, certification and accreditation of new CoT apps/plug-ins/schema and transitioning of apps/plug-ins/schema to sustainment.			
Title: Gateways Integration ***Description:*** Supporting integration efforts including CLIP, LAK, Quick Reaction Capabilities (QRC), that cover work to support AF and Joint Urgent Operational Needs, and JETPack JCTD. ***FY 2012 Accomplishments:*** Funding supported integration efforts including CLIP, LAK and QRC, that cover work to support AF and Joint Urgent Operational Needs, and the JCTD JETPack that is predecessor to 5th-4th Generation program of record. ***FY 2013 Plans:*** Funding is supporting completion of the JCTD efforts including testing and verification of the JETPack capabilities. ***FY 2014 Plans:*** Funding will not be requested in FY 2014.	11.030	4.800	0.000
Title: Program Management Administration (PMA) ***Description:*** Program Management Administration costs provide management with the necessary engineering, technical, and administrative support needed to facilitate development and implementation. ***FY 2012 Accomplishments:***	8.151	4.202	4.412

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Funding supported TDN Integration, JINTACCS, CoT, and Gateways Integration programs with engineering, technical, and administrative support. ***FY 2013 Plans:*** Funding is supporting TDN Integration, JINTACCS, CoT, and Gateways Integration programs with engineering, technical, and administrative support. ***FY 2014 Plans:*** Funding will support TDN Integration, JINTACCS, and CoT programs with engineering, technical, and administrative support.			
Accomplishments/Planned Programs Subtotals	30.683	20.310	14.544

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• RDTE:BA07:PE 0207448F: *C2ISR TDL*	1.489	1.633	1.431		1.431	1.805	1.791	1.732	1.763	Continuing	Continuing
• APAF:BA05:Line Item #A01000: *A-10*	0.674	0.000	0.000		0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
• APAF:BA05:Line Item #F01500: *F-15*	0.000	0.000	0.000		0.000	6.290	18.946	44.593	45.393	Continuing	Continuing
• APAF:BA05:Line Item #F01600: *F-16*	0.000	0.000	0.000		0.000	8.303	7.994	8.137	8.283	Continuing	Continuing
• APAF:BA05:Line Item #B00200: *B-2A*	0.000	0.000	0.257		0.257	0.488	0.477	0.102	0.000	Continuing	Continuing
• APAF:BA05:Line Item #B01B00: *B-1B*	0.000	0.000	0.696		0.696	1.273	1.144	0.129	0.000	Continuing	Continuing
• APAF:BA05:Line Item #OTHACF: *Other Aircraft*	0.957	0.000	0.192		0.192	1.590	2.561	1.608	0.617	Continuing	Continuing
• OPAF:BA03:Line Item #834010: *General Information Technology*	10.388	0.269	0.248		0.248	0.169	0.170	0.173	0.176	Continuing	Continuing

Remarks

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
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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-3, RDT&E Project Cost Analysis: PB 2014 Air Force		DATE: April 2013
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Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Tactical Edge Network C2 development efforts	TBD	TBD:TBD,	-	0.000		0.000		0.120	Dec 2013	-		0.120	Continuing	Continuing	TBD
Gateway Integration efforts - LAK	C/Various	ProLogic:Manassas, VA	-	2.670	Jun 2012	0.000		0.000		-		0.000	0.000	2.670	TBD
Gateway Integration efforts	C/FFP	Northrop Grumman:San Diego, CA	-	5.300	Apr 2012	4.800	Jan 2013	0.000		-		0.000	0.000	10.100	TBD
		Subtotal	0.000	7.970		4.800		0.120		0.000		0.120			

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
DMS - NCCA	C/T&M	MITRE:Bedford, MA	-	0.000		1.247	Oct 2012	0.000		-		0.000	Continuing	Continuing	TBD
DMS - Coalition Interoperability	RO	NATO Support Agency in Luxembourg:,	-	0.061	Sep 2012	0.062	May 2013	0.048	Dec 2013	-		0.048	Continuing	Continuing	TBD
DMS - Gateways Integration	C/Various	Various:Various,	-	1.221	Sep 2012	0.000		0.000		-		0.000	0.000	1.221	TBD
DMS - Gateways Integration - FFRDC support	C/T&M	MITRE:Various,	-	1.112	Sep 2012	0.000		0.000		-		0.000	0.000	1.112	TBD
		Subtotal	0.000	2.394		1.309		0.048		0.000		0.048			

Remarks

DMS - Gateways Integration contains multiple efforts for Airlift, Radio Repair, etc...that each total less than $1M but add to a total of $1.221M when combined together.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force		DATE: April 2013
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Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
DTF efforts	PO	46th Test Squadron:Eglin AFB, FL	-	2.307	Feb 2012	1.358	Nov 2012	1.018	Nov 2013	-		1.018	Continuing	Continuing	TBD
JINTACCS/iSMART efforts	C/FFP	Spectrum Comm Inc:Newport News, VA	-	2.539	Feb 2012	3.363	Feb 2013	2.531	Feb 2014	-		2.531	Continuing	Continuing	TBD
AFPTU efforts	MIPR	Various:Various,	-	2.530	May 2012	2.039	May 2013	1.652	May 2014	-		1.652	Continuing	Continuing	TBD
JALN AoA efforts	MIPR	Various:Various,	-	2.921	Jan 2012	2.715	Dec 2012	4.640	Dec 2013	-		4.640	Continuing	Continuing	TBD
JWIN JCTD efforts	PO	Rome Labs:Rome, NY	-	1.000	Aug 2012	0.500	Mar 2013	0.000		-		0.000	0.000	1.500	TBD
Various Test Centers, Test Equipment, Vehicle Maintenance, Freight Shipping, etc.	Various	Various:Various,	-	0.871	May 2012	0.024	May 2013	0.123	May 2014	-		0.123	Continuing	Continuing	TBD
		Subtotal	0.000	12.168		9.999		9.964		0.000		9.964			

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
PMA - A&AS support to various programs	C/Various	Various:Various,	-	1.785	Apr 2012	0.606	Dec 2012	0.265	Dec 2013	-		0.265	Continuing	Continuing	TBD
PMA - A&AS support - Gateways Integration	C/T&M	Various:Various,	-	2.908	Dec 2011	0.000		0.000		-		0.000	0.000	2.908	TBD
PMA - FFRDC support - NCCA	C/T&M	MITRE:Bedford, MA	-	0.816	Oct 2011	1.614	Oct 2012	2.861	Oct 2013	-		2.861	Continuing	Continuing	TBD
PMA - FFRDC support - CoT	C/T&M	MITRE:Various,	-	0.980	Nov 2011	1.076	Nov 2012	0.895	Nov 2013	-		0.895	Continuing	Continuing	TBD
PMA - FFRDC support - various programs	C/Various	MITRE:Bedford, MA	-	0.903	Sep 2012	0.323	Nov 2012	0.359	Nov 2013	-		0.359	Continuing	Continuing	TBD

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force		DATE: April 2013
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Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
PMA - Travel, Government Purchase Cards, Telephones, etc.	Various	Various:Various,	-	0.759	Apr 2012	0.583	Dec 2012	0.032	Dec 2013	-		0.032	Continuing	Continuing	TBD
		Subtotal	0.000	8.151		4.202		4.412		0.000		4.412			

Remarks

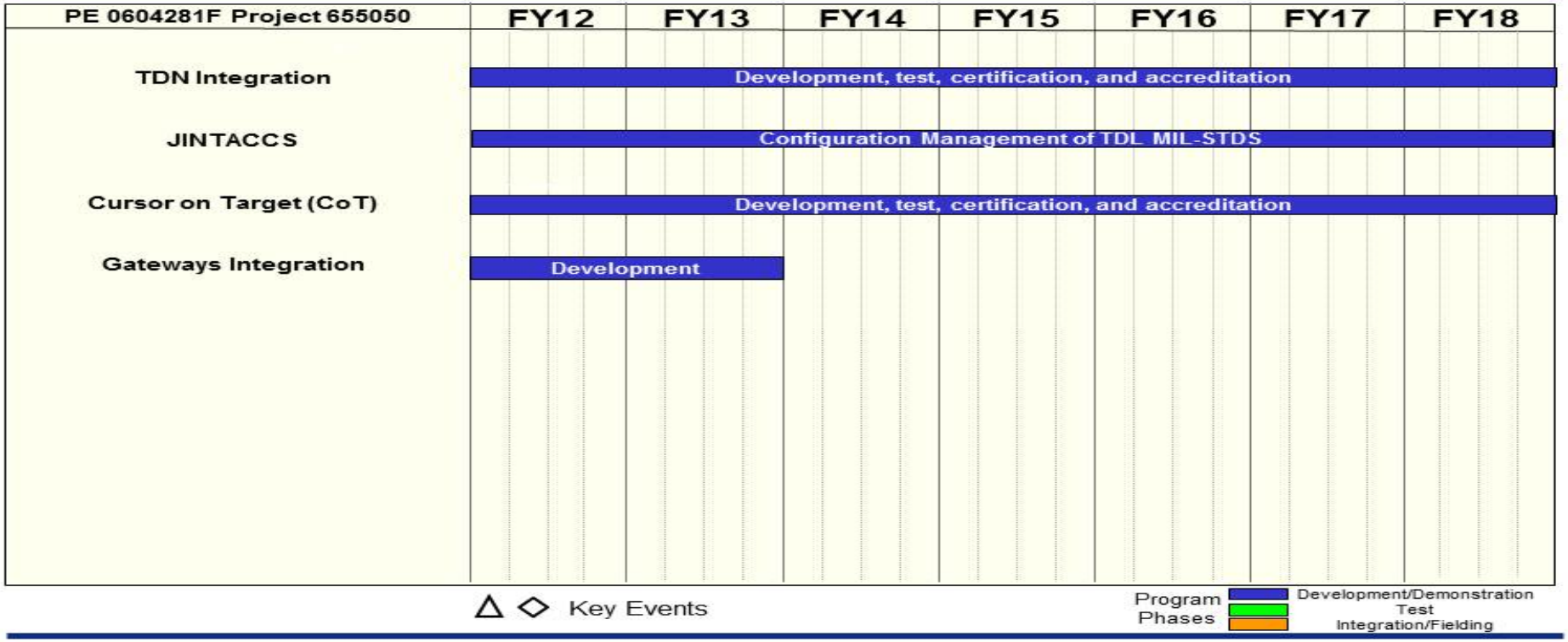
PMA - A&AS support for various programs is for multiple contracts totaling less than $1M each: FY2012 (total cost $1.785M); FY2013 (total cost $.606M); FY2014 (total cost $.265M).

	All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	30.683		20.310		14.544		0.000		14.544			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force		DATE: April 2013
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Tactical Data Networks Enterprise/ Tactical Data Link System Integration



Integrity - Service - Excellence

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force		DATE: April 2013
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Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
TDN Integration	1	2012	4	2018
JINTACCS	1	2012	4	2018
Cursor on Target (CoT)	1	2012	4	2018
Gateways Integration	1	2012	4	2013

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604281F: *Tactical Data Networks Enterprise*	PROJECT 655262: *Family of Gateways*	

COST ($ in Millions)	All Prior Years	FY 2012	FY 2013#	FY 2014 Base	FY 2014 OCO ##	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
655262: *Family of Gateways*	-	14.421	4.224	15.512	-	15.512	20.600	15.669	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 OCO Request will be submitted at a later date

A. Mission Description and Budget Item Justification

Funding supports Family of Gateways study, 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. 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 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 quick reaction capability 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) Analysis of Alternatives and follow-on recommendation.

Efforts in this project include waveform, ground, and quick reaction capability activities.

BACN Program of Record:
Program of Record (POR) activities include the preparation of POR and potential P3I efforts related to BACN aircraft. These activities include: documentation, milestone decision documentation, acquisition strategies, and studies and analysis. This effort will reduce risk/schedule impact in FY15.

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:

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Ground activities include, but are not limited to the Joint Air Defense System Integrator (JADSI), Pocket J, and Link 16 Alaska (LAK). 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:
Quick reaction capability activities include, but are not limited to, BACN, Beyond Line of Sight Command and Control (BLOS C2), and STRATCOM DNC2. 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 2012	FY 2013	FY 2014
Title: Common Link Integration Processing (CLIP) ***Description:*** CLIP efforts provide Link 16 and Joint Range Extension Application Protocol (JREAP) A & C message processing to the B-1B FIDL and B-52 CONECT Platforms via a software upgrade. ***FY 2012 Accomplishments:*** Funding provided an enterprise solution for Link-16 and Joint Range Extension Application Protocol (JREAP) message processing.	0.594	0.000	0.000
Title: Joint Air Defense System Integrator (JADSI) ***Description:*** JADSI efforts provide command & control centers a common tactical picture by receiving, processing, and correlating TDL, intelligence, and radar feeds. ***FY 2012 Accomplishments:*** Funding provided testing of a software and hardware package that connects and translates between multiple communication devices and provides situational awareness, permitting the program to transition to sustainment.	1.952	0.000	0.000
Title: Beyond Line of Sight Command & Control (BLOS C2) ***Description:*** QRC effort to establish an IP-based, aerial network with extended range for bi-directional VOIP, chat, imagery, situational awareness, full motion video and collaborative C2 in direct support of NAVCENT CONPLAN. ***FY 2012 Accomplishments:***	1.221	0.000	0.000

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Awarded contracts and conducted requirements and design reviews focused on implementing first two architecture deliveries for BLOS C2.			
Title: STRATCOM DNC2 ***Description:*** STRATCOM 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 2012 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 2013 Plans:*** Funding is supporting development, test, and fielding of operational-hardened, wideband GEPs and testing with up to three aircraft to ensure functionality of the system in an operational environment. ***FY 2014 Plans:*** Funding will support development, test, and fielding of operational-hardened, wideband GEPs and testing with up to three aircraft to ensure functionality of the system in an operational environment.	8.153	2.992	5.512
Title: 5th To 4th Generation Gateway ***Description:*** 5th to 4th Generation gateway facilitates sharing of 5th Generation track data with 4th Generation aircraft as well as C2 nodes. ***FY 2014 Plans:*** Funding will support projects including 5th to 4th Generation gateway with engineering, technical, and administrative support.	0.000	0.000	9.000
Title: Program Management Administration (PMA) ***Description:*** PMA costs provide management with the necessary engineering, technical, and administrative support needed to facilitate development and implementation. ***FY 2012 Accomplishments:*** Funding supported projects including CLIP, SADL, JADSI, BLOS C2, and other gateways with engineering, technical, and administrative support. ***FY 2013 Plans:***	2.501	1.232	1.000

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
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B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Funding is supporting projects including STRATCOM DNC2 with engineering, technical, and administrative support. ***FY 2014 Plans:*** Funding will support projects including 5th to 4th Generation gateway, and BACN Program of Record planning with engineering, technical, and administrative support.			
Accomplishments/Planned Programs Subtotals	14.421	4.224	15.512

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• RDTE:BA07:PE 0207448F: *C2ISR TDL*	1.489	1.633	1.431		1.431	1.805	1.791	1.732	1.763	Continuing	Continuing
• APAF:BA05:Line Item #A01000: *A-10*	0.674	0.000	0.000		0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
• APAF:BA05:Line Item #F01500: *F-15*	0.000	0.000	0.000		0.000	6.290	18.946	44.593	45.393	Continuing	Continuing
• APAF:BA05:Line Item #F01600: *F-16*	0.000	0.000	0.000		0.000	8.303	7.994	8.137	8.283	Continuing	Continuing
• APAF:BA05:Line Item #B00200: *B-2A*	0.000	0.000	0.257		0.257	0.488	0.477	0.102	0.000	Continuing	Continuing
• APAF:BA05:Line Item #B01B00: *B-1B*	0.000	0.000	0.696		0.696	1.273	1.144	0.129	0.000	Continuing	Continuing
• APAF:BA05:Line Item #OTHACF: *Other Aircraft*	0.957	0.000	0.192		0.192	1.590	2.561	1.608	0.617	Continuing	Continuing
• OPAF:BA03:Line Item #834010: *General Information Technology*	10.388	0.269	0.248		0.248	0.169	0.170	0.173	0.176	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.

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604281F: *Tactical Data Networks Enterprise*	PROJECT 655262: *Family of Gateways*

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 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604281F: *Tactical Data Networks Enterprise*	PROJECT 655262: *Family of Gateways*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
CLIP Development Efforts	C/CPIF	Northrop Grumman:San Diego, CA	-	0.201	May 2012	0.000		0.000		-		0.000	0.000	0.201	TBD
JADSI Development Efforts	SS/T&M	Ultra Electronics:Austin, TX	-	1.676	Mar 2012	0.000		0.000		-		0.000	0.000	1.676	TBD
BLOS C2 MR TCDL	C/CPFF	Northrop Grumman:San Diego, CA	-	0.125	Sep 2012	0.000		0.000		-		0.000	0.000	0.125	TBD
BLOS C2 NRE for the CDL subsystem of TACPod C&D pods	C/T&M	Ultra Electronics:Austin, TX	-	0.795	Sep 2012	0.000		0.000		-		0.000	0.000	0.795	TBD
5th To 4th Generation Gateway efforts	TBD	TBD:TBD,	-	0.000		0.000		9.000	Jan 2014	-		9.000	Continuing	Continuing	TBD
		Subtotal	0.000	2.797		0.000		9.000		0.000		9.000			

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
CLIP Navy Support	MIPR	SPAWAR:San Diego, CA	-	0.393	Apr 2012	0.000		0.000		-		0.000	0.000	0.393	TBD
BLOS C2 efforts	PO	46th Test Squadron:Eglin AFB, FL	-	0.301	Sep 2012	0.000		0.000		-		0.000	0.000	0.301	TBD

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604281F: *Tactical Data Networks Enterprise*	PROJECT 655262: *Family of Gateways*

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
STRATCOM DNC efforts	C/CPFF	Northrop Grumman:Redondo Beach, CA	-	8.153	Feb 2012	2.992	Dec 2012	5.512	Dec 2013	-		5.512	0.000	16.657	TBD
Various Test Centers, Test Equipment, etc.	Various	Various:Various,	-	0.276	Jun 2012	0.000		0.000		-		0.000	0.000	0.276	TBD
		Subtotal	0.000	9.123		2.992		5.512		0.000		5.512	0.000	17.627	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
PMA - A&AS support	C/Various	Various:Various,	-	1.785	Jan 2012	1.232	Jan 2013	0.715	Nov 2013	-		0.715	Continuing	Continuing	TBD
PMA - FFRDC support	C/Various	Various:Various,	-	0.523	Jan 2012	0.000		0.285	Oct 2013	-		0.285	Continuing	Continuing	TBD
PMA - Travel, Government Purchase Cards, Telephones, etc.	Various	Various:Various,	-	0.193	Jan 2012	0.000		0.000		-		0.000	0.000	0.193	TBD
		Subtotal	0.000	2.501		1.232		1.000		0.000		1.000			

Remarks

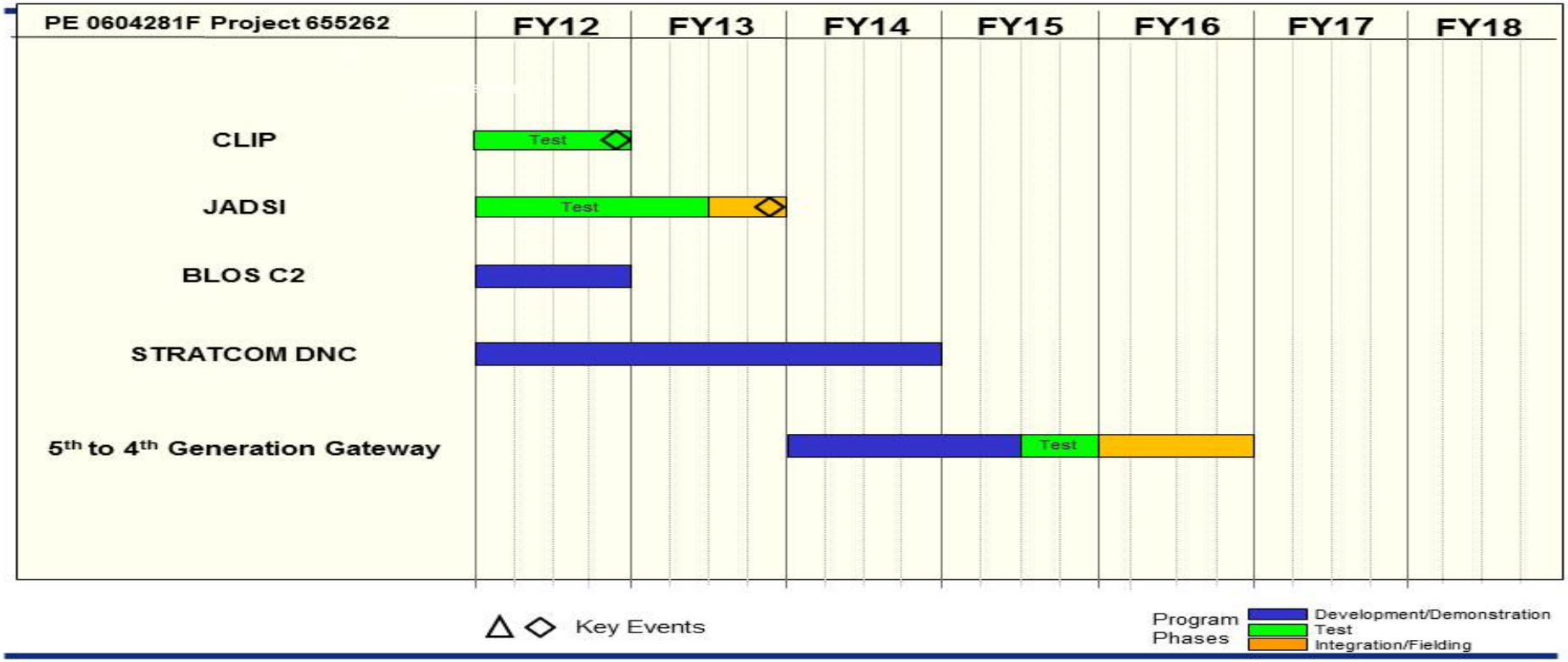
Multiple A&AS contracts less than $1M: FY11 (total cost $1.785M).

	All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	14.421		4.224		15.512		0.000		15.512			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604281F: *Tactical Data Networks Enterprise*	PROJECT 655262: *Family of Gateways*

Tactical Data Networks Enterprise
Family of Gateways Schedules



Integrity - Service - Excellence

1

Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0604281F: *Tactical Data Networks Enterprise*	**PROJECT** 655262: *Family of Gateways*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
CLIP Test	1	2012	4	2012
CLIP Transition to Sustainment	4	2012	4	2012
JADSI Test	1	2012	2	2013
JADSI Ver 15 Integration/Fielding	3	2013	4	2013
JADSI Transition to Sustainment	4	2013	4	2013
BLOS C2 Design/Development	1	2012	4	2012
STRATCOM Risk-Reduction Activities	1	2012	4	2014
5th to 4th Generation Gateway - Development	1	2014	2	2015
5th to 4th Generation Gateway - Test	3	2015	4	2015
5th to 4th Generation Gateway - Integration/Fielding	1	2016	4	2016

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604281F: *Tactical Data Networks Enterprise*	PROJECT 657003: *Airborne Networking Enterprise*	

COST ($ in Millions)	All Prior Years	FY 2012	FY 2013#	FY 2014 Base	FY 2014 OCO ##	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
657003: *Airborne Networking Enterprise*	-	0.000	0.000	21.400	-	21.400	7.400	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles												

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 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.

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force											DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*					R-1 ITEM NOMENCLATURE PE 0604287F: *Physical Security Equipment*							
COST ($ in Millions)	**All Prior Years**	**FY 2012**	**FY 2013#**	**FY 2014 Base**	**FY 2014 OCO ##**	**FY 2014 Total**	**FY 2015**	**FY 2016**	**FY 2017**	**FY 2018**	**Cost To Complete**	**Total Cost**
Total Program Element	-	0.051	0.051	0.050	-	0.050	0.050	0.051	0.052	0.053	Continuing	Continuing
655120: *Physical Security Equipment - SD/ED*	-	0.051	0.051	0.050	-	0.050	0.050	0.051	0.052	0.053	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 OCO Request will be submitted at a later date

A. Mission Description and Budget Item Justification

The purpose of this program is to develop, demonstrate, and test 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. The program element also supports the identification and redesign of developmental, non-developmental, and commercial-off-the-shelf (COTS) equipment to meet physical security requirements. Activities within this program will seek to reduce risk associated with integrating, fielding, and supporting the equipment once it becomes part of the overall security system. Two key means of accomplishing this mission will be through the support and conduct of PSE demonstrations and validating RF frequency and communication security (cyber) solutions and evaluation and testing of COTS equipment. 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 46TW 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 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604287F: *Physical Security Equipment*	

B. Program Change Summary ($ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	0.051	0.051	0.050	-	0.050
Current President's Budget	0.051	0.051	0.050	-	0.050
Total Adjustments	0.000	0.000	0.000	-	0.000
• Congressional General Reductions	-	0.000			
• Congressional Directed Reductions	-	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	-	0.000			
• Congressional Directed Transfers	-	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	0.000	0.000	0.000	-	0.000

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Title: PHYSICAL SECURITY EQUIPMENT	0.051	0.051	0.050
Description: Demonstration and testing of Physical Security Equipment (PSE) in operational environments ***FY 2012 Accomplishments:*** Continued to support the demonstration and testing of PSE in operational environments ***FY 2013 Plans:*** Continue to support the demonstration and testing of PSE in operational environments ***FY 2014 Plans:*** Continue to support the demonstration and testing of PSE in operational environments			
Accomplishments/Planned Programs Subtotals	0.051	0.051	0.050

D. Other Program Funding Summary ($ in Millions)

N/A

Remarks

E. Acquisition Strategy

Not Applicable

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0604287F: *Physical Security Equipment*

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 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604287F: *Physical Security Equipment*	PROJECT 655120: *Physical Security Equipment - SD/ ED*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
ESC Force Protection (AF)	Various	Hanscom:MA,	-	0.051		0.051		0.050	Jul 2014	-		0.050	Continuing	Continuing	
		Subtotal	0.000	0.051		0.051		0.050		0.000		0.050			

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

	All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	0.051		0.051		0.050		0.000		0.050			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604287F: *Physical Security Equipment*	PROJECT 655120: *Physical Security Equipment - SD/ ED*

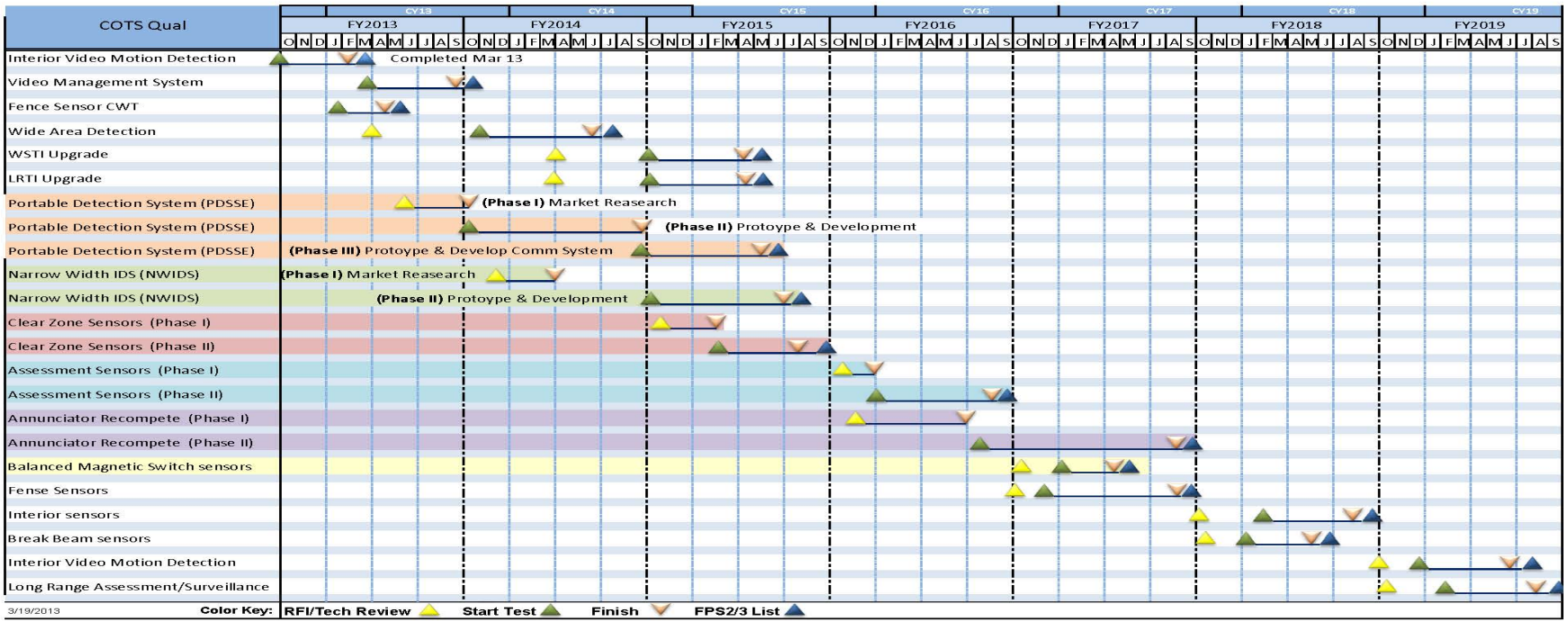


Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604287F: *Physical Security Equipment*	PROJECT 655120: *Physical Security Equipment - SD/ED*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Demonstration and testing of PSE in operational environments	1	2012	4	2018

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force												DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*					R-1 ITEM NOMENCLATURE PE 0604329F: *Small Diameter Bomb (SDB) - EMD*							
COST ($ in Millions)	**All Prior Years**	**FY 2012**	**FY 2013#**	**FY 2014 Base**	**FY 2014 OCO ##**	**FY 2014 Total**	**FY 2015**	**FY 2016**	**FY 2017**	**FY 2018**	**Cost To Complete**	**Total Cost**
Total Program Element	593.102	133.902	143.000	115.000	-	115.000	54.000	18.000	64.000	15.675	24.006	1,160.685
655191: *SDB Increment II*	593.102	133.902	143.000	115.000	-	115.000	54.000	18.000	64.000	15.675	24.006	1,160.685
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		
MDAP/MAIS Code(s): 439												

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 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 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604329F: *Small Diameter Bomb (SDB) - EMD*

B. Program Change Summary ($ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	132.881	143.000	115.000	-	115.000
Current President's Budget	133.902	143.000	115.000	-	115.000
Total Adjustments	1.021	0.000	0.000	-	0.000
• Congressional General Reductions	-	0.000			
• Congressional Directed Reductions	-	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	-	0.000			
• Congressional Directed Transfers	-	0.000			
• Reprogrammings	5.028	0.000			
• SBIR/STTR Transfer	-4.007	0.000			
• Other Adjustments	0.000	0.000	0.000	-	0.000

Change Summary Explanation

FY12 Reprogrammings: Rebalance of Program Management Administration (PMA)

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Title: Development	105.380	110.880	69.056

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 2012 Accomplishments:

Completed Integrated System Design (ISD) and began System Capability and Manufacturing Process Demonstration activities. Continued to mature SDB II production design to include: design verification testing and subsystems qualification testing. Continued Developmental Testing (DT) for the SDB II Normal Attack Mode. Delivered first all-up-round (AUR). Conducted first Guided Test Vehicle (GTV) flight test mission at White Sands Missile Range to demonstrate weapon performance against a moving target. Conducted two Captive Test Vehicle (CTV) flight test missions verifying guidance & control system performance in airborne environment. Completed initial Integrated Flight Simulation model to verify weapon effectiveness. 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 2013 Plans:

Continue System Capability and Manufacturing Process Demonstration activity and build first production representative AUR. Transition test asset assembly to production facilities. Continue DT activities for SDB II Normal Attack Mode. Plan to execute eight GTV flight missions, three CTV flight missions, and first two Live Fire tests. Complete qualification testing of production

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604329F: *Small Diameter Bomb (SDB) - EMD*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
configuration. Start and complete AUR environmental qualification testing. Conduct Operational Assessment and prepare for Milestone C 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 2014 Plans:*** Complete System Verification Review and conduct Milestone C review. Continue DT for Normal Attack Mode and begin DT for Coordinate Attack Mode and Semi-active Laser Mode. Begin reliability testing with the Captive Carry Reliability Test (CCRT) program. Begin development of maintenance and aircrew training. Complete Common Munitions Bit/Reprogramming Equipment software development. 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 ***Description:*** F-15E aircraft Integration: Aircraft integration incorporates tests and targets, Modeling and Simulation (M&S), target lethality, data link and mission planning. Develop Suite 7E 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 2012 Accomplishments:*** Continued ground testing and flight testing on F-15E. Executed first GTV flight test mission at White Sands Missile Range. Executed two CTV flight test missions which verified critical flight parameters. Continued F-15E OFP upgrades. Delivered final release of mission planning software and continued mission planning to support DT. Continued target vehicle procurement to support testing. Completed 306 of 342 planned warhead lethality/effectiveness characterization tests. Conducted Advanced Joint Effectiveness Model (AJEM) lethality modeling and testing. Conducted sympathetic detonation testing on warhead and verified warhead detonation stability in explosive environments. Continued collaboration with National Security Agency (NSA) and Joint Interoperability Test Command (JITC) on weapon data link key managements software. Continued Aviation and Missile Research Development and Engineering Center (AMRDEC) support for modeling and simulation tasks and Verification, Validation, and Accreditation (VV&A). Continued to develop/modify Air and Space Operations Center (AOC) software application to transmit data link network tasking. Delivered final release of mission planning software and continued mission planning support to DT. ***FY 2013 Plans:*** Continue to execute ground and flight testing and target procurement to support testing. Continue DT activities for SDB II Normal Attack Mode: plan to conduct eight GTV flight missions, three CTV flight missions, and first two Live Fire tests. Conduct Operational Assessment and prepare for Milestone C review. Begin BRU-61 qualification efforts. Perform logistics demonstration. Conduct AJEM lethality modeling and testing. Continue collaboration with NSA and JITC on weapon data link key managements	26.069	28.563	42.663

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0604329F: *Small Diameter Bomb (SDB) - EMD*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
software. Continue AMRDEC support for modeling and simulation tasks and VV&A. Integrate SDB II with Command and Control Infrastructure, including AOC. Deliver final release of mission planning software and continue mission planning support during DT. ***FY 2014 Plans:*** Continue to conduct ground and flight testing and target procurement to support testing. Continue DT for Normal Attack Mode and begin flight test for Coordinate Attack Mode and Semi-active Laser Mode. Plan to conduct approximately 20 GTV and Live Fire missions. Begin OFP update and continue 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. Conduct Milestone C review.			
Title: Management ***Description:*** Provide support for SDB II program office to conduct operations to accomplish its mission. This includes, but is not limited to, Advisory and Assistance Support (A&AS) for technical and managerial support, and program management administration for travel and miscellaneous supplies. The SDB II Program Office at Eglin Air Force Base will act as the Single Manager for the entire life cycle of the SDB II weapon system. ***FY 2012 Accomplishments:*** Continued support for Program Office to conduct operations to accomplish its mission. Provide support required to obtain Milestone C approval to include development and coordination of required documentation and reviews. ***FY 2013 Plans:*** Continue support for Program Office to conduct operations to accomplish its mission. Provide support required to obtain Milestone C approval to include development and coordination of required documentation and reviews. ***FY 2014 Plans:*** Continue support for Program Office to conduct operations to accomplish its mission. Conduct Milestone C review.	2.453	3.557	3.281
Accomplishments/Planned Programs Subtotals	133.902	143.000	115.000

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• MPAF: BA05: Line Item # SDB000: *Small Diameter Bomb*	0.000	42.000	42.347		42.347	71.353	101.961	94.770	73.458	1,434.707	1,860.596

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604329F: *Small Diameter Bomb (SDB) - EMD*

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• RDT&E: BA05: PE 0604329N: *Small Diameter Bomb*	17.906	17.792	27.265		27.265	33.023	45.360	63.750	68.846	126.064	478.129
• WPN: BA05: Line Item # 223800: *Small Diameter Bomb*	0.000	0.000	0.000		0.000	0.000	0.000	25.543	98.502	565.105	689.150

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). 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.

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 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604329F: *Small Diameter Bomb (SDB) - EMD*	PROJECT 655191: *SDB Increment II*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Risk Reduction Contract 1	C/CPFF	Boeing:St. Louis, MO	151.922	0.000		0.000		0.000		-		0.000	0.000	151.922	151.922
Risk Reduction Contract 2	C/CPFF	Raytheon:Tucson, AZ	150.800	0.000		0.000		0.000		-		0.000	0.000	150.800	149.780
EMD Contract	C/FPIF	Raytheon:Tucson, AZ	176.425	103.614	Oct 2011	95.147	Oct 2012	50.792	Oct 2013	-		50.792	56.595	482.573	403.582
Technical Support Contract	SS/ Various	Raytheon:Tucson, AZ	0.324	1.746	Mar 2012	4.217	Nov 2012	7.750	Dec 2013	-		7.750	12.331	26.368	26.368
MPACT High Pressure Air Compressor System	SS/FFP	Boeing:St. Charles, MO	3.175	0.000		0.000		0.000		-		0.000	0.000	3.175	3.175
F-15E Integration and Test Support	SS/ Various	Boeing:St. Louis, MO	30.351	4.755	Jan 2012	7.299	Jan 2013	6.535	Jan 2014	-		6.535	4.109	53.049	53.049
BRU-61/A Integration and Test Support	SS/ Various	Boeing:St. Charles, MO	3.901	0.874	Mar 2012	1.501	Mar 2013	4.144	Mar 2014	-		4.144	5.570	15.990	15.990
Mission Planning	Various	Various:Various,	4.124	0.734	Nov 2011	0.239	Dec 2012	0.601	Dec 2013	-		0.601	1.208	6.906	6.906
Data Link Integration & Support	Various	Various:Various,	1.954	0.342	Dec 2011	0.608	Dec 2012	2.874	Dec 2013	-		2.874	3.189	8.967	8.967
System Performance & Lethality	Various	Various:Various,	20.757	7.568	Nov 2011	3.624	Nov 2012	4.931	Nov 2013	-		4.931	5.060	41.940	41.940
Other Product Development	Various	Various:Various,	5.406	2.144	Mar 2012	5.979	Nov 2012	4.128	Nov 2013	-		4.128	56.294	73.951	73.951
		Subtotal	549.139	121.777		118.614		81.755		0.000		81.755	144.356	1,015.641	935.630

Remarks

None.

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Other Government Costs	Various	Various:Various,	1.114	0.583	Apr 2012	0.779	Apr 2013	0.808	Apr 2014	-		0.808	0.981	4.265	4.265
		Subtotal	1.114	0.583		0.779		0.808		0.000		0.808	0.981	4.265	4.265

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604329F: *Small Diameter Bomb (SDB) - EMD*	PROJECT 655191: *SDB Increment II*	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 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	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
DT&E: 96th Test Wing	PO	96th Test Wing:Eglin AFB, FL	5.377	3.476	Dec 2011	10.256	Nov 2012	7.601	Nov 2013	-		7.601	14.058	40.768	40.768
DT&E: UTTR, WSMR	Various	Various:Various,	2.389	1.333	Apr 2012	2.350	Nov 2012	12.625	Nov 2013	-		12.625	7.463	26.160	26.160
Targets	PO	Various:Various,	13.842	2.959	Jan 2012	5.771	Jan 2013	7.342	Jan 2014	-		7.342	0.380	30.294	30.294
Other Test Support	Various	Various:Various,	1.388	1.321	Dec 2011	1.673	Dec 2012	1.589	Dec 2013	-		1.589	2.886	8.857	8.857
		Subtotal	22.996	9.089		20.050		29.157		0.000		29.157	24.787	106.079	106.079

Remarks

None.

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Technical Acquisition Management Support (TAMS)	Various	COLSA Corp:Eglin AFB, FL	0.706	0.231	Mar 2012	0.494	Feb 2013	0.443	Feb 2014	-		0.443	0.688	2.562	2.562
Technical and Engineering Acquisition Support (TEAS)	Various	Jacobs Technology:Eglin AFB, FL	13.442	0.677	Dec 2011	0.966	Dec 2012	0.919	Dec 2013	-		0.919	1.503	17.507	17.507
Program Management Administration (PMA)	Various	Various:Eglin AFB, FL	5.705	1.545	Oct 2011	2.097	Oct 2012	1.918	Oct 2013	-		1.918	3.366	14.631	14.631
		Subtotal	19.853	2.453		3.557		3.280		0.000		3.280	5.557	34.700	34.700

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604329F: *Small Diameter Bomb (SDB) - EMD*	PROJECT 655191: *SDB Increment II*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Remarks															
None.															

	All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	593.102	133.902		143.000		115.000		0.000		115.000	175.681	1,160.685	1,080.674

Remarks

The EMD contract budget and Target Value differ due to:
1) EMD contract is budgeted to the contract ceiling price.
2) EMD contract budget includes funding for 32 additional developmental test assets (28 tests plus 4 spares) identified during Milestone B. The addition of the test assets requires a modification to the contract and thus is not included in the current Target Value.

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 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604329F: *Small Diameter Bomb (SDB) - EMD*	PROJECT 655191: *SDB Increment II*

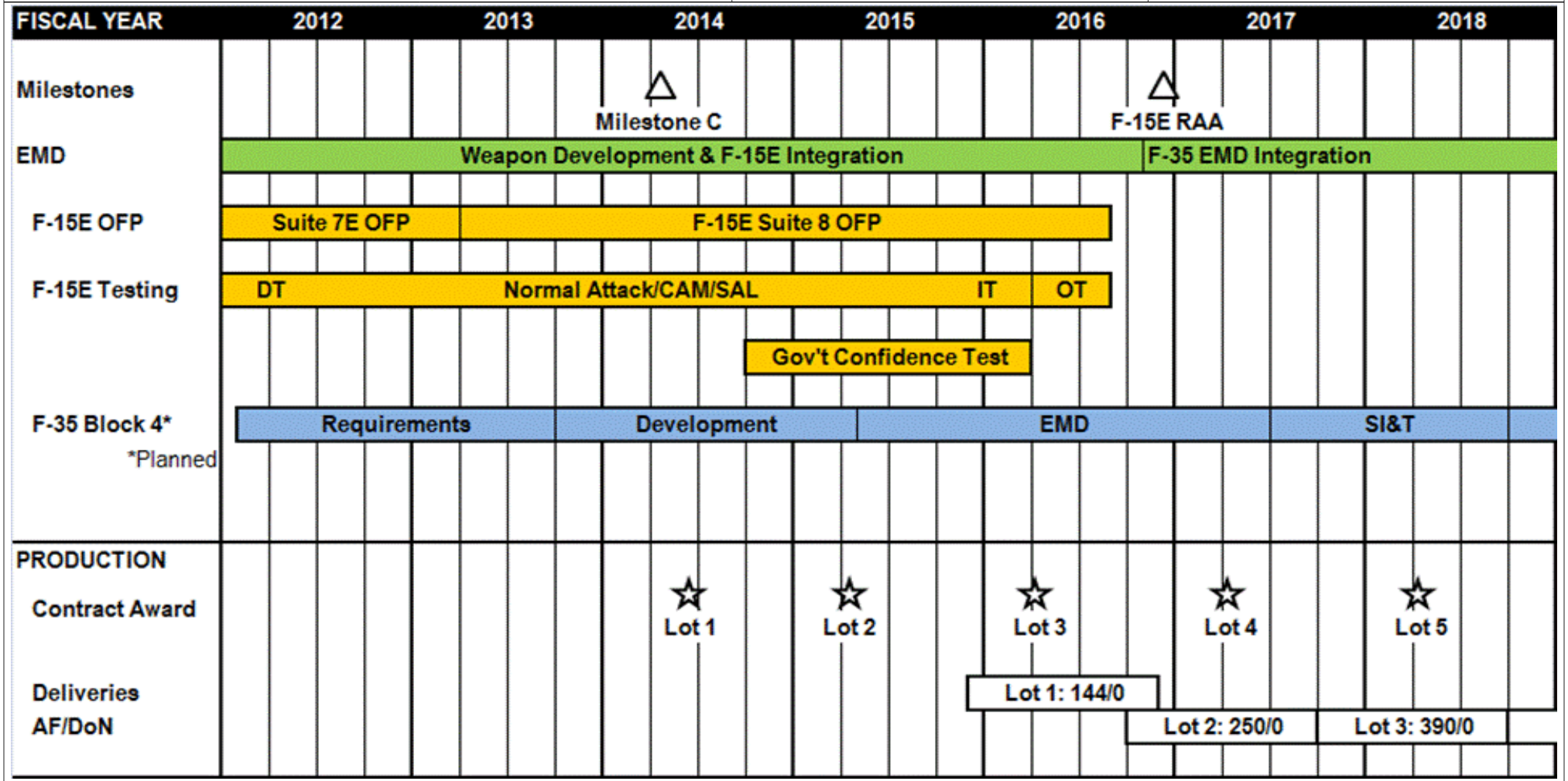


Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604329F: *Small Diameter Bomb (SDB) - EMD*	PROJECT 655191: *SDB Increment II*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
F-15 Integration Developmental/Operational Testing	1	2012	4	2016
Milestone C	2	2014	2	2014

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force											DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*					R-1 ITEM NOMENCLATURE PE 0604421F: *Counterspace Systems*							
COST ($ in Millions)	**All Prior Years**	**FY 2012**	**FY 2013#**	**FY 2014 Base**	**FY 2014 OCO ##**	**FY 2014 Total**	**FY 2015**	**FY 2016**	**FY 2017**	**FY 2018**	**Cost To Complete**	**Total Cost**
Total Program Element	-	28.946	28.797	23.930	-	23.930	24.042	24.366	0.000	0.000	Continuing	Continuing
65A001: *Counter Satellite Communications System*	-	17.882	16.362	16.277	-	16.277	16.275	16.463	0.000	0.000	Continuing	Continuing
65A003: *Rapid Identification Detection and Reporting System (RAIDRS)*	-	4.150	4.877	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
65A005: *Offensive Counterspace (OCS) C2*	-	6.914	7.558	7.653	-	7.653	7.767	7.903	0.000	0.000	Continuing	Continuing

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 OCO Request will be submitted at a later date

A. Mission Description and Budget Item Justification

This program supports the conduct of critical planning, technology and capability insertion, and system acquisition in support of Air Force space control systems and associated command and control development to meet current and future military space control needs. This funding supports the acquisition process including concept development, risk reduction, design, 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) supports the development of command and control and mission planning capabilities in support of 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 2014 Air Force					DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*			R-1 ITEM NOMENCLATURE PE 0604421F: *Counterspace Systems*		
B. Program Change Summary ($ in Millions)	**FY 2012**	**FY 2013**	**FY 2014 Base**	**FY 2014 OCO**	**FY 2014 Total**
Previous President's Budget	31.578	28.797	23.930	-	23.930
Current President's Budget	28.946	28.797	23.930	-	23.930
Total Adjustments	-2.632	0.000	0.000	-	0.000
• Congressional General Reductions	-	0.000			
• Congressional Directed Reductions	-	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	-	0.000			
• Congressional Directed Transfers	-	0.000			
• Reprogrammings	-0.916	0.000			
• SBIR/STTR Transfer	-1.716	0.000			
• Other Adjustments	0.000	0.000	0.000	-	0.000

Change Summary Explanation

FY12; -$1.716M for SBIR

-$0.916M for higher priority Department priorities

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604421F: *Counterspace Systems*	PROJECT 65A001: *Counter Satellite Communications System*	

COST ($ in Millions)	All Prior Years	FY 2012	FY 2013#	FY 2014 Base	FY 2014 OCO ##	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
65A001: *Counter Satellite Communications System*	-	17.882	16.362	16.277	-	16.277	16.275	16.463	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 OCO Request will be submitted at a later date

Note

FY12: -$1.246M for higher priority Department requirments

A. Mission Description and Budget Item Justification

This effort supports concept exploration and follow-on system development of mobile/transportable counter satellite communications capabilities in the area of Offensive Counterspace. Included are: architecture engineering, system hardware design and development, software design and integration, testing and procurement of capabilities to provide disruption of satellite communications signals in response to USSTRATCOM requirements. 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.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Title: Counter Communications System (CCS) Pre-planned Product Improvement (P3I)	14.309	12.970	12.926
Description: Develop, integrate, test and field the CCS Pre-planned Product Improvement (P3I) program. ***FY 2012 Accomplishments:*** Completed integration and test of Increment 1 of the CCS P3I (CCS 10.1). Developed the Increment 1 trainer. Began concept activities for the development of Increment 2. ***FY 2013 Plans:*** Continuing with the CCS P3I. Delivering the Increment 1 Trainer and beginning 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).			
Title: Program Management Administration	3.573	3.392	3.351

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604421F: *Counterspace Systems*	PROJECT 65A001: *Counter Satellite Communications System*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Description: Provides program management support activities such as technical studies & analyses, systems engineering & integration, acquisition planning & milestone preparation, business case analyses, admin support and program office travel. ***FY 2012 Accomplishments:*** Provided program management support activities such as technical studies & analyses, systems engineering & integration, acquisition planning & milestone preparation, business case analyses, admin support and program office travel. ***FY 2013 Plans:*** Providing program management support activities such as technical studies & analyses, systems engineering & integration, acquisition planning & milestone preparation, business case analyses, admin support and program office travel. ***FY 2014 Plans:*** Provide program management support activities such as technical studies & analyses, systems engineering & integration, acquisition planning & milestone preparation, business case analyses, admin support and program office travel.			
Accomplishments/Planned Programs Subtotals	17.882	16.362	16.277

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• OPAF:BA03:Line Item #836810: *Counterspace Systems*	14.248	13.506	7.171		7.171	16.953	14.808	0.000	0.000	0.000	70.411

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-3, RDT&E Project Cost Analysis: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604421F: *Counterspace Systems*	PROJECT 65A001: *Counter Satellite Communications System*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Block 10 P3I Development (1)	Various	Harris Corp:Melbourne, FL	-	11.514	Nov 2011	7.915	Nov 2012	9.781	Nov 2013	-		9.781	Continuing	Continuing	TBD
Block 10 P3I Development (2)	Various	Various:El Segundo, CA	-	0.396	Nov 2011	1.136	Nov 2012	0.978	May 2014	-		0.978	Continuing	Continuing	TBD
Block 10 P3I Development (3)	RO	Aerospace Corp:El Segundo, CA	-	0.150	May 2012	1.749	Jan 2013	0.000		-		0.000	0.000	1.899	11.144
		Subtotal	0.000	12.060		10.800		10.759		0.000		10.759			

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Security	C/CPAF	Mantech:El Segundo, CA	-	2.249	Nov 2011	1.879	Nov 2012	1.873	Nov 2013	-		1.873	Continuing	Continuing	TBD
Miscellaneous Support Services	Various	Various:,	-	0.000		0.141	Nov 2012	0.141	Nov 2013	-		0.141	Continuing	Continuing	TBD
		Subtotal	0.000	2.249		2.020		2.014		0.000		2.014			

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
OT&E	Various	Various:Colorado Springs, CO	-	0.000		0.150	Jan 2013	0.153	Jan 2014	-		0.153	Continuing	Continuing	TBD
		Subtotal	0.000	0.000		0.150		0.153		0.000		0.153			

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604421F: *Counterspace Systems*	PROJECT 65A001: *Counter Satellite Communications System*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Administration (PMA)	Various	Space and Missile Systems Center:El Segundo, CA	-	1.996	Nov 2011	2.142	Nov 2012	2.070	Nov 2013	-		2.070	Continuing	Continuing	TBD
Engineering Support (FFRDC)	RO	Aerospace Corp:El Segundo, CA	-	1.577	Nov 2011	1.250	Nov 2012	1.281	Nov 2013	-		1.281	Continuing	Continuing	TBD
		Subtotal	0.000	3.573		3.392		3.351		0.000		3.351			

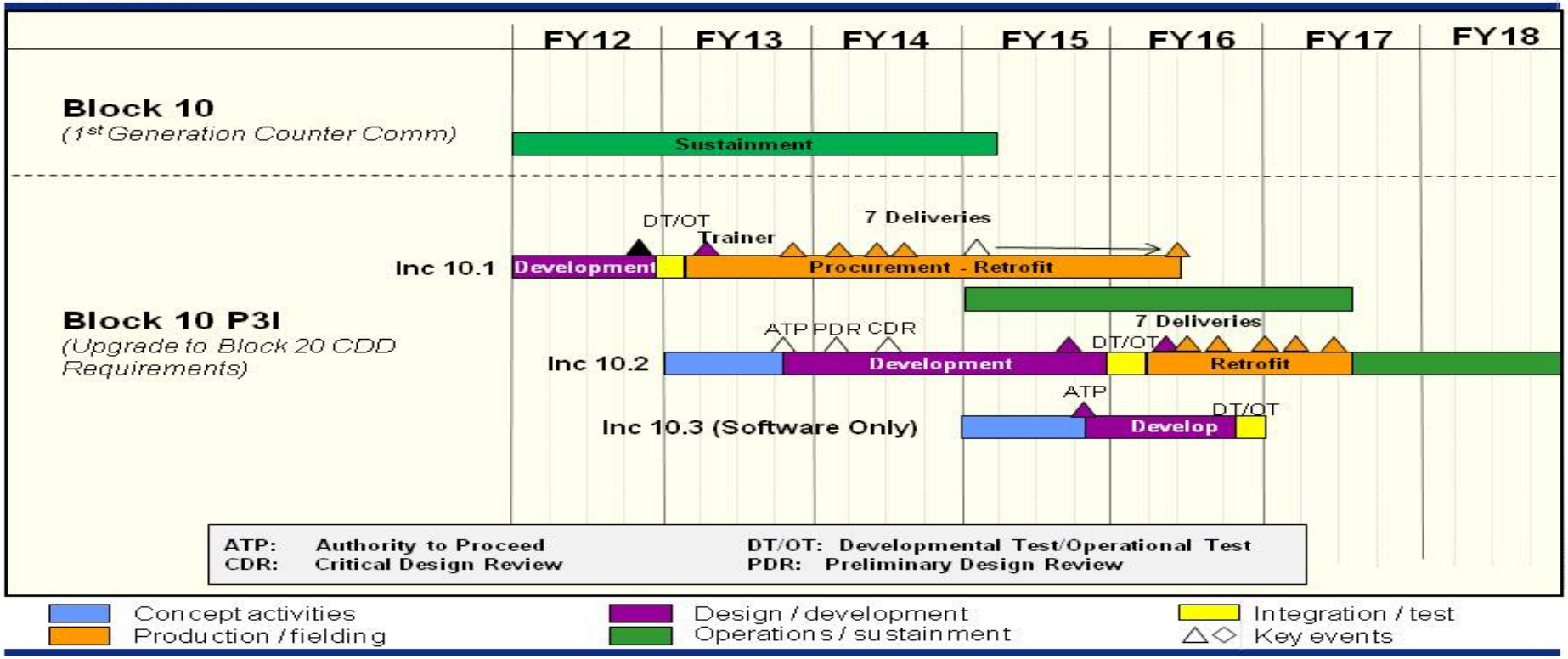
	All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	17.882		16.362		16.277		0.000		16.277			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604421F: *Counterspace Systems*	PROJECT 65A001: *Counter Satellite Communications System*

U.S. AIR FORCE

Counterspace Systems CCS Schedule



1

Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0604421F: *Counterspace Systems*	**PROJECT** 65A001: *Counter Satellite Communications System*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Block 10 P3I Increment 1 Development/Operational Test (DT/OT)	4	2012	1	2013
Block 10 P3I Increment 1 Procurement/Retrofit	1	2013	2	2016
Block 10 P3I Increment 2 Contract Award	4	2013	4	2013
Block 10 P3I Increment 2 Development	4	2013	4	2015
Block 10 P3I Increment 2 DT/OT	1	2016	1	2016
Block 10 P3I Increment 2 Procurement - Retrofit	1	2016	3	2017
Block 10 P3I Increment 3 Contract Award	4	2015	4	2015
Block 10 P3I Increment 3 Development	4	2015	4	2016
Block 10 P3I Increment 3 DT/OT	4	2016	4	2016

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604421F: *Counterspace Systems*	PROJECT 65A003: *Rapid Identification Detection and Reporting System (RAIDRS)*	

COST ($ in Millions)	All Prior Years	FY 2012	FY 2013#	FY 2014 Base	FY 2014 OCO ##	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
65A003: *Rapid Identification Detection and Reporting System (RAIDRS)*	-	4.150	4.877	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 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 2012	FY 2013	FY 2014
Title: RAIDRS ***Description:*** Develop, integrate, test and field 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 2012 Accomplishments:*** Continued acceptance testing and Training system development. Completed Operational Test & Evaluation (OT&E) and began the Full Operational Capability (FOC) Trainer. ***FY 2013 Plans:*** Complete Full Operational Capability (FOC) trainer acceptance testing.	2.954	3.300	0.000
Title: Program Management Administration (PMA) ***Description:*** Provides program management support activities such as technical studies & analyses, systems engineering & integration, acquisition planning & milestone preparation, business case analyses, admin support and program office travel. ***FY 2012 Accomplishments:***	1.196	1.577	0.000

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604421F: *Counterspace Systems*	PROJECT 65A003: *Rapid Identification Detection and Reporting System (RAIDRS)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Provided program management support activities such as technical studies & analyses, systems engineering & integration, acquisition planning & milestone preparation, business case analyses, admin support and program office travel. ***FY 2013 Plans:*** Providing program management support activities such as technical studies & analyses, systems engineering & integration, acquisition planning & milestone preparation, business case analyses, admin support and program office travel.			
Accomplishments/Planned Programs Subtotals	4.150	4.877	0.000

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• OPAF:BA03:Line Item #836810: *Counterspace Systems*	8.118	6.092	0.000		0.000	0.000	0.000	0.000	0.000	0.000	47.010

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-3, RDT&E Project Cost Analysis: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604421F: *Counterspace Systems*	PROJECT 65A003: *Rapid Identification Detection and Reporting System (RAIDRS)*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
RAIDRS System Development	C/CPAF	Integral Systems Inc:Columbia, MD	-	2.633	Oct 2011	3.198	Oct 2012	0.000		-		0.000	0.000	5.831	96.376
RAIDRS Training System	C/CPFF	Sonalysts:Waterford, CT	-	0.241	Oct 2011	0.029	Nov 2012	0.000		-		0.000	0.000	0.270	7.282
		Subtotal	0.000	2.874		3.227		0.000		0.000		0.000	0.000	6.101	103.658

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
RAIDRS Test Support	Various	Various:Various,	-	0.080	Nov 2011	0.073	Oct 2012	0.000		-		0.000	0.000	0.153	0.953
		Subtotal	0.000	0.080		0.073		0.000		0.000		0.000	0.000	0.153	0.953

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Admin (PMA)	Various	Space and Missile Center:El Segundo, CA	-	0.964	Oct 2011	1.336	Oct 2012	0.000		-		0.000	0.000	2.300	26.548
Systems Engineering (FFRDC)	RO	Aerospace Corp:El Segundo, CA	-	0.232	Oct 2011	0.241	Oct 2012	0.000		-		0.000	0.000	0.473	12.281
		Subtotal	0.000	1.196		1.577		0.000		0.000		0.000	0.000	2.773	38.829

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604421F: *Counterspace Systems*	PROJECT 65A003: *Rapid Identification Detection and Reporting System (RAIDRS)*	

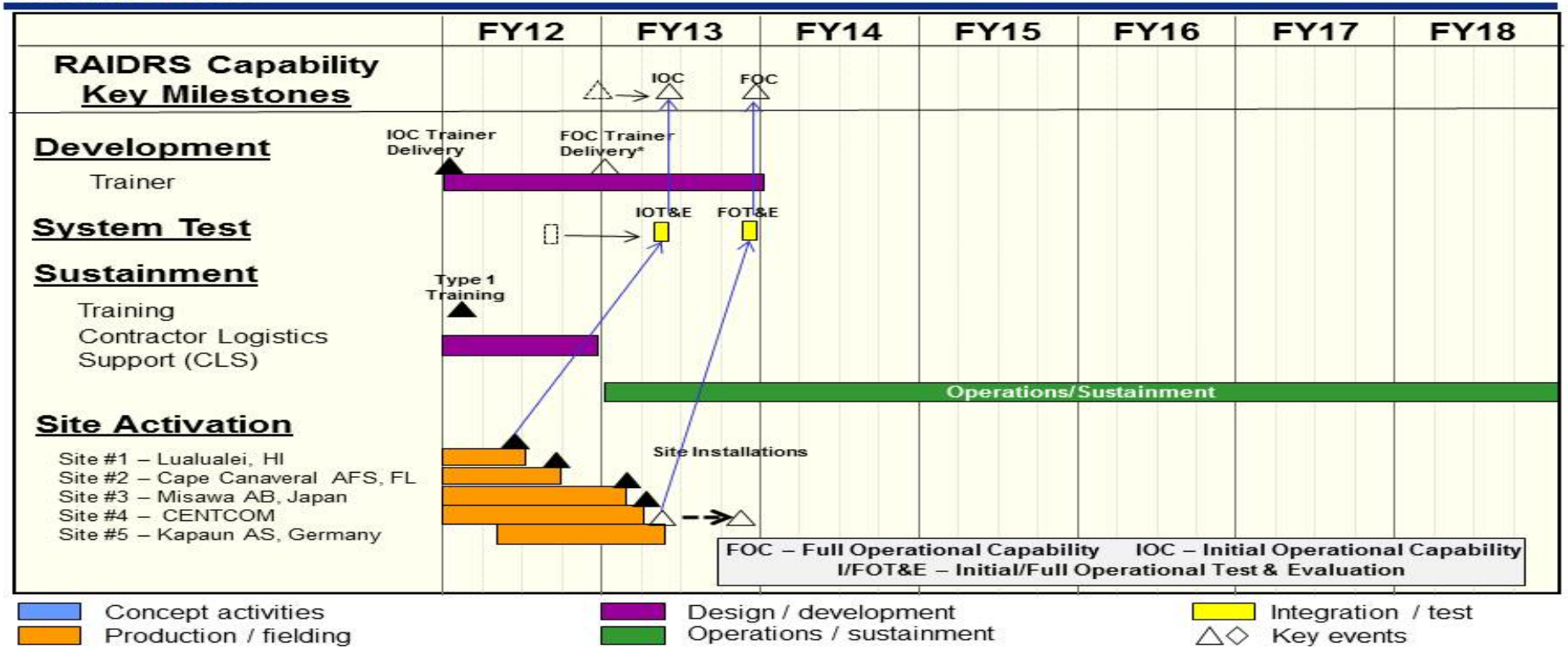
	All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	4.150		4.877		0.000		0.000		0.000	0.000	9.027	143.440

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604421F: *Counterspace Systems*	PROJECT 65A003: *Rapid Identification Detection and Reporting System (RAIDRS)*

U.S. AIR FORCE

Counterspace Systems RAIDRS Schedule



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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0604421F: *Counterspace Systems*	**PROJECT** 65A003: *Rapid Identification Detection and Reporting System (RAIDRS)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
RAIDRS IOC	2	2013	2	2013
RAIDRS FOC	4	2013	4	2013
RAIDRS TRAINER DELIVERY	1	2013	1	2013
RAIDRS Operational Test and Evaluation	2	2013	4	2013
RAIDRS Operator Training	1	2012	1	2012
Site #1 Activation	1	2012	2	2012
Site #2 Activation	1	2012	3	2012
Site #3 Activation	1	2012	1	2013
Site #4 Activation	1	2012	4	2013
Site #5 Activation	2	2012	2	2013

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604421F: *Counterspace Systems*	PROJECT 65A005: *Offensive Counterspace (OCS) C2*	

COST ($ in Millions)	All Prior Years	FY 2012	FY 2013#	FY 2014 Base	FY 2014 OCO ##	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
65A005: *Offensive Counterspace (OCS) C2*	-	6.914	7.558	7.653	-	7.653	7.767	7.903	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 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. The activity to modify and prepare JETSS technology/capability for transition to JMS is planned to occur during Spiral V. This program is in Budget Activity 5, System Development and Demonstration, because it supports the engineering and manufacturing development of counterspace and space control systems.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Title: Joint Execution and Tasking System for Space (JETSS)	6.039	6.607	6.691
Description: Develop a Counterspace mission planning and command and control capability to support counterspace systems space control warfighter activities. ***FY 2012 Accomplishments:*** Completed development of JETSS Spiral 3 Future System Planning, Deployment Planner, Federated Query and Continuity of Operations (COOP) and deployment to the Joint Space Operations Center. ***FY 2013 Plans:*** Continuing JETSS development with Spiral 4 future system planning development and deployment to the JSPOC. Includes Command & Control Internet Service Provider (C2ISP), Text Chat Upgrade, Rapid Text Input and Thin Client Study. ***FY 2014 Plans:*** Continue JETSS development with Spiral 5, which includes a tech refresh, integration into Joint Space Operations Center (JSPOC) Missions System (JMS) Service Oriented Architecture (SOA) and future system planning.			
Title: Program Management Administration (PMA)	0.875	0.951	0.962

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604421F: *Counterspace Systems*	PROJECT 65A005: *Offensive Counterspace (OCS) C2*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Description: Provides program management support activities such as technical studies & analyses, systems engineering & integration, acquisition planning & milestone preparation, business case analyses, admin support and program office travel. ***FY 2012 Accomplishments:*** Provided program management support activities such as technical studies & analyses, systems engineering & integration, acquisition planning & milestone preparation, business case analyses, admin support and program office travel. ***FY 2013 Plans:*** Provide program management support activities such as technical studies & analyses, systems engineering & integration, acquisition planning & milestone preparation, business case analyses, admin support and program office travel. ***FY 2014 Plans:*** Provides program management support activities such as technical studies & analyses, systems engineering & integration, acquisition planning & milestone preparation, business case analyses, admin support and program office travel.			
Accomplishments/Planned Programs Subtotals	6.914	7.558	7.653

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• None: *N/A*	0.000	0.000	0.000		0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

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-3, RDT&E Project Cost Analysis: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604421F: *Counterspace Systems*	PROJECT 65A005: *Offensive Counterspace (OCS) C2*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Develop Counterspace Planning and C2 System (JETSS)	C/CPAF	General Dynamics:Santa Clara, CA	-	5.184	Mar 2012	5.750	Jan 2013	5.835	Dec 2013	-		5.835	Continuing	Continuing	TBD
Counterspace Architecture Development	C/CPFF	Northrup Grumman Mission Systems:Redondo Beach, CA	-	0.781	Dec 2011	0.779	Dec 2012	0.780	Dec 2013	-		0.780	Continuing	Continuing	TBD
		Subtotal	0.000	5.965		6.529		6.615		0.000		6.615			

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Support	Various	Various:,	-	0.074	Jul 2012	0.078	Jul 2013	0.076	Jul 2014	-		0.076	Continuing	Continuing	TBD
		Subtotal	0.000	0.074		0.078		0.076		0.000		0.076			

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Management and Professional Support Services (PMA)	Various	Various:,	-	0.875	Dec 2011	0.951	Dec 2012	0.962	Dec 2013	-		0.962	Continuing	Continuing	TBD
		Subtotal	0.000	0.875		0.951		0.962		0.000		0.962			

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604421F: *Counterspace Systems*	PROJECT 65A005: *Offensive Counterspace (OCS) C2*	

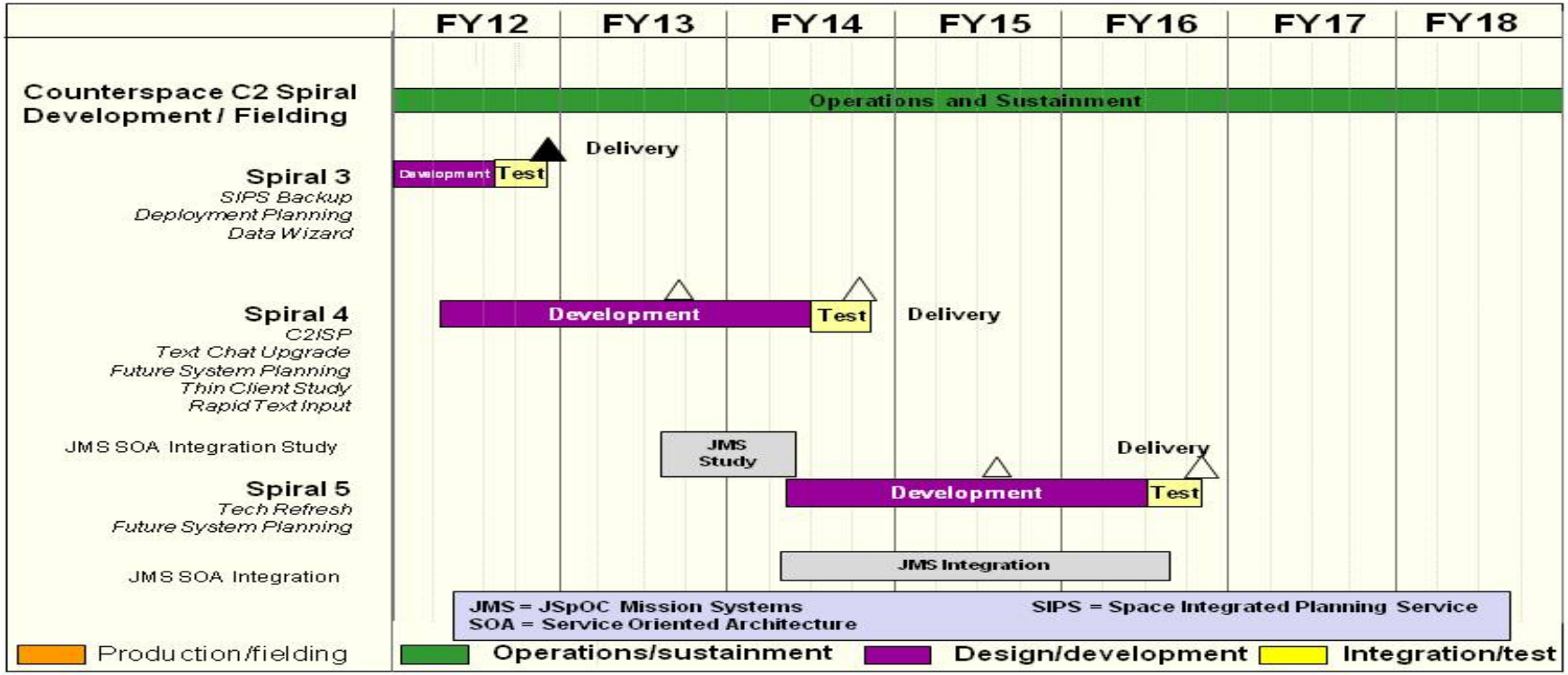
	All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	6.914		7.558		7.653		0.000		7.653			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604421F: *Counterspace Systems*	PROJECT 65A005: *Offensive Counterspace (OCS) C2*

U.S. AIR FORCE

Counterspace C2 Schedule



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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604421F: *Counterspace Systems*	PROJECT 65A005: *Offensive Counterspace (OCS) C2*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
C2 Spiral #3 Test	3	2012	4	2012
C2 Spiral #3 Delivery	4	2012	4	2012
C2 Spiral #4 Development	2	2012	3	2014
C2 Spiral #4 Test	3	2014	4	2014
C2 Spiral #4 Delivery	4	2014	4	2014
JMS SOA Integration Study	3	2013	2	2014
C2 Spiral #5 Development	2	2014	2	2016
C2 Spiral #5 Test	2	2016	4	2016
C2 Spiral #5 Delivery	4	2016	4	2016
JMS SOA Integration	2	2014	2	2016

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force											DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*					R-1 ITEM NOMENCLATURE PE 0604425F: *Space Situation Awareness Systems*							
COST ($ in Millions)	**All Prior Years**	**FY 2012**	**FY 2013#**	**FY 2014 Base**	**FY 2014 OCO ##**	**FY 2014 Total**	**FY 2015**	**FY 2016**	**FY 2017**	**FY 2018**	**Cost To Complete**	**Total Cost**
Total Program Element	1,336.090	216.212	267.252	400.258	-	400.258	385.881	218.900	108.600	0.000	Continuing	Continuing
65A006: *Space Based Space Surveillance*	968.453	0.000	2.071	2.000	-	2.000	0.000	0.000	0.000	0.000	Continuing	Continuing
65A009: *Space Fence*	252.280	178.174	252.578	377.700	-	377.700	378.700	218.900	108.600	0.000	Continuing	Continuing
65A012: *Net-centric Sensors and Data Sources*	43.709	9.584	12.603	12.018	-	12.018	7.181	0.000	0.000	0.000	Continuing	Continuing
65A026: *C-Band Radar*	0.000	0.000	0.000	8.540	-	8.540	0.000	0.000	0.000	0.000	Continuing	Continuing
65A038: *SSA Environmental Monitoring*	71.648	28.454	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
MDAP/MAIS Code(s): 328,438												

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 OCO Request will be submitted at a later date

A. Mission Description and Budget Item Justification

Space Situational Awareness (SSA) is knowledge of all aspects of space related to operations. As the foundation for space control, SSA encompasses 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 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, responsive space operations.

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.

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0604425F: *Space Situation Awareness Systems*

B. Program Change Summary ($ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	238.261	267.252	340.905	-	340.905
Current President's Budget	216.212	267.252	400.258	-	400.258
Total Adjustments	-22.049	0.000	59.353	-	59.353
• Congressional General Reductions	-	0.000			
• Congressional Directed Reductions	-	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	-	0.000			
• Congressional Directed Transfers	-	0.000			
• Reprogrammings	-9.220	0.000			
• SBIR/STTR Transfer	-12.829	0.000			
• Other Adjustments	0.000	0.000	59.353	-	59.353

Change Summary Explanation

FY12: -$9.22M reprogramming from Space Fence for higher Department priorities
FY12: -$12.829 SBIR

FY14: -$6.0M SBSS Follow-On cancelled
FY14: +$56.8M add funds for Space Fence
FY14: +$8.54M C-Band Radar New Start
FY14: +$.06M add funds for NCSDS

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604425F: *Space Situation Awareness Systems*	PROJECT 65A006: *Space Based Space Surveillance*	

COST ($ in Millions)	All Prior Years	FY 2012	FY 2013#	FY 2014 Base	FY 2014 OCO ##	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
65A006: *Space Based Space Surveillance*	968.453	0.000	2.071	2.000	-	2.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 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 (launched on 25 September 2010) builds upon the success of the Space-Based Visible (SBV) technology demonstration, which proved the utility of conducting space object surveillance from space. SBSS provides the capability to search, detect, and track objects primarily in deep space. It accomplishes this via collecting and processing space object identification and satellite metric data, then communicating it to command and control nodes. Surveillance from space augments existing ground sensors with timely 24-hour, all-weather, all-geography object search capabilities. In conjunction with information from other Space Situational Awareness (SSA) network sensors, SBSS data enables more timely detection and tracking of space objects, particularly those in deep space.

The SBSS Follow-on program was terminated in FY14 and beyond to pay for higher department priorities. Current FY14 funding will pay for a Lawrence Livermore National Laboratory (LLNL) initiative called Space-based Telescopes for Actionable Refinement of Ephemeris (STARE). The project will study the potential for a constellation of low Earth orbiting nano satellites to observe objects in deep space.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Title: Program Support and Management Services	0.000	2.071	2.000
Description: Program management support for space-based space surveillance activities. ***FY 2013 Plans:*** Conducting acquisition strategy planning and Space Situational Awareness (SSA) architecture analysis to support future generation space-based SSA capabilities. ***FY 2014 Plans:*** LLNL will study the potential for using STARE to observe deep space objects.			
Accomplishments/Planned Programs Subtotals	0.000	2.071	2.000

C. Other Program Funding Summary ($ in Millions)

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604425F: *Space Situation Awareness Systems*	PROJECT 65A006: *Space Based Space Surveillance*

C. Other Program Funding Summary ($ in Millions)

Remarks

D. Acquisition Strategy

The SBSS Block 10 system is currently operational. The SBSS Follow-On program is terminated in the FY14 PB. Architectural studies are being conducted in FY13 to determine the best way to provide any future space-based space surveillance beyond the life of the current system. LLNL will study the potential for STARE to supplement deep space catalog maintenace in FY14.

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 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604425F: *Space Situation Awareness Systems*	PROJECT 65A006: *Space Based Space Surveillance*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Block 10 design and development	C/CPAF	Northrop Grumman:Redondo Beach, CA	549.291	0.000		0.000		0.000		-		0.000	0.000	549.291	
Block 10 Technical risk reduction, mission planning & mission data processing	SS/CPFF	MIT Lincoln Laboratory:Lexington, MA	29.271	0.000		0.000		0.000		-		0.000	0.000	29.271	
Block 10 Launch vehicle integration	MIPR	Space and Missile Systems Center Det.:Kirtland AFB, NM	85.644	0.000		0.000		0.000		-		0.000	0.000	85.644	
Block 10 contractor ops & Interim Contract Support	SS/CPAF	Boeing:Huntington Beach, CA	152.223	0.000		0.000		0.000		-		0.000	0.000	152.223	
SBSS Follow-on Design & Development	Various	Various:Various,	8.430	0.000		0.000		0.000		-		0.000	0.000	8.430	
SSA risk reduction and technology transfer	Various	Various:Various,	33.247	0.000		0.000		0.000		-		0.000	0.000	33.247	
STARE Study and Design work	MIPR	Lawrence Livermore National Laboratory:Livermore, CA	0.000	0.000		0.000		2.000	Oct 2013	-		2.000	0.000	2.000	
		Subtotal	858.106	0.000		0.000		2.000		0.000		2.000	0.000	860.106	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Office Support, FFRDC	SS/CPFF	Aerospace:Los Angeles, CA	43.773	0.000		0.977	Oct 2012	0.000		-		0.000	0.000	44.750	
Engineering and Technical Services	C/FFP	AT&T Government Solutions, Inc:Los Angeles, CA	21.310	0.000		0.708	Dec 2012	0.000		-		0.000	0.000	22.018	

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604425F: *Space Situation Awareness Systems*	PROJECT 65A006: *Space Based Space Surveillance*	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Other Support Activities	Various	Various:Los Angeles, CA	30.708	0.000		0.265	Oct 2012	0.000		-		0.000	0.000	30.973	
		Subtotal	95.791	0.000		1.950		0.000		0.000		0.000	0.000	97.741	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Activities (other PMA)	Various	Various:Los Angeles, CA	9.718	0.000		0.021	Dec 2012	0.000		-		0.000	0.000	9.739	
SMC Financial Services	C/FFP	Tecolote Research, Inc:Los Angeles, CA	4.838	0.000		0.100		0.000		-		0.000	0.000	4.938	
		Subtotal	14.556	0.000		0.121		0.000		0.000		0.000	0.000	14.677	

	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	968.453	0.000		2.071		2.000		0.000		2.000	0.000	972.524	

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604425F: *Space Situation Awareness Systems*	PROJECT 65A006: *Space Based Space Surveillance*

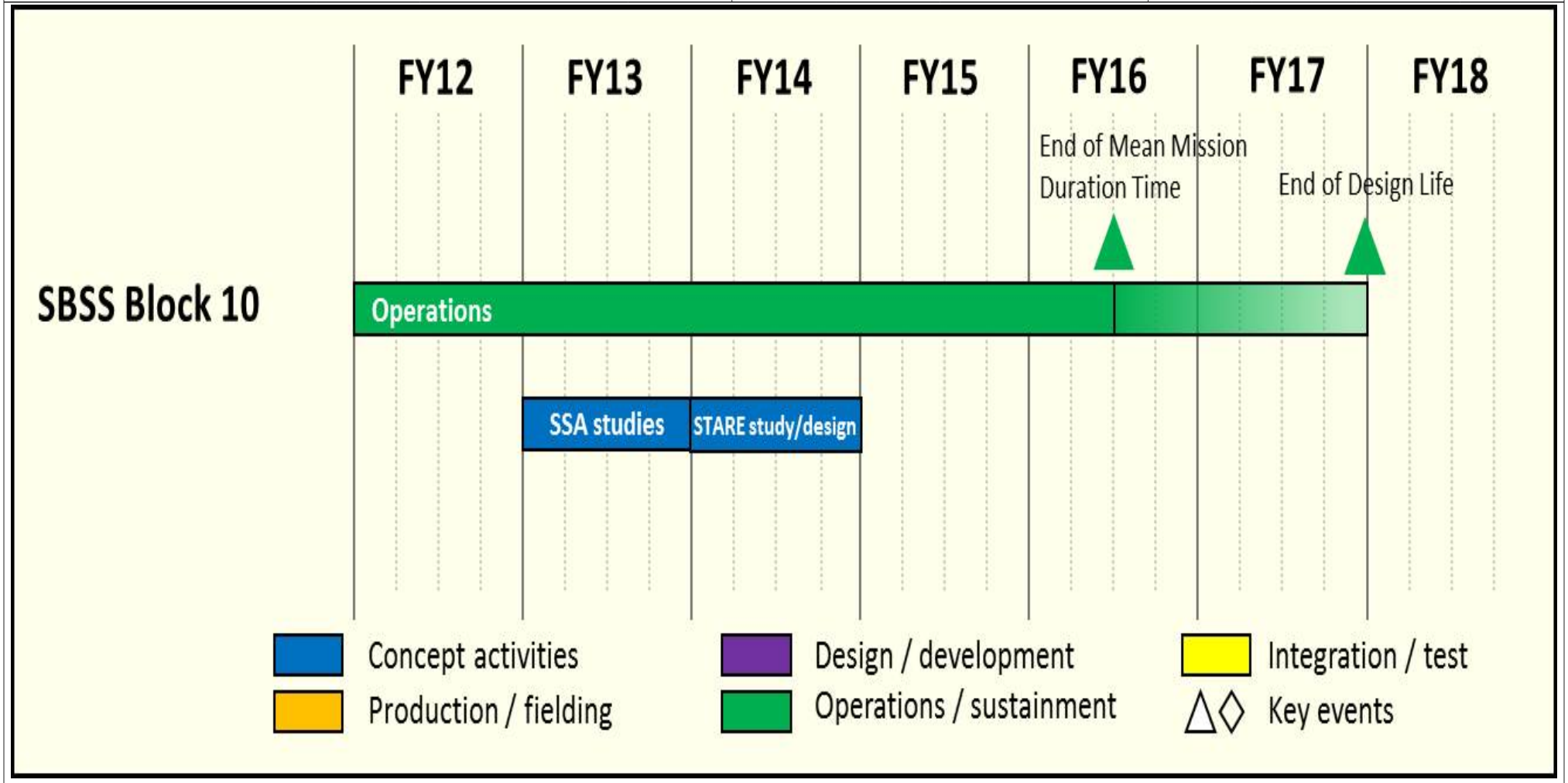


Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0604425F: *Space Situation Awareness Systems*	**PROJECT** 65A006: *Space Based Space Surveillance*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Block 10 Ops	1	2012	4	2017
Space Based SSA alternatives study	1	2013	4	2013
STARE Work	1	2014	4	2014

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604425F: *Space Situation Awareness Systems*	PROJECT 65A009: *Space Fence*	

COST ($ in Millions)	All Prior Years	FY 2012	FY 2013#	FY 2014 Base	FY 2014 OCO ##	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
65A009: *Space Fence*	252.280	178.174	252.578	377.700	-	377.700	378.700	218.900	108.600	0.000	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 OCO Request will be submitted at a later date

A. Mission Description and Budget Item Justification

The Space Fence effort will develop a system of ground-based sensors to improve upon the aging Air Force Space Surveillance System (AFSSS), a Very High Frequency (VHF) radar operational since 1961. The Space Fence will provide more accurate and timely detection of smaller orbiting objects, primarily in low-earth orbit (LEO). The system will use co-located higher frequency radar transmitters and receivers 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.

The efforts for this project 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. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Title: Space Fence	178.174	252.578	377.700
Description: Space Fence contractors completed Phase A prototyping activities and the program conducted a Preliminary Design Review. The Air Force is proceeding through acquisition Milestone B activities and released a Request for Proposal (RFP) for the final system development and production contract to be awarded in the third quarter of FY13.			
FY 2012 Accomplishments: The two contractors completed a Preliminary Design Review and risk reduction activities, including a 60% facilities design and end-to-end prototype demonstration of design approaches. The Milestone Decision Authority (MDA) approved the Space Fence Acquisition Strategy to support Milestone B.			
FY 2013 Plans: MDA authorizing release of the RFP for the Engineering and Manufacturing Development (EMD) contract in first quarter of FY13. The program is conducting source selection and is receiving Milestone B approval and awarding the contract and in third quarter of FY13. Space Fence is securing Air Force approval of its candidate Critical Technology Elements (CTEs) and concurrence on the Preliminary Technology Readiness Assessment.			
FY 2014 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604425F: *Space Situation Awareness Systems*	PROJECT 65A009: *Space Fence*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
The contractor will conduct EMD, Production and Deployment activities in support of Integrated System Design culminating in a Critical Design Review, Systems Engineering & Integration and technical and program support. The contractor will begin site 1 construction.			
Accomplishments/Planned Programs Subtotals	178.174	252.578	377.700

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• OPAF: BA03: 836790: *Space Mods Space*	0.000	0.000	0.000		0.000	0.000	0.000	0.000	49.100	Continuing	Continuing

Remarks

D. Acquisition Strategy

Lockheed Martin and Raytheon successfully completed contracts for development through Preliminary Design Review (PDR). In FY13, A final full and open competition will conclude and a single Engineering and Manufacturing Development (EMD), Production and Deployment contract will be awarded. 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. Milestone B for Increment 1 is planned for FY13. Increment 2/Full Operational Capability (FOC) is planned for FY20 and will include completion of the second radar at a location which is still under 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 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604425F: *Space Situation Awareness Systems*	PROJECT 65A009: *Space Fence*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Design and development (Lockheed Martin)	C/FFP	Lockheed Martin:Moorestown, NJ	30.000	0.000		0.000		0.000		-		0.000	0.000	30.000	30.000
Design and development (Northrop Grumman)	C/FFP	Northrop Grumman:Linthicum Heights, MD	15.922	0.000		0.000		0.000		-		0.000	0.000	15.922	15.922
Design and development (Raytheon)	C/FFP	Raytheon:Sudbury, MA	30.000	0.000		0.000		0.000		-		0.000	0.000	30.000	30.000
System design and prototyping (Lockheed Martin)	C/FFP	Lockheed Martin:Moorestown, NJ	62.567	49.167	Oct 2011	0.000		0.000		-		0.000	0.000	111.734	111.734
System design and prototyping (Raytheon)	C/FFP	Raytheon:Sudbury, MA	63.266	48.349	Oct 2011	0.000		0.000		-		0.000	0.000	111.615	111.615
System development	Various	TBD:TBD,	0.000	66.627	Apr 2013	236.419	Apr 2013	362.666	Oct 2013	-		362.666	671.894	1,337.606	1,363.606
		Subtotal	201.755	164.143		236.419		362.666		0.000		362.666	671.894	1,636.877	1,662.877

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Various (Independent Program Assessment, site survey, travel)	Various	Various:Various,	0.000	1.086	Oct 2011	0.459	Oct 2012	0.465	Oct 2012	-		0.465	1.209	3.219	3.219
Design Oversight and Management (Software Engineering Institute)	SS/FP	Carnegie Mellon University:Pittsburgh, PA	0.000	0.130	Jul 2012	0.000		0.000		-		0.000	0.000	0.130	0.130
Design Oversight and Management (Mitre)	SS/FP	Mitre Corp:Bedford, MA	10.066	3.946	Nov 2011	4.679	Nov 2012	3.916	Nov 2013	-		3.916	8.110	30.717	30.717
Design Oversight and Management (MIT/LL)	SS/FP	MIT Lincoln Laboratory:Lexington, MA	10.825	3.300	Nov 2011	3.642	Nov 2012	1.766	Nov 2013	-		1.766	3.654	23.187	23.187
		Subtotal	20.891	8.462		8.780		6.147		0.000		6.147	12.973	57.253	57.253

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604425F: *Space Situation Awareness Systems*	PROJECT 65A009: *Space Fence*

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test - 46th Test Group	PO	46th Test Group:Eglin AFB, FL	0.000	0.259	Feb 2012	0.741	Jan 2013	0.935	Jan 2014	-		0.935	5.045	6.980	6.980
Test - Joint Interoperability Test Command	MIPR	Joint Interoperability Test Command:Fort Huachuca, AZ	0.000	0.023	May 2012	0.024	Jan 2013	0.024	Jan 2014	-		0.024	0.393	0.464	0.464
		Subtotal	0.000	0.282		0.765		0.959		0.000		0.959	5.438	7.444	7.444

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Office Support (Infrastructure) (PMA)	Various	Various:Various,	12.205	1.307	Oct 2011	2.300	Dec 2012	3.740	Oct 2013	-		3.740	6.522	26.074	26.074
Program Office Support, Technical Studies and Analysis, Systems Engineering and Integration Management (PMA)	Various	Various:Various,	5.114	0.556	Oct 2011	0.665	Oct 2012	0.670	Oct 2013	-		0.670	2.062	9.067	9.067
Development Review and Management (Odyssey) (PMA)	C/CPFF	Odyssey Systems:Wakefield, MA	5.364	1.984	Feb 2012	1.789	Nov 2012	1.396	Dec 2013	-		1.396	2.675	13.208	13.208
Development Review and Management (Jacobs) (PMA)	C/CPFF	Jacobs Technology:Tullehoma, TN	6.951	1.440	Jan 2012	1.860	Dec 2012	2.122	Dec 2013	-		2.122	4.636	17.009	17.009
		Subtotal	29.634	5.287		6.614		7.928		0.000		7.928	15.895	65.358	65.358

	All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	252.280	178.174		252.578		377.700		0.000		377.700	706.200	1,766.932	1,792.932

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604425F: *Space Situation Awareness Systems*	PROJECT 65A009: *Space Fence*

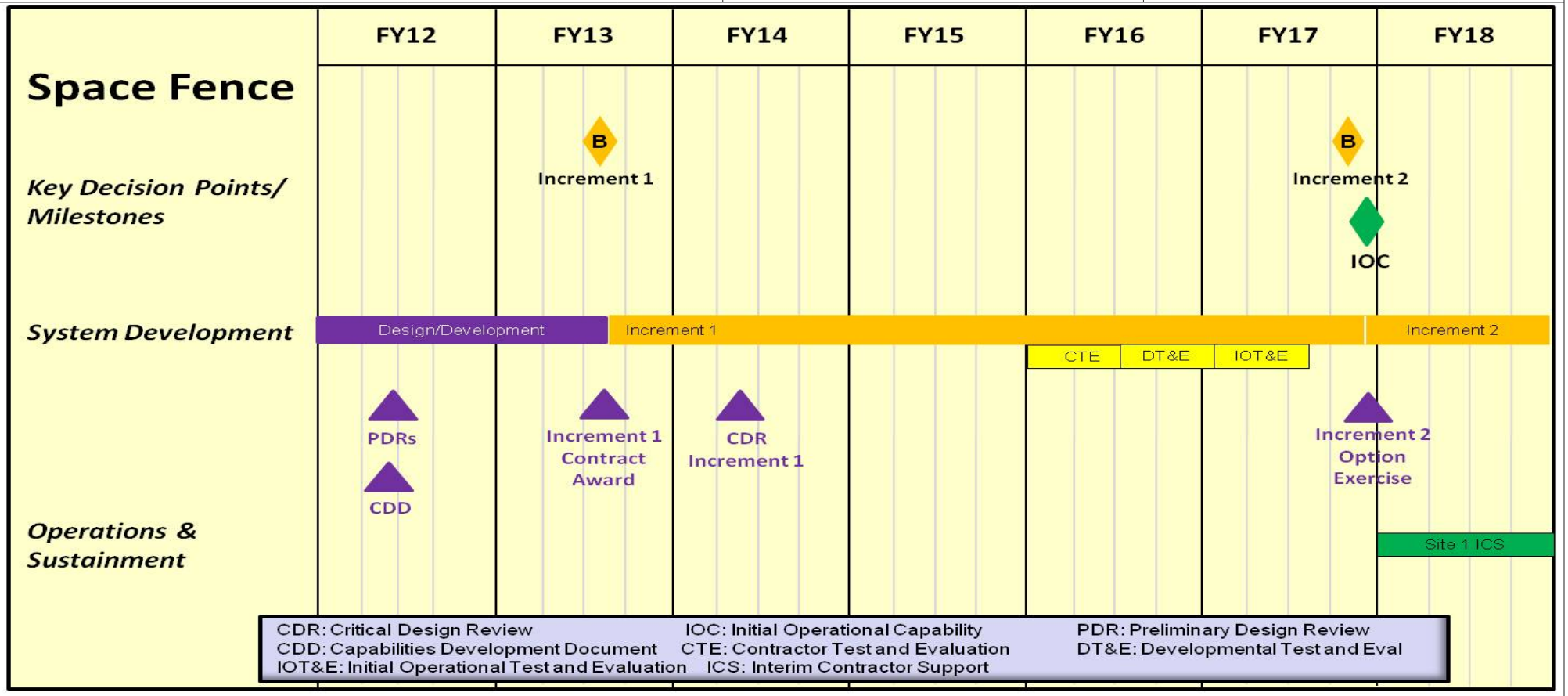


Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0604425F: *Space Situation Awareness Systems*	**PROJECT** 65A009: *Space Fence*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Capabilities Development Document	2	2012	2	2012
Preliminary Design Review (PDR)	2	2012	2	2012
Milestone B Increment 1	3	2013	3	2013
Contract Award Increment 1	3	2013	3	2013
Critical Design Review (CDR) Increment 1	2	2014	2	2014
Milestone B Increment 2	4	2017	4	2017
Initial Operational Capability (IOC) Increment 1	4	2017	4	2017
Option Exercise Increment 2	4	2017	4	2017

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604425F: *Space Situation Awareness Systems*	PROJECT 65A012: *Net-centric Sensors and Data Sources*	

COST ($ in Millions)	All Prior Years	FY 2012	FY 2013#	FY 2014 Base	FY 2014 OCO ##	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
65A012: *Net-centric Sensors and Data Sources*	43.709	9.584	12.603	12.018	-	12.018	7.181	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 OCO Request will be submitted at a later date

A. Mission Description and Budget Item Justification

Net-centric Sensors and Data Sources efforts migrate the space surveillance network, non-traditional SSA sensors and data sources for use by any entity (primarily the 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, US Strategic Command's Joint Functional Component Commander for 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.

These efforts are in Budget Activity 5, System Development & Demonstration, because they develop and demonstrate validated requirements for better integration of SSA data.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Title: SENSOR & DATA INTEGRATION & EXPOSURE	7.532	9.208	8.258
Description: Providing Data Exposure and Data Source Integation Net-Centrically for consumption and use by the JSpOC and other users			
FY 2012 Accomplishments: Delivered version 2 Roadmap resulting in program re-baselining. Transitioned Cheyenne Mountain Processor Space (CPS) Service Oriented Architecture (SOA) Server (CS^3) system to JSpOC Mission System (JMS). Completed Air Force Satellite Control Network (AFSCN) Link Protection System (ALPS) and first instantiation of the common data model.			

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604425F: *Space Situation Awareness Systems*	PROJECT 65A012: *Net-centric Sensors and Data Sources*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Delivered version 2 data source roadmapping. Developed a sustainable version of the sidecar for deployment at GEODSS Socorro in 3QFY13. Developed operational version of Blue Force Status (BFS) which reports on the Wideband Global SATCOM (WGS) system. Acquired ops acceptance for ALPS. ***FY 2013 Plans:*** Deliver version 3 data source road mapping. Deliver sustainable sidecar to GEODSS sites (Socorro, Maui, and Diego Garcia). Initiate data exposure of Defense Special Missile and Astronautics Center Daily Anticipated Activity Reports (DEFSMAC DAAR) , and Space Tracking and Surveillance System (STSS). Deploy BFS operational version which reports on WGS with ops acceptance. Begin health and status net-centric effort on ALPS and continue maturation of the common data model. ***FY 2014 Plans:*** Deliver version 4 data source road mapping. Initiate data exposure of two classified data sources, SIGINT for SSA (S3A), and Space Surveillance Telescope (SST). Deploy operational version of BFS on ALPS and acquire ops acceptance. Begin health and status net centric effort on Global Positioning System (GPS) and continue maturation of the common data model.			
Title: PROGRAM OFFICE SUPPORT ***Description:*** Program Office support and related support activities ***FY 2012 Accomplishments:*** Program office support and related activities such as technical studies and analysis, systems engineering and integration, and advanced concept technology demonstrations (ACTDs), including continuation of Blue Force status effort ***FY 2013 Plans:*** Program office support and related activities such as technical studies and analysis, systems engineering and integration, and advanced concept technology demonstrations (ACTDs), including continuation of Blue Force Status effort on new systems ***FY 2014 Plans:*** Program office support and related activities such as technical studies and analysis, systems engineering and integration, and advanced concept technology demonstrations (ACTDs), including continuation of Blue Force Status effort on new systems	2.052	3.395	3.760
Accomplishments/Planned Programs Subtotals	9.584	12.603	12.018

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• OPAF: BA03: 836790: *Space Mods Space*	0.000	4.480	4.720		4.720	4.618	4.597	0.000	0.000	0.000	19.110

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604425F: *Space Situation Awareness Systems*	PROJECT 65A012: *Net-centric Sensors and Data Sources*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost

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-3, RDT&E Project Cost Analysis: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604425F: *Space Situation Awareness Systems*	PROJECT 65A012: *Net-centric Sensors and Data Sources*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Sensor Data Exposure - Sidecar Development	C/Various	MIT/LL:Lexington, MA	10.119	1.450	Jan 2012	0.000		0.000		-		0.000	0.000	11.569	11.569
Net-Centric Capability Development and Data Exposure	Various	Various:Various,	14.117	0.950	Jan 2012	8.608	Jan 2013	7.958	Jan 2014	-		7.958	4.909	36.542	36.317
Systems Engineering and Integration	C/CPFF	Lockheed Martin Integrated Systems:Endicott, NY	10.563	4.737	Jan 2012	0.000		0.000		-		0.000	0.000	15.300	15.300
		Subtotal	34.799	7.137		8.608		7.958		0.000		7.958	4.909	63.411	63.186

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test and Evaluation Activities	RO	46th Test Squadron:Eglin AFB, FL	0.493	0.120	Jan 2012	0.600	Jan 2013	0.300	Jan 2014	-		0.300	0.200	1.713	1.713
		Subtotal	0.493	0.120		0.600		0.300		0.000		0.300	0.200	1.713	1.713

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604425F: *Space Situation Awareness Systems*	PROJECT 65A012: *Net-centric Sensors and Data Sources*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program office Engineering Support (FFRDC)	SS/CPFF	Aerospace Corp.:Los Angeles, CA	3.034	0.400	Oct 2011	0.479	Oct 2012	0.673	Oct 2013	-		0.673	0.196	4.782	4.782
Engineering, Technical., Financial and Other Services (PMA)	C/Various	Various:Los Angeles, CA	5.383	1.927	Dec 2011	2.916	Dec 2012	3.087	Dec 2013	-		3.087	1.876	15.189	15.189
		Subtotal	8.417	2.327		3.395		3.760		0.000		3.760	2.072	19.971	19.971

	All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	43.709	9.584		12.603		12.018		0.000		12.018	7.181	85.095	84.870

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604425F: *Space Situation Awareness Systems*	PROJECT 65A012: *Net-centric Sensors and Data Sources*

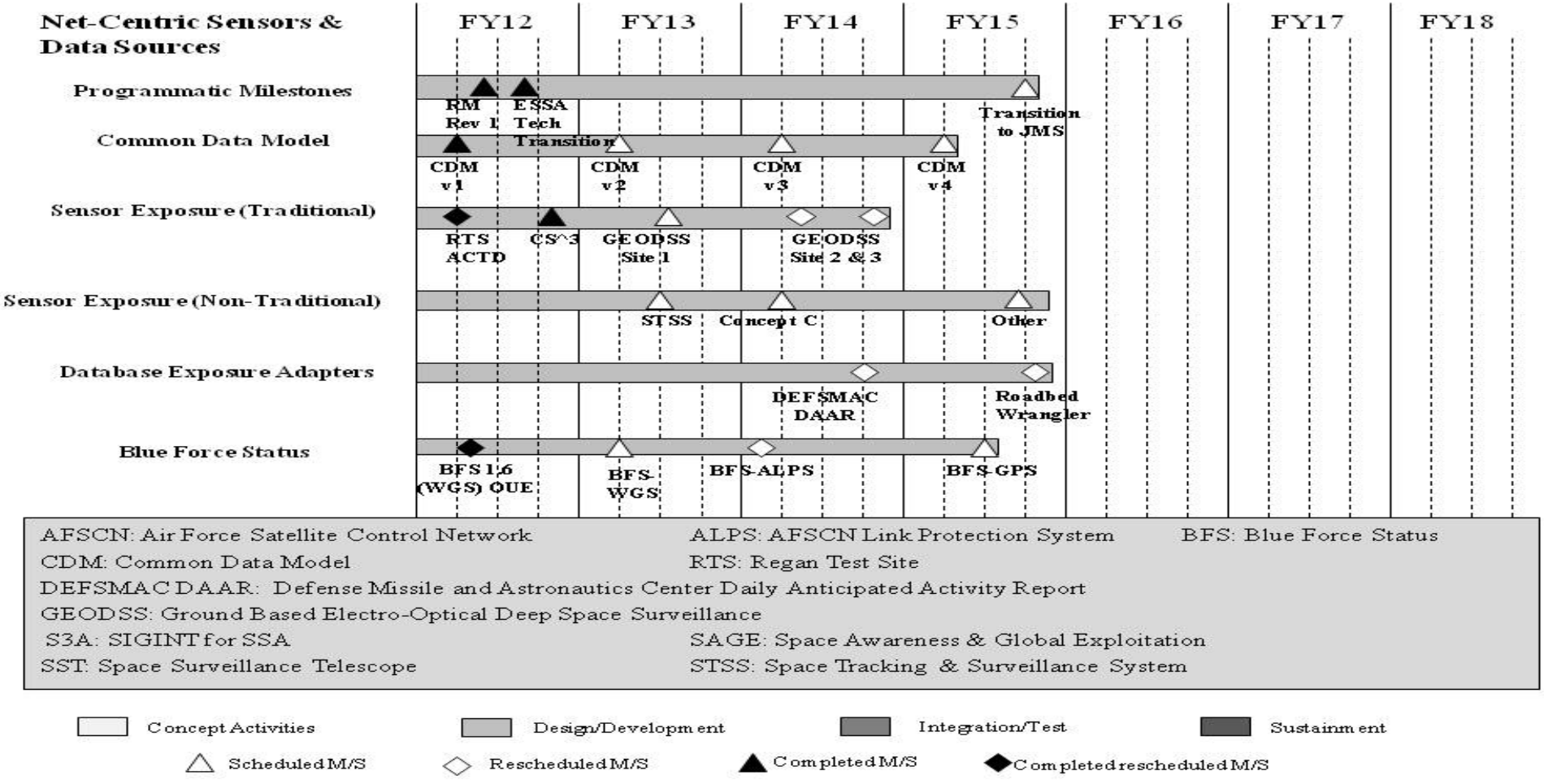


Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0604425F: *Space Situation Awareness Systems*	**PROJECT** 65A012: *Net-centric Sensors and Data Sources*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Reagan Test Site ACTD	1	2012	1	2012
ESSA Tech Transition	3	2012	3	2012
Common Data Model v1	1	2012	1	2012
Common Data Model v2	1	2013	1	2013
Blue Force Status - WGS	1	2013	1	2013
STSS	2	2013	2	2013
GEODSS Site 1	3	2013	3	2013
GEODSS Site 2	2	2014	2	2014
GEODSS Site 3	4	2014	4	2014
DEFSMAC DAAR (Database Exposure Adapter)	3	2014	3	2014
Common Data Model v3	1	2014	1	2014
Roadbed Wrangler (Database Exposure Adapter)	4	2015	4	2015
SST	4	2015	4	2015
Common Data Model v4	1	2015	1	2015
Blue Force Status - GPS	2	2015	2	2015
Transition to JMS	4	2015	4	2015

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604425F: *Space Situation Awareness Systems*	PROJECT 65A026: *C-Band Radar*	

COST ($ in Millions)	All Prior Years	FY 2012	FY 2013#	FY 2014 Base	FY 2014 OCO ##	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
65A026: *C-Band Radar*	0.000	0.000	0.000	8.540	-	8.540	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 OCO Request will be submitted at a later date

Note

Although no funding is reflected for FY13 in this exhibit, this project received Congressional approval to begin in FY13 through both the FY13 National Defense Authorization Act and the FY13 Consolidated and Further Continuing Appropriations Act. The Cost Table information for FY13 will be updated upon submission of the FY15 President's Budget.

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 2012	FY 2013	FY 2014
Title: C-Band Radar	0.000	0.000	8.540
Description: Relocate a C-Band radar to HEH NCS in Australia and upgrade it to perform a Space Situational Awareness (SSA) mission. ***FY 2014 Plans:*** Begin software and hardware upgrades; disassemble the radar and prepare for relocation.			
Accomplishments/Planned Programs Subtotals	0.000	0.000	8.540

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• N/A: *None*	0.000	0.000	0.000		0.000	0.000	0.000	0.000	0.000	0.000	0.000

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604425F: *Space Situation Awareness Systems*	PROJECT 65A026: *C-Band Radar*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost

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 in Antigua and then subsequently complete the relocation to Australia.

The start of the technical refresh activities (Radar Open Systems Architecture and Space Situational Awarness upgrades) is dependent upon the timing of receipt of new start approval and funding, but is currently planned to be accomplished before system relocation to Australia in 2015.

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 is planned to begin in FY13 as Australian funding becomes available which is 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-3, RDT&E Project Cost Analysis: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604425F: *Space Situation Awareness Systems*	PROJECT 65A026: *C-Band Radar*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
C-Band Radar Upgrades	TBD	Various:,	0.000	0.000		0.000		7.840	Dec 2013	-		7.840	0.000	7.840	7.840
		Subtotal	0.000	0.000		0.000		7.840		0.000		7.840	0.000	7.840	7.840

Remarks

Funding will be used to complete the Radar Open Systems Architecure (ROSA) and Space Surveillance Support Software (S4) upgrades to the existing C-Band Radar.

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Office Oversight (PMA)	Various	Various:Los Angeles, Ca	0.000	0.000		0.000		0.700	Oct 2013	-		0.700	0.000	0.700	0.700
		Subtotal	0.000	0.000		0.000		0.700		0.000		0.700	0.000	0.700	0.700

	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	0.000		0.000		8.540		0.000		8.540	0.000	8.540	8.540

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604425F: *Space Situation Awareness Systems*	PROJECT 65A026: *C-Band Radar*

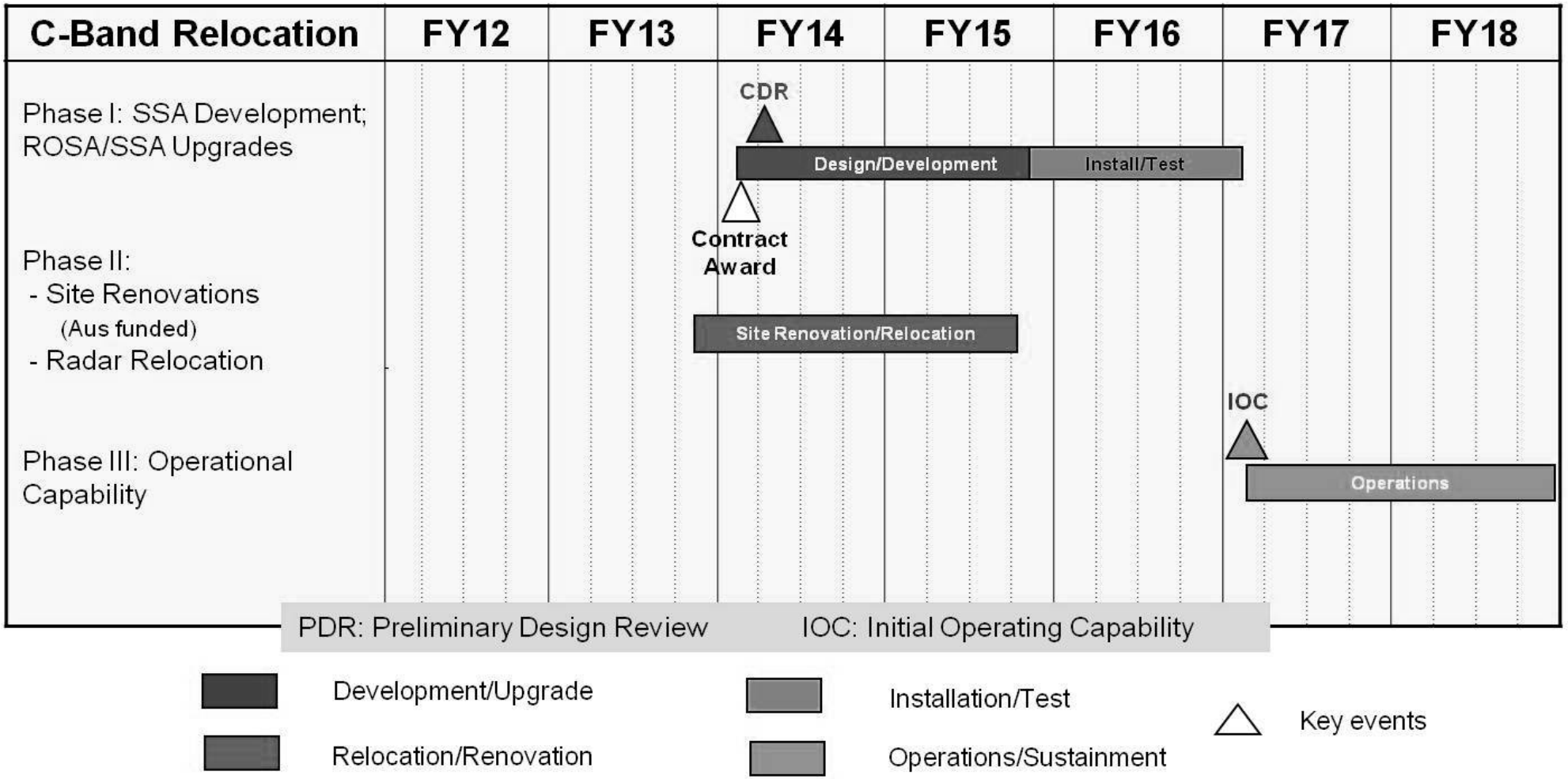


Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0604425F: *Space Situation Awareness Systems*	**PROJECT** 65A026: *C-Band Radar*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Contract Award	1	2014	1	2014
CDR	2	2014	2	2014
IOC/Operations	1	2017	1	2017

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604425F: *Space Situation Awareness Systems*	PROJECT 65A038: *SSA Environmental Monitoring*	

COST ($ in Millions)	All Prior Years	FY 2012	FY 2013#	FY 2014 Base	FY 2014 OCO ##	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
65A038: *SSA Environmental Monitoring*	71.648	28.454	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 OCO Request will be submitted at a later date

A. Mission Description and Budget Item Justification

In FY13, the project 65A038, SSA Environmental Monitoring (SSAEM), was terminated. The sensors that are currently under contract will be available for rideshare on the Constellation Observing System for Meteorology Ionosphere and Climate (COSMIC-2) satellite system or other available host platform.

Space Situational Awareness Environmental Monitoring (SSAEM) replenishes the critical space weather sensing capability de-manifested from the next-generation weather program. It develops new on-orbit sensors that will detect ionospheric scintillation, supports information pertaining to GPS outages, prediction of effects of ionospheric density and electric fields and ensures data distribution to the user community.

Current sensor development contract period of performance will continue through FY14 to deliver sensors currently under development.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Title: SSAEM	28.454	0.000	0.000
Description: Replenishes critical space weather sensing capability de-manifested from next generation weather program. Develops new on-orbit sensors that will detect ionospheric scintillation, GPS outages, predict effects and ensure data distribution to the user community. ***FY 2012 Accomplishments:*** Completed risk reduction efforts, development/production of critical sensors and sensor to ground interface. Funded program office and related support activities, such as Acquisition Planning, Technical Studies, Systems Engineering and Integration. -Completed two sensor Preliminary Design Reviews (PDR) and began Critical Design Reviews of all sensors -Completed four of ten site surveys for Radio Frequency (RF) Beacon Ground Stations -Attained initial frequency approval for RF Beacon Payload -Manifested on new entrant EELV Launch Vehicle ***FY 2013 Plans:***			

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604425F: *Space Situation Awareness Systems*	PROJECT 65A038: *SSA Environmental Monitoring*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Program is terminated in FY13. ***FY 2014 Plans:*** N/A			
Accomplishments/Planned Programs Subtotals	28.454	0.000	0.000

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

The program was terminated with the submission of the FY13 PB for all funding from FY13 and future. The department determined the proper course of action was to complete the development of 6 sensors, and realigned funds in FY11 and FY12 to complete those efforts.

Studies have been conducted to determine the optimum strategy for acquiring space-based environmental data sources resulting in a decision to pursue a rideshare opportunity on the COSMIC 2 program to host SSAEM sensors. Existing sensors with high Technology Readiness Levels (TRL) were leveraged and technology modernization of SSAEM sensors were performed by Air Force Research Laboratory (AFRL) and the Jet Propulsion Laboratory (JPL). The operational SSAEM sensors are being acquired through competitive contract awards.

Current sensor development contract period of performance will continue through FY14 to deliver sensors currently 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 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604425F: *Space Situation Awareness Systems*	PROJECT 65A038: *SSA Environmental Monitoring*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Tri-Global Satellite System Radio Occultation System Sensor (TRIG) Development	MIPR	Jet Propulsion Laboratory:Pasadena, CA	16.972	2.101	Apr 2012	0.000		0.000		-		0.000	0.000	19.073	19.073
Additional TRIG Development	Reqn	Broad Reach Engineering and ITT:Various,	0.000	6.336	Sep 2012	0.000		0.000		-		0.000	0.000	6.336	6.336
Radio Frequency (RF) Beacon Sensor Development	Various	SRI and Army Space and Missile Defense Command:Various,	11.178	0.000		0.000		0.000		-		0.000	0.000	11.178	11.178
RF Beacon Ground Development	MIPR	Army Space and Missile Defense Command:Huntsville, AB	2.589	0.000		0.000		0.000		-		0.000	0.000	2.589	2.589
RF Beacon Ground Integration	PO	Space & Missile Systems Center:Peterson, CO	0.861	3.000	Jan 2012	0.000		0.000		-		0.000	0.000	3.861	3.861
Ion Velocity Meter (IVM) Sensor Development	SS/ Various	AFRL & University of TX at Dallas:Various,	3.434	9.500	Apr 2013	0.000		0.000		-		0.000	0.000	12.934	12.934
Various Sensor Development	SS/ Various	Various:Various,	11.268	1.602	Sep 2012	0.000		0.000		-		0.000	0.000	12.870	12.870
Communication/Navigation Outage Forecasting System (C/NOFS)	SS/ Various	Space Development and Test Directorate:Albuquerque, NM	6.718	0.638	Jan 2012	0.000		0.000		-		0.000	0.000	7.356	7.356
Systems Integration	MIPR	University for the Characterization of Atmospheric Research:Boulder, CO	0.650	0.000		0.000		0.000		-		0.000	0.000	0.650	0.650
Cubesat and Ground System Development	Various	Various:Various,	6.647	0.930	Sep 2012	0.000		0.000		-		0.000	0.000	7.577	7.577
		Subtotal	60.317	24.107		0.000		0.000		0.000		0.000	0.000	84.424	84.424

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604425F: *Space Situation Awareness Systems*	PROJECT 65A038: *SSA Environmental Monitoring*	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Support	Various	Air Force Research Laboratory:Albuquerque, NM	3.759	1.999	Oct 2011	0.000		0.000		-		0.000	0.000	5.758	5.758
		Subtotal	3.759	1.999		0.000		0.000		0.000		0.000	0.000	5.758	5.758

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Office Management Support (PMA)	Various	Space and Missile Systems Center/ AFRL:Los Angeles, CA	7.572	2.348	Oct 2011	0.000		0.000		-		0.000	0.000	9.920	9.920
		Subtotal	7.572	2.348		0.000		0.000		0.000		0.000	0.000	9.920	9.920

	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	71.648	28.454		0.000		0.000		0.000		0.000	0.000	100.102	100.102

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604425F: *Space Situation Awareness Systems*	PROJECT 65A038: *SSA Environmental Monitoring*

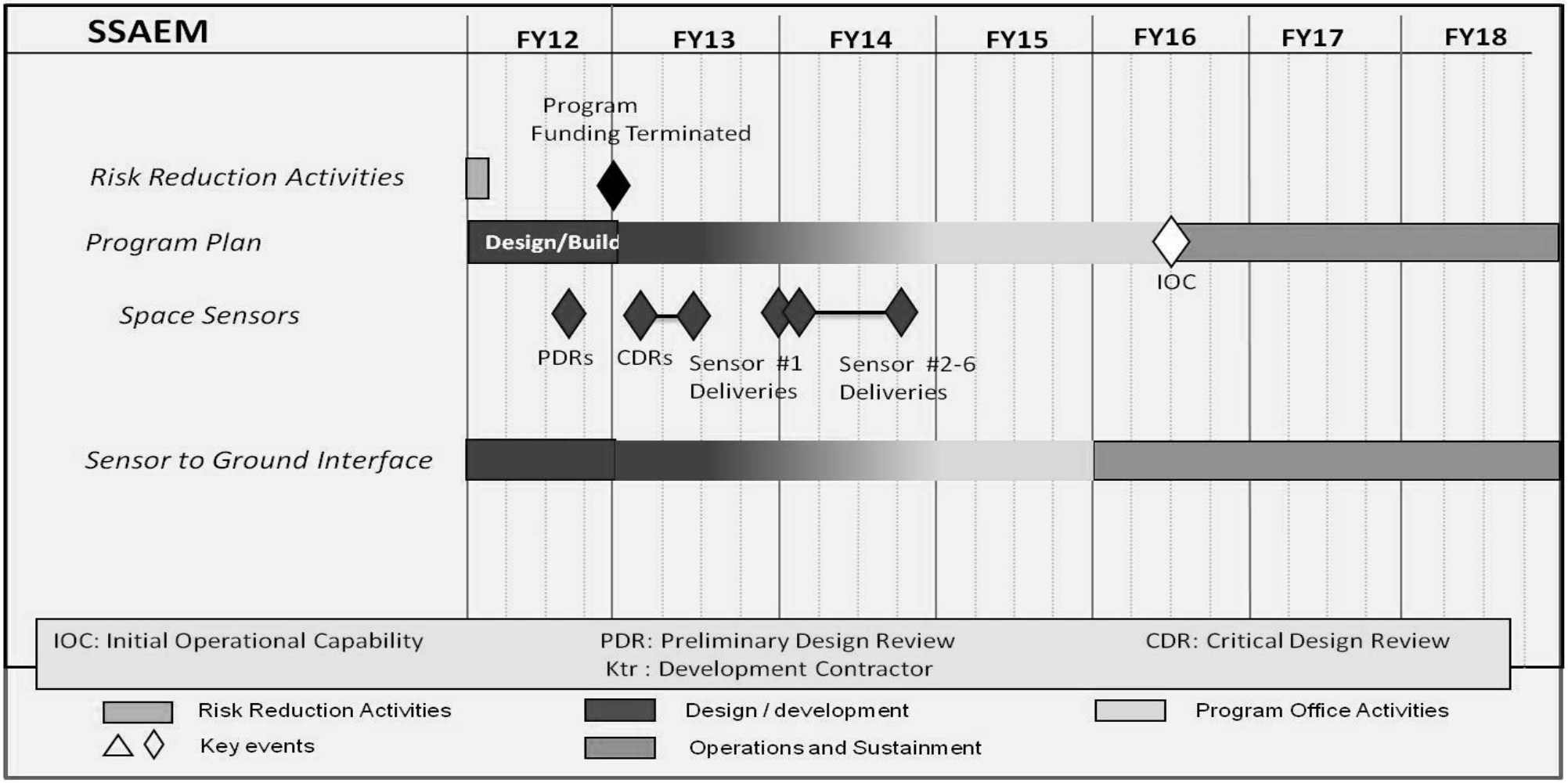


Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0604425F: *Space Situation Awareness Systems*	**PROJECT** 65A038: *SSA Environmental Monitoring*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Sensor Preliminary Design Reviews	3	2012	3	2012
Sensor Critical Design Reviews	1	2013	2	2013
Space Sensor Deliveries	4	2013	4	2014

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force											DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*					R-1 ITEM NOMENCLATURE PE 0604429F: *Airborne Electronic Attack*							
COST ($ in Millions)	**All Prior Years**	**FY 2012**	**FY 2013#**	**FY 2014 Base**	**FY 2014 OCO ##**	**FY 2014 Total**	**FY 2015**	**FY 2016**	**FY 2017**	**FY 2018**	**Cost To Complete**	**Total Cost**
Total Program Element	-	31.821	4.118	4.575	-	4.575	7.904	7.410	7.185	7.259	Continuing	Continuing
655192: *Network & Sys -of-Sys Dev*	-	11.433	4.118	4.575	-	4.575	7.904	7.410	7.185	7.259	Continuing	Continuing
655193: *Electronic Attack Pod*	-	20.388	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 OCO Request will be submitted at a later date

Note

In FY13, Project 655193, Electronic Attack Pod, was terminated.

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/family of systems. It also includes establishment and use of virtual test capabilities for system/family of systems effectiveness testing/evaluation for AEA; studies and technology risk mitigation demonstrations for AEA components; and AEA battle management, development planning, and development and maintenance of the Air Force Electronic Warfare Capability Investment Strategy (AFEWCIS) in support of AF EW Vision 2030 EW roadmap (EV 2030) and related MAJCOM Core Function Master Plans (CFMPs). These efforts are crucial in the development of critical offensive and defensive electronic attack capabilities in support of Air Force Global Strike and Persistent Global Attack Concepts of Operations (CONOPS) and relevant CFMPs, as well as joint Air-Sea Battle operations. The joint AEA capability includes offensive and defensive EA elements of the Navy EA-6B and EA-18G; the Air Force Miniature Air Launched Decoy (MALD) and its stand-in jammer variant, MALD-J; the EC-130H Compass Call system; Active Electronically Scanned Array (AESA) radar equipped aircraft; potentially an unmanned recoverable stand-in jamming platform and potentially a manned low/mid frequency, high power component capable of long range stand-off jamming suppression of adversary Integrated Air Defense System (IADS) components and non-IADS targets. Recent technology developments and events have led to an increased focus on developing advanced EA capabilities for use in not only major conflict against traditional IADS targets, but also irregular warfare scenarios against both IADS and non-IADS targets such as communications nodes and networks, computers and computer networks, command and control nodes and links, remote controlled improvised explosive devices, and man portable air defenses. To this end, this project will investigate and analyze alternative non-kinetic means to counter/suppress these electronic elements of an adversary's capabilities.

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 2014 Air Force					DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*			R-1 ITEM NOMENCLATURE PE 0604429F: *Airborne Electronic Attack*		
B. Program Change Summary ($ in Millions)	**FY 2012**	**FY 2013**	**FY 2014 Base**	**FY 2014 OCO**	**FY 2014 Total**
Previous President's Budget	41.000	4.118	19.142	-	19.142
Current President's Budget	31.821	4.118	4.575	-	4.575
Total Adjustments	-9.179	0.000	-14.567	-	-14.567
• Congressional General Reductions	-	0.000			
• Congressional Directed Reductions	-	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	-	0.000			
• Congressional Directed Transfers	-	0.000			
• Reprogrammings	-7.955	0.000			
• SBIR/STTR Transfer	-1.224	0.000			
• Other Adjustments	0.000	0.000	-14.567	-	-14.567

Change Summary Explanation

FY2012 reprogrammed $7.205M for Massive Ordnance Penetrator and $.750M reprogrammed for Laser Eye Protection.
FY2014 adjustment for higher Air Force priorities.

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604429F: *Airborne Electronic Attack*	PROJECT 655192: *Network & Sys -of-Sys Dev*	

COST ($ in Millions)	All Prior Years	FY 2012	FY 2013#	FY 2014 Base	FY 2014 OCO ##	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
655192: *Network & Sys -of-Sys Dev*	-	11.433	4.118	4.575	-	4.575	7.904	7.410	7.185	7.259	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 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 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.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Title: System Engineering Studies & Technology Transition	9.922	2.023	2.325
Description: Apply systems engineering rigor to manage Air Force AEA program requirements, designs, and operational concepts. Assess operational effectiveness of multiple Electronic Warfare systems in both offensive and defensive roles.			
FY 2012 Accomplishments:			

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604429F: *Airborne Electronic Attack*	PROJECT 655192: *Network & Sys -of-Sys Dev*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Analyzed contributions of multiple Airborne Electronic Attack components coupled with legacy and new development offensive and defensive EW systems, analyzed impact of adversary agile waveform systems on legacy Air Force electronic support systems, updated Air Force Electronic Warfare Roadmap as directed by Headquarters Air Force, updated Air Force Electronic Warfare Capability Investment Strategy with studies in support of Air Force Core Function Master Plans. ***FY 2013 Plans:*** Assess potential contributions of emerging AEA components (including non-kinetic counter electronics capabilities) to both IADS and non-IADS scenarios for both major warfare and irregular warfare, develop AF electronic support systems mitigation measures, update AF EW Roadmap as directed by HQ AF, update 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.			
Title: Capability Planning ***Description:*** Provide capability planning to the Air Force electronic Warfare portfolio and constructive modeling and simulation and analysis management. ***FY 2012 Accomplishments:*** Conducted Airborne Electronic Attack System of System simulations to assess effectiveness of newly emerging/upgraded systems (EA-18G, MALD-J, EC-130H upgrades, 4th Gen fighters, non-traditional counter electronics capabilities, etc.) operating together in stressing Integrated Air Defense System (IADS) and Irregular Warfare/non-IADS environments. ***FY 2013 Plans:*** Conduct additional Airborne Electronic Attack simulations to assess effectiveness of newly emerging/upgraded systems operating in both stressing IADS and Irregular Warfare/non-IADS environments. ***FY 2014 Plans:*** Conduct additional Airborne Electronic Attack simulations in support of a non-kinetic counter electronics analysis of alternatives and contributions of AEA components to effectiveness and survivability of 4th Gen fighters operating in both stressing IADS and Irregular Warfare/non-IADS environments.	1.149	1.743	1.890
Title: Mission Support	0.362	0.352	0.360

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604429F: *Airborne Electronic Attack*	PROJECT 655192: *Network & Sys -of-Sys Dev*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Description: To fund security and travel in support of AEA efforts. ***FY 2012 Accomplishments:*** Funded security and travel in support of AEA efforts. ***FY 2013 Plans:*** Fund security and travel in support of AEA efforts. ***FY 2014 Plans:*** Fund security and travel in support of AEA efforts.			
Accomplishments/Planned Programs Subtotals	11.433	4.118	4.575

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• None: *N/A*	0.000	0.000	0.000		0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

Remarks

D. Acquisition Strategy

Project 5192, "Network and System of Systems Development" uses existing ASC, AFRL, and other contracts and instruments to provide engineering, architecture development, and other support for the AEA System of Systems.

E. Performance Metrics

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

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604429F: *Airborne Electronic Attack*	PROJECT 655192: *Network & Sys -of-Sys Dev*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
AEA system of systems engineering	C/CPFF	Various:Various,	-	9.922	Dec 2011	2.023	Jun 2013	2.325	Dec 2013	-		2.325	Continuing	Continuing	
AF EW Capability/ Development Planning	MIPR	Various:Various,	-	1.149	Dec 2011	1.743	Jun 2013	1.890	Dec 2013	-		1.890	Continuing	Continuing	
		Subtotal	0.000	11.071		3.766		4.215		0.000		4.215			

Remarks

Includes system of systems engineering; architecture development; network requirements planning; requirements refinement and development; EW assessments, including Air Force Electronic Warfare Capability Investment Strategy (AFEWCIS) roadmap development, maintenance & assessments; technology risk mitigation, DoD scenario initiation & distribution; working group support; engineering and test planning; capability planning for AF EW portfolio; conduct of constructive/virtual modeling simulation and analysis.

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Mission Support	Various	Various:Various,	-	0.362	Sep 2012	0.352	Sep 2013	0.360	Dec 2013	-		0.360	Continuing	Continuing	0.000
		Subtotal	0.000	0.362		0.352		0.360		0.000		0.360			0.000

Remarks

Element includes miscellaneous support to projects. Costs include travel and unique security expenses.

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604429F: *Airborne Electronic Attack*	PROJECT 655192: *Network & Sys -of-Sys Dev*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

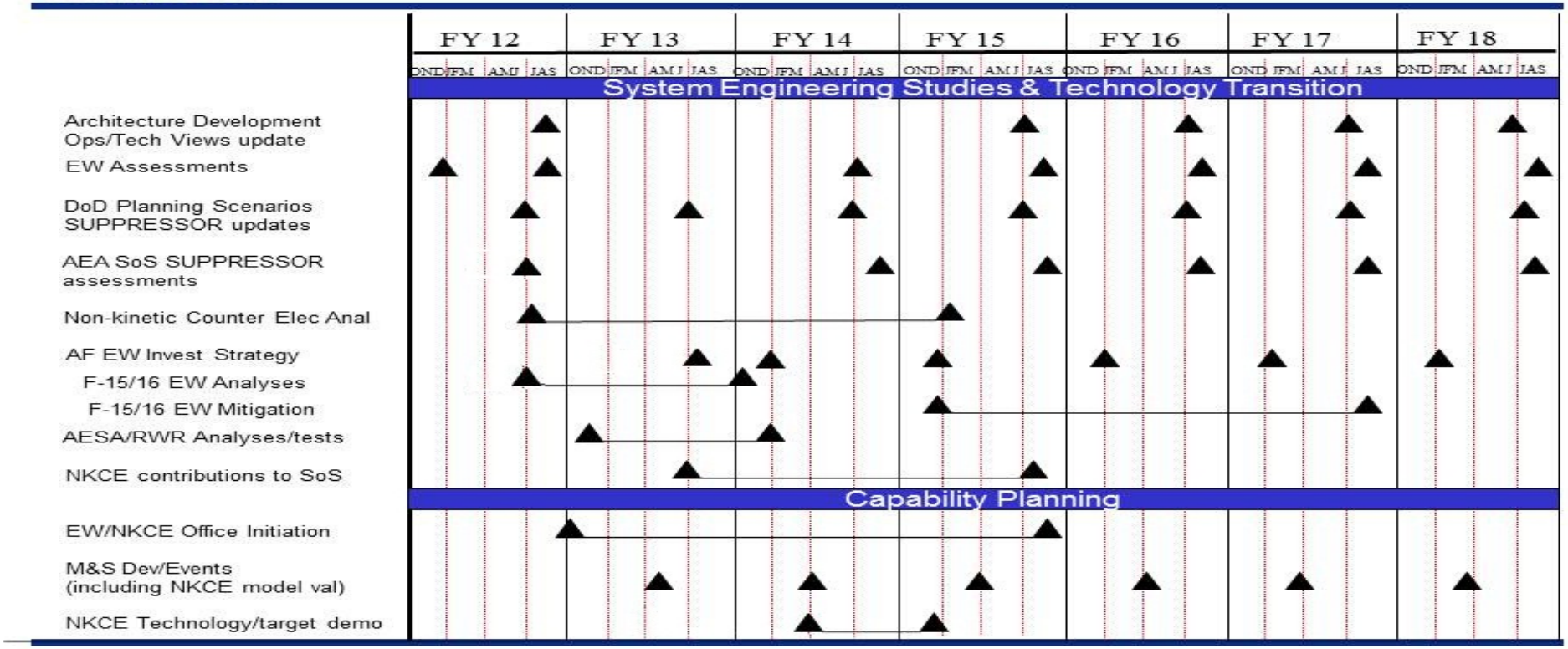
	All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	11.433		4.118		4.575		0.000		4.575			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604429F: *Airborne Electronic Attack*	PROJECT 655192: *Network & Sys -of-Sys Dev*

U.S. AIR FORCE

AEA SoS Schedule



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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604429F: *Airborne Electronic Attack*	PROJECT 655192: *Network & Sys -of-Sys Dev*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
DoD Planning Scenarios Suppressor updates	4	2012	4	2018
Continuing to Support EW Assessments	2	2012	4	2018
AEA SoS Suppressor Improvements	3	2012	4	2018
AF EW Investment Strategy	4	2013	2	2018
AESA/RWR analysis/test	1	2013	1	2014
Non Kinetic Counter Electronics Analysis	4	2012	2	2015
NKCE Technology Demonstration	3	2014	1	2015

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604429F: *Airborne Electronic Attack*	PROJECT 655193: *Electronic Attack Pod*	

COST ($ in Millions)	All Prior Years	FY 2012	FY 2013#	FY 2014 Base	FY 2014 OCO ##	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
655193: *Electronic Attack Pod*	-	20.388	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 OCO Request will be submitted at a later date

Note

In FY2013, Project 655193, Electronic Attack Pod was terminated.

A. Mission Description and Budget Item Justification

This project is to develop, acquire, and field an advanced electronic attack capability to operate in an Irregular Warfare environment and counter non-Integrated Air Defense targets (e.g., counter communications, counter Remote Controlled Improvised Explosive Devices). Included is the integration needed to interface and test the resulting pod on the threshold aircraft, the MQ-9.

This program is included in budget activity 5, System Development and Demonstration, because of the development and/or testing associated with Airborne Electronic Attack.

This project is terminated in FY13. The Air Force is completing risk reduction and determining required funding for program termination.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Title: Initial Development Efforts ***Description:*** Initiate development of an advanced electronic attack irregular warfare jamming capability. ***FY 2012 Accomplishments:*** Completed planning and analysis for Risk Reduction and conducted required termination activities.	3.350	0.000	0.000
Title: Risk Reduction ***Description:*** Electronic Attack Pod risk reduction will focus on jammer technology, concept design, demonstrations and initial integration efforts. ***FY 2012 Accomplishments:*** Completed Risk Reduction efforts and conducted required program termination activities.	17.038	0.000	0.000
Accomplishments/Planned Programs Subtotals	20.388	0.000	0.000

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604429F: *Airborne Electronic Attack*	PROJECT 655193: *Electronic Attack Pod*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• N/A: *None*	0.000	0.000	0.000		0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

Remarks

D. Acquisition Strategy

Program terminated in FY13.

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 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604429F: *Airborne Electronic Attack*	PROJECT 655193: *Electronic Attack Pod*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
EA System Development	TBD	Not specified.:,	-	19.738		0.000		0.000		-		0.000	0.000	19.738	
		Subtotal	0.000	19.738		0.000		0.000		0.000		0.000	0.000	19.738	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Engineering and Integration Support	Various	Not specified.:,	-	0.000		0.000		0.000		-		0.000	0.000	0.000	
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Developmental and Operational Test Planning and Support	C/Various	Not specified.:,	-	0.000		0.000		0.000		-		0.000	0.000	0.000	
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
ASC/XR	Various	Various:Various,	-	0.650		0.000		0.000		-		0.000	0.000	0.650	
		Subtotal	0.000	0.650		0.000		0.000		0.000		0.000	0.000	0.650	

	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	20.388		0.000		0.000		0.000		0.000	0.000	20.388	

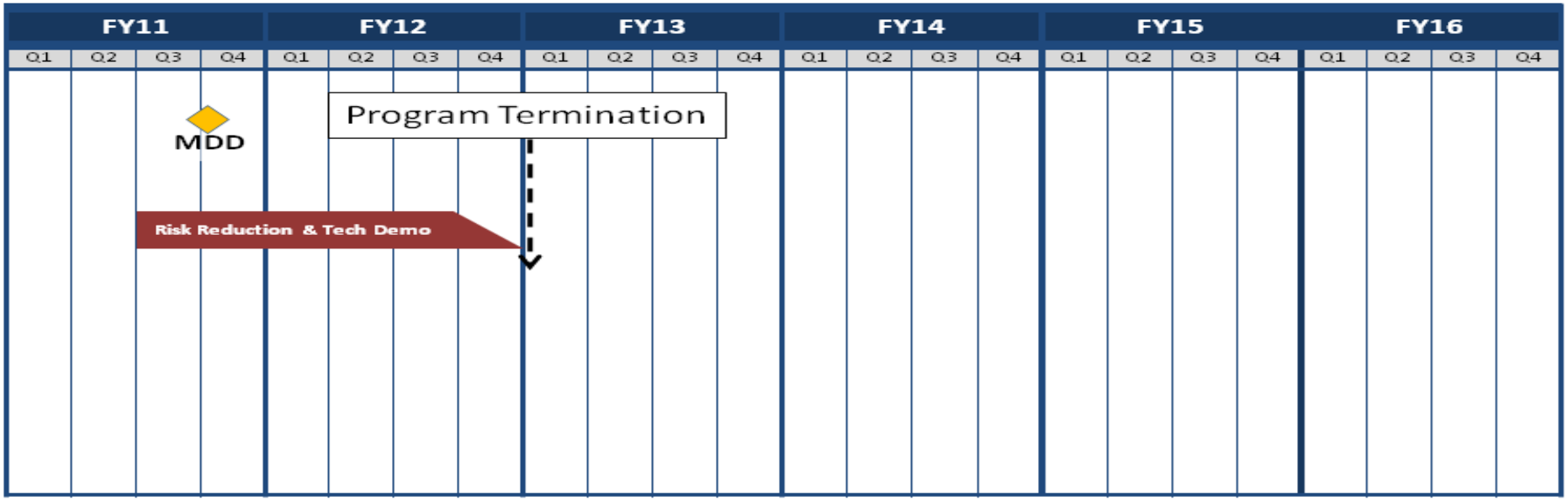
Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604429F: *Airborne Electronic Attack*	PROJECT 655193: *Electronic Attack Pod*	

	All Prior Years	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604429F: *Airborne Electronic Attack*	PROJECT 655193: *Electronic Attack Pod*

Schedule



Legend:
MDD – Materiel Development Decision

Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604429F: *Airborne Electronic Attack*	PROJECT 655193: *Electronic Attack Pod*

Schedule Details

	Start		End	
Events	Quarter	Year	Quarter	Year
Program termination	1	2013	1	2013

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force											DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*					R-1 ITEM NOMENCLATURE PE 0604441F: *Space Based Infrared System (SBIRS) High EMD*							
COST ($ in Millions)	**All Prior Years**	**FY 2012**	**FY 2013#**	**FY 2014 Base**	**FY 2014 OCO ##**	**FY 2014 Total**	**FY 2015**	**FY 2016**	**FY 2017**	**FY 2018**	**Cost To Complete**	**Total Cost**
Total Program Element	8,347.364	621.629	448.594	352.532	-	352.532	279.888	278.002	202.362	187.952	Continuing	Continuing
653616: *SBIRS High Element EMD*	8,325.239	605.111	365.406	267.408	-	267.408	190.174	187.685	111.957	98.000	107.000	10,257.980
657009: *Space Modernization Initiative*	0.000	0.000	83.188	85.124	-	85.124	89.714	90.317	90.405	89.952	Continuing	Continuing
65A040: *Commercially Hosted Infrared Payload (CHIRP)*	22.125	16.518	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	38.643
MDAP/MAIS Code(s): 210												

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 OCO Request will be submitted at a later date

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 satellite is on-orbit and is undergoing testing and calibration to prepare for operational acceptance. GEO-2 exited storage in 4Q FY12 and is in final preparation for launch, scheduled in March 2013. Ground segment development continues through the FYDP. Concept studies/activities may be implemented to investigate obsolescence issues, Overhead Persistent Infrared (OPIR) solutions to potential operational concerns, and future evolution paths of the ground and/or space segment.

Future SBIRS OPIR satellites will be procured using the Department of Defense (DOD) Efficient Space Procurement (ESP) concept (formerly Evolutionary Acquisition for Space Efficiency (EASE)). 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 reinvested into the OPIR Space Modernization Initiative (SMI). The primary objective of SMI is to enable and inform future decisions to maintain a capable, resilient, and affordable OPIR architecture. SMI supports the Program of Record by assessing future parts/material obsolescence and future affordability and capability design modifications. SMI funds engineering activities to reduce future system and production costs through manufacturing/ 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. SMI funded data exploitation efforts include OPIR data processing, 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.

The Commercially Hosted Infrared Payload (CHIRP) demonstration received FY11 and FY12 funds for a Wide-Field-of-View (WFOV) demonstration for technology maturation. CHIRP performed risk reduction and evaluation of WFOV infrared staring and data processing technology to potentially evolve future SBIRS staring sensors and processing algorithms. An on-orbit demonstration quantified performance levels of a prototype WFOV sensor in an operational environment. CHIRP sensor testing provided Focal Plane Array (FPA)performance/calibration characteristics, assessed WFOV staring algorithm performance in an operational environment, and investigated compatibility with current OPIR ground systems for missile warning, missile defense, and other mission areas. CHIRP experience and lessons learned have been incorporated into plans and objectives for SMI activities, to include the need for further on-orbit performance demonstration, WFOV algorithm development, and ground mission data processing for all OPIR mission areas.

This program is assigned to Budget Activity 5, System Development and Demonstration (SDD), because it funds the development and integration of mature systems, and the test, evaluation, and demonstration of those systems.

B. Program Change Summary ($ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	621.629	448.594	357.532	-	357.532
Current President's Budget	621.629	448.594	352.532	-	352.532
Total Adjustments	0.000	0.000	-5.000	-	-5.000
• Congressional General Reductions	-	0.000			
• Congressional Directed Reductions	-	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	-	0.000			
• Congressional Directed Transfers	-	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	0.000	0.000	-5.000	-	-5.000

Change Summary Explanation

FY14: -$5.0M for higher Department priorities.

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604441F: *Space Based Infrared System (SBIRS) High EMD*	PROJECT 653616: *SBIRS High Element EMD*	

COST ($ in Millions)	All Prior Years	FY 2012	FY 2013#	FY 2014 Base	FY 2014 OCO ##	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
653616: *SBIRS High Element EMD*	8,325.239	605.111	365.406	267.408	-	267.408	190.174	187.685	111.957	98.000	107.000	10,257.980
Quantity of RDT&E Articles	1	1	0	0		0	0	0	0	0		

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 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 satellite is on-orbit and is undergoing testing and calibration to prepare for operational acceptance. GEO-2 exited storage in 4Q FY12 and is in final preparation for launch, scheduled in March 2013. Ground segment development continues through the FYDP. Concept studies/activities may be implemented to investigate obsolescence issues, Overhead Persistent Infrared (OPIR) solutions to potential operational concerns, and future evolution paths of the ground and/or space segment.

This program is assigned to Budget Activity 5, System Development and Demonstration (SDD), because it funds the development and integration of mature systems, and the test, evaluation, and demonstration of those systems.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Title: SBIRS EMD	605.111	365.406	267.408
Description: Continued EMD contracts for Space and Ground segment development, concept studies/activities for obsolescence issues.			
FY 2012 Accomplishments:			

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604441F: *Space Based Infrared System (SBIRS) High EMD*	PROJECT 653616: *SBIRS High Element EMD*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Continued GEO development. Continued GEO-1 on-orbit testing. Began starer tuning to enable accelerated starer processing in support of battlespace awareness and technical intelligence. Continued GEO-2 integration, assembly and test, design activities, Ground System Development (Block 10), System Engineering and Program Management, HEO host program office support, Technical Intelligence activities, Data Processing/ Exploitation/ground integration activities, Combined Task Force (CTF) support activities, and continuation of systems integration and test studies. Stored GEO-2 and be ready to execute GEO-2 launch campaign. Initiated concept studies on space vehicle bus capabilities for future WFOV demonstrations. Continued Program Office and related support activities (to include SETA), technical analysis and independent verification and validation of contractor. Continued Systems Engineering and Integration (SE&I). ***FY 2013 Plans:*** Continue GEO development. Complete GEO-1 operational user evaluation and certification. Accelerate starer tuning and infrastructure improvements to make starer data available to battlespace awareness and technical intelligence users. Conduct GEO-2 launch campaign and begin on-orbit testing. Continue Ground System Development (Block 10), 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 (to include SETA), technical analysis and independent verification and validation of Contractor. Continue SE&I. ***FY 2014 Plans:*** Complete development of Ground mission processing risk reduction build, which includes starer processing for ITW/AA users. Complete GEO-2 operational user evaluation and certification. Continue Ground System Development (Block 10), 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 SE&I.			
Accomplishments/Planned Programs Subtotals	605.111	365.406	267.408

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• OPAF: BA03: Line Item # 836720: *Space Based Ir Sensor Pgm Space*	49.674	47.135	28.235		28.235	26.332	7.725	7.703	7.842	Continuing	Continuing
• MPAF: BA05: Line Item # MSSBIR: *SBIR High (Space) TOA*	324.889	454.251	583.192		583.192	580.888	537.971	570.759	1,143.014	191.481	8,004.874

Remarks

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604441F: *Space Based Infrared System (SBIRS) High EMD*	PROJECT 653616: *SBIRS High Element EMD*

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 deliver GEO-2 and the ground segment. 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 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604441F: *Space Based Infrared System (SBIRS) High EMD*	PROJECT 653616: *SBIRS High Element EMD*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 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	0.000		0.000		0.000		-		0.000	0.000	159.600	159.600
SBIRS EMD	Various	Prime: Lockheed Martin Sunnyvale; Sub: Northrop Grumman:,	7,513.196	532.771	Oct 2011	313.123	Oct 2012	230.238	Oct 2013	-		230.238	584.888	9,174.216	9,174.216
Systems engineering and Integration (SEI)	C/CPAF	The Analytical Sciences Corporation:Andover, MA	22.509	11.628	Dec 2011	8.682	Dec 2012	5.613	Dec 2013	-		5.613	13.470	61.902	61.902
SBIRS Pre-SDD Contract Adjustment	Various	Various:,	4.780	0.000		0.000		0.000		-		0.000	0.000	4.780	4.780
Technology	Various	Various:,	11.600	0.000		0.000		0.000		-		0.000	0.000	11.600	11.600
Phenomenology	Various	Various:,	17.350	0.000		0.000		0.000		-		0.000	0.000	17.350	17.350
Sensor Technology	Various	Sandia National Lab:,	10.000	0.000		0.000		0.000		-		0.000	0.000	10.000	10.000
		Subtotal	7,739.035	544.399		321.805		235.851		0.000		235.851	598.358	9,439.448	9,439.448

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.

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
WFOV Flight Demonstration	SS/FFP	American Government Services:McLean, VA	0.000	1.188	Aug 2012	0.000		0.000		-		0.000	0.000	1.188	1.188

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604441F: *Space Based Infrared System (SBIRS) High EMD*	PROJECT 653616: *SBIRS High Element EMD*

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
WFOV Testbed Concept Study	MIPR	Millennium Space Systems:Torrance, CA	0.000	3.000	Sep 2012	0.000		0.000		-		0.000	0.000	3.000	3.000
Various Program Support	Various	Various:,	7.142	3.675	Jun 2012	0.000		0.000		-		0.000	0.000	10.817	10.817
		Subtotal	7.142	7.863		0.000		0.000		0.000		0.000	0.000	15.005	15.005

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	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Technical Support (FFRDC)	RO	Aerospace Corp.:El Segundo, CA	385.098	22.741	Nov 2011	20.164	Nov 2012	15.506	Nov 2013	-		15.506	54.942	498.451	498.451
SMC Admin Support (PMA)	C/FP	Quantech Services, Inc.:Lexington, MA	6.878	1.988	Apr 2012	2.196	Dec 2012	1.113	Dec 2013	-		1.113	3.304	15.479	15.479
SMC Technical Support (PMA)	C/FP	Scitor Corp.:El Segundo, CA	59.870	7.144	Dec 2012	5.654	Dec 2012	3.755	Dec 2013	-		3.755	10.662	87.085	87.085
SMC Financial Support (PMA)	C/FP	Tecolote, Inc.:Goleta, CA	14.335	1.596	Nov 2011	1.301	Dec 2012	1.020	Dec 2013	-		1.020	3.403	21.655	21.655
Various Management Support Services (PMA)	Various	Various:Various,	112.881	19.380	Oct 2011	14.286	Oct 2012	10.163	Oct 2013	-		10.163	24.147	180.857	180.857
		Subtotal	579.062	52.849		43.601		31.557		0.000		31.557	96.458	803.527	803.527

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604441F: *Space Based Infrared System (SBIRS) High EMD*	PROJECT 653616: *SBIRS High Element EMD*	

	All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	8,325.239	605.111		365.406		267.408		0.000		267.408	694.816	10,257.980	10,257.980

Remarks

The total EMD program cost estimate is based on the Apr 11 Service Cost Position.

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604441F: *Space Based Infrared System (SBIRS) High EMD*	PROJECT 653616: *SBIRS High Element EMD*

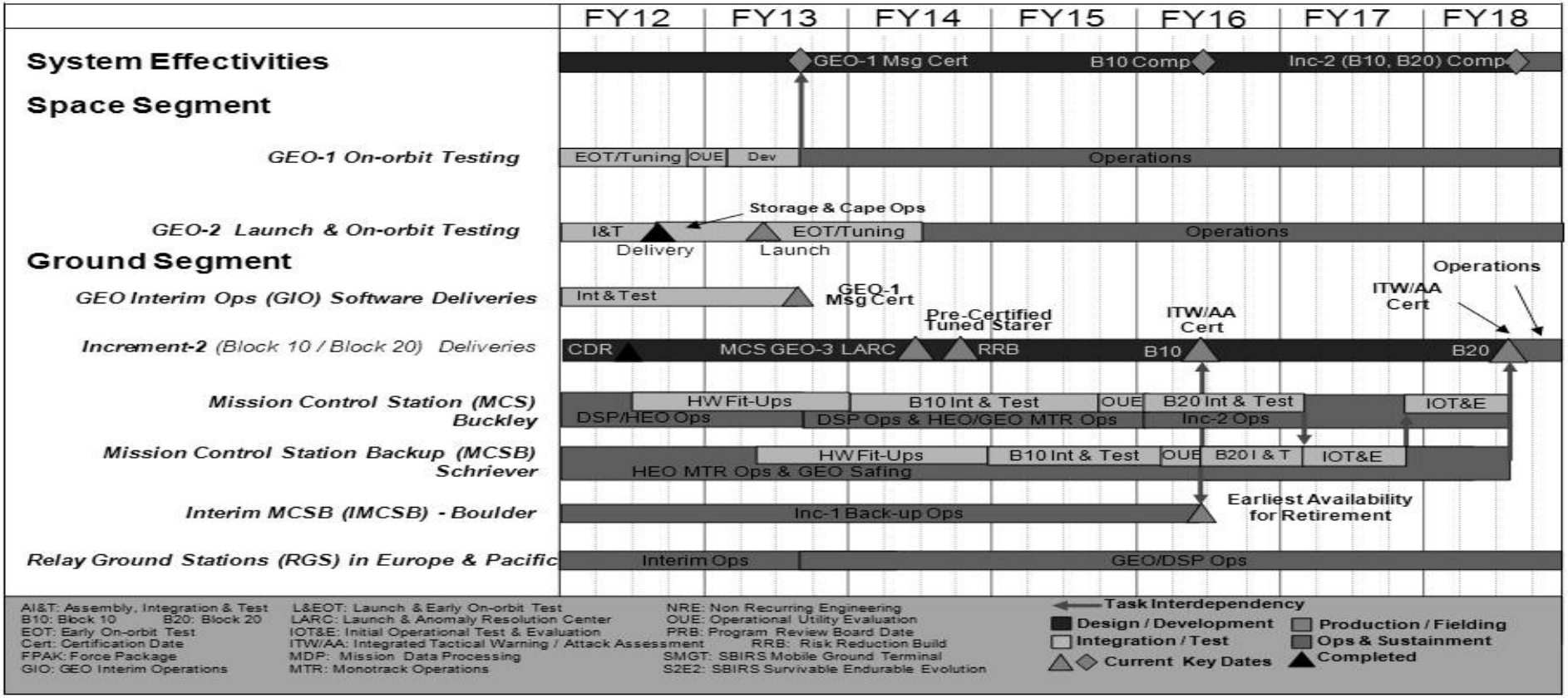


Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604441F: *Space Based Infrared System (SBIRS) High EMD*	PROJECT 653616: *SBIRS High Element EMD*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
GEO-1 Payload Calibration and Tuning	1	2012	3	2013
Block 10 Critical Design Review (CDR) Complete	2	2012	2	2012
GEO-2 Satellite Available for Delivery	3	2012	3	2012
Block 10 Mission Control Station (MCS) Fit Up	3	2012	4	2013
GEO-1 OUE/GEO Message Cert	3	2013	3	2013
MCSB Fit Up	2	2013	4	2014
GEO-2 Payload Calibration and Tuning	2	2013	2	2014
Block 10 Integration & Test	1	2014	3	2015
MCSB Integration & Test	1	2015	1	2016
MCS Launch and Anomaly Resolution Center (LARC) ready for GEO-3 launch and early on-orbit System Test	2	2014	2	2014
GEO-2 Operational Acceptance	3	2014	3	2014

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604441F: *Space Based Infrared System (SBIRS) High EMD*	PROJECT 657009: *Space Modernization Initiative*	

COST ($ in Millions)	All Prior Years	FY 2012	FY 2013#	FY 2014 Base	FY 2014 OCO ##	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
657009: *Space Modernization Initiative*	0.000	0.000	83.188	85.124	-	85.124	89.714	90.317	90.405	89.952	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 OCO Request will be submitted at a later date

Note

The SBIRS Space Modernization Initiative (SMI) is funded in PE 0604441, project 657009 and began in FY13.

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 (formerly Evolutionary Acquisition for Space Efficiency (EASE)). 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 reinvested into the OPIR Space Modernization Initiative (SMI). The primary objective of SMI is to enable and inform future decisions to maintain a capable, resilient, and affordable OPIR architecture. SMI supports the Program of Record by assessing future parts/material obsolescence and future affordability and capability design modifications. SMI funds engineering activities and studies to reduce future system and production costs through manufacturing/ 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. SMI funded data exploitation efforts include OPIR data processing, 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.

This program is assigned to Budget Activity 5, System Development and Demonstration (SDD), because it funds the development and integration of mature systems, and the test, evaluation, and demonstration of those systems.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Title: Evolved SBIRS	0.000	8.100	10.658
Description: Assess future parts/material obsolescence and future affordability and capability design modifications.			
FY 2012 Accomplishments:			

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604441F: *Space Based Infrared System (SBIRS) High EMD*	PROJECT 657009: *Space Modernization Initiative*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Not applicable. ***FY 2013 Plans:*** Conduct a study to identify parts/material obsolescence issues and corresponding hardware/software design modifications to mitigate future production risks for the SBIRS Program of Record GEO Satellites. ***FY 2014 Plans:*** Complete SBIRS GEO obsolescence study. Conduct studies to identify payload, spacecraft, and software modifications to improve affordability of the SBIRS Program of Record GEO Satellites. These affordability studies will address simplifying mechanical systems (e.g., Pointing and Control subsystem); technology insertion (e.g., digital focal planes, micro-processor); A2100 spacecraft fleet stardarization (e.g., Command and Control and Electrical Power components); and Scanner-only design modifications (e.g., remove the Step-Starer Sensor). Initiate a study on simplified sensors to determine affordability and capability impacts across space and ground architectures.			
Title: Data Exploitation ***Description:*** Exploit existing OPIR data (DSP, SBIRS, CHIRP, other classified sources) through data processing, data publication, algorithm development, network connectivity and sensor performance assessments. ***FY 2012 Accomplishments:*** Not applicable. ***FY 2013 Plans:*** Extend data collection and analysis from the on-orbit CHIRP payload. Provide enhanced ground segment capability for command and control, data collection, mission processing, and data product dissemination. ***FY 2014 Plans:*** Continue to collect and analyze CHIRP data, if the sensor is still operating. Provide enhanced ground segment capability for command and control, data collection, mission processing, and data product dissemination.	0.000	21.447	22.515
Title: Architecture Studies ***Description:*** Assess future architecture alternatives for viability, affordability, capability, and resilience. ***FY 2012 Accomplishments:*** Not applicable. ***FY 2013 Plans:***	0.000	9.400	2.316

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604441F: *Space Based Infrared System (SBIRS) High EMD*	PROJECT 657009: *Space Modernization Initiative*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Conduct architecture and component studies to define spacecraft and payload requirements and performance trade space for disaggregated elements of alternative SBIRS GEO architectures. ***FY 2014 Plans:*** Continue SBIRS GEO alternative architecture and component studies. Conduct architecture study to evaluate impacts of classified HEO host architecture change and evaluate alternative polar strategic missile warning coverage.			
Title: Hosted Payloads ***Description:*** Explore payload technology maturation, qualification of new components, and subsystem/component prototyping to evolve the OPIR architecture. ***FY 2012 Accomplishments:*** Not applicable. ***FY 2013 Plans:*** Continue development of WFOV staring sensors, capabilities, and concepts that could support non-strategic missions that can be hosted or flown on a dedicated small bus. Initiate development of prototype sensors for a 6-degree WFOV payload(s) including evaluation of several sensor design alternatives through Preliminary Design Review (PDR) phase. ***FY 2014 Plans:*** Continue to develop prototype sensors for the next generation of 6-degree WFOV payload(s), emerging with Critical Design Review (CDR) quality designs and preparing for at least one flight demonstration. Initiate development of prototype sensors for a 9-degree WFOV payload(s) including evaluation of several sensor design alternatives through Preliminary Design Review (PDR) phase.	0.000	26.082	29.079
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 2012 Accomplishments:*** Not applicable ***FY 2013 Plans:***	0.000	11.557	17.106

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604441F: *Space Based Infrared System (SBIRS) High EMD*	PROJECT 657009: *Space Modernization Initiative*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Evaluate international partnership rideshare, commercial rideshare, or small free-flyer on orbit demonstrations. Continue concept studies on space vehicle bus capabilities initiated in FY12 under SBIRS EMD program. Initiate development of a small WFOV testbed spacecraft bus to host a 6-degree WFOV payload through Preliminary Design Review (PDR) phase. ***FY 2014 Plans:*** Continue to evaluate international partnership rideshare or commercial rideshare opportunities for a 9-degree WFOV Payload on-orbit demonstration. Continue development of a small WFOV testbed spacecraft bus through Critical Design Review (CDR) phase.			
Title: Management Services ***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. ***FY 2012 Accomplishments:*** Not applicable. ***FY 2013 Plans:*** Provide Program Office support for all SMI projects. ***FY 2014 Plans:*** Provide Program Office support for all SMI projects.	0.000	6.602	3.450
Accomplishments/Planned Programs Subtotals	0.000	83.188	85.124

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• OPAF: BA03: Line Item # 836720: *Space Based Ir Sensor Pgm Space*	49.674	47.135	28.235		28.235	26.332	7.725	7.703	7.842	Continuing	Continuing
• MPAF: BA05: Line Item # MSSBIR: *SBIR High (Space) TOA*	324.889	454.251	583.192		583.192	580.888	537.971	570.759	1,143.014	191.481	8,004.874

Remarks

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604441F: *Space Based Infrared System (SBIRS) High EMD*	PROJECT 657009: *Space Modernization Initiative*

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 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 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604441F: *Space Based Infrared System (SBIRS) High EMD*	PROJECT 657009: *Space Modernization Initiative*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Evolved SBIRS	TBD	TBD:,	0.000	0.000		8.100	Jul 2013	10.658	Nov 2013	-		10.658	69.473	88.231	88.231
Data Exploitation	Various	Americom Government Services Mclean VA; Northrop Grumman Boulder, CO; Others:,	0.000	0.000		21.447	Nov 2012	22.515	Nov 2013	-		22.515	92.750	136.712	136.712
Architecture and Component Studies	TBD	TBD:,	0.000	0.000		9.400	May 2013	2.316	Nov 2013	-		2.316	0.000	11.716	11.716
Hosted Payloads	TBD	TBD:,	0.000	0.000		26.082	May 2013	29.079	Nov 2013	-		29.079	85.263	140.424	140.424
WFOV Testbeds	MIPR	Millenium Space Systems:Torrance, CA	0.000	0.000		11.557	Dec 2012	17.106	Nov 2013	-		17.106	94.500	123.163	123.163
System Engineering and Integration (SE&I)	TBD	TBD:,	0.000	0.000		0.000		0.000		-		0.000	3.158	3.158	3.158
		Subtotal	0.000	0.000		76.586		81.674		0.000		81.674	345.144	503.404	503.404

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604441F: *Space Based Infrared System (SBIRS) High EMD*	PROJECT 657009: *Space Modernization Initiative*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Technical Support (FFRDC)	RO	Aerospace Corp:El Segundo, CA	0.000	0.000		1.155	Dec 2012	1.178	Dec 2013	-		1.178	4.953	7.286	7.286
Various Management Support Services (PMA)	Various	Various:,	0.000	0.000		5.447	Oct 2012	2.272	Oct 2013	-		2.272	10.291	18.010	18.010
		Subtotal	0.000	0.000		6.602		3.450		0.000		3.450	15.244	25.296	25.296

	All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	0.000		83.188		85.124		0.000		85.124	360.388	528.700	528.700

Remarks

Each Cost Category Item with "TBD" or "Various" annotated contains several contract elements with some contracts still TBD.

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604441F: *Space Based Infrared System (SBIRS) High EMD*	PROJECT 657009: *Space Modernization Initiative*

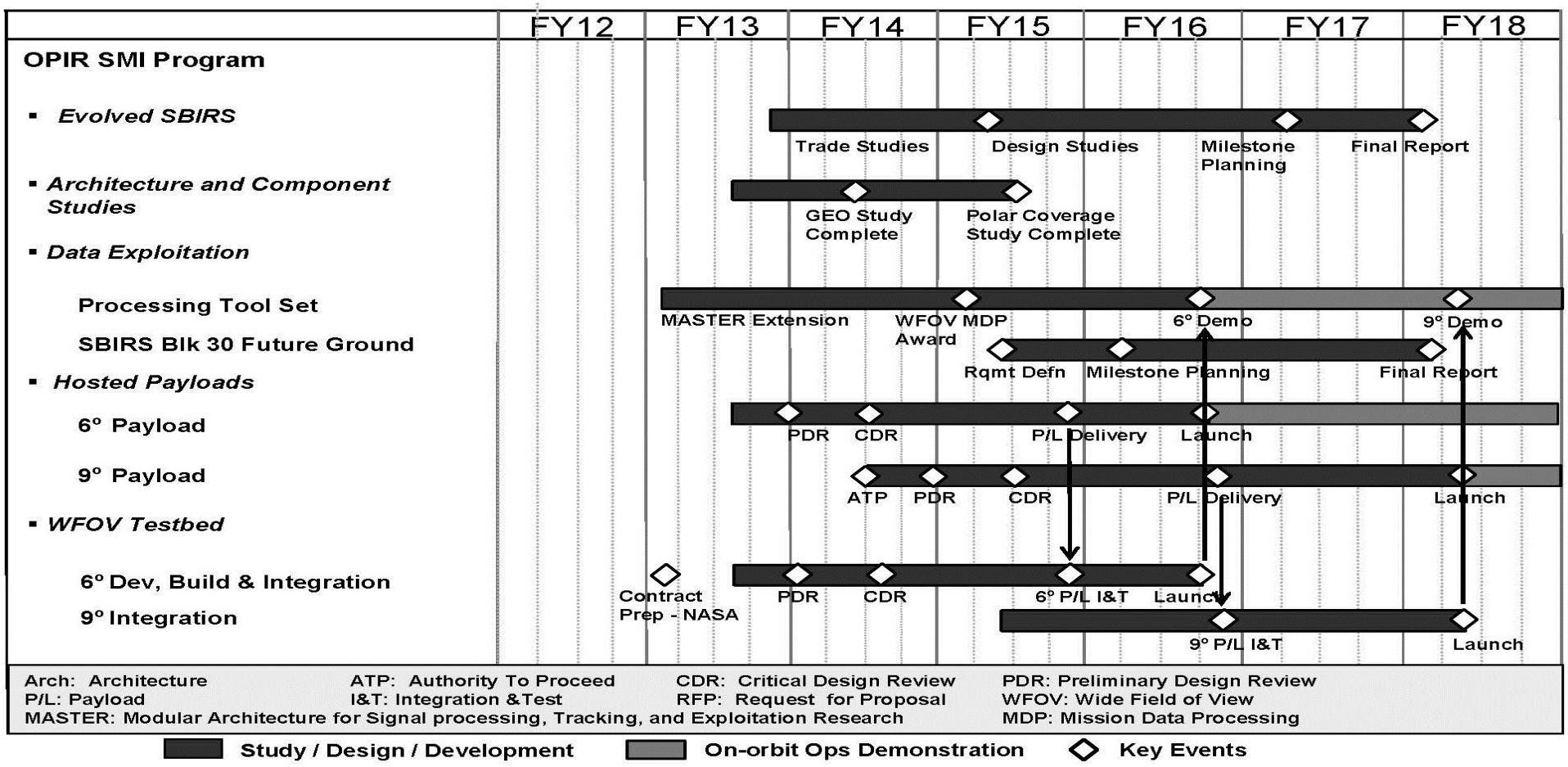


Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604441F: *Space Based Infrared System (SBIRS) High EMD*	PROJECT 657009: *Space Modernization Initiative*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
WFOV Testbeds	3	2013	2	2018
Architecture & Component Studies	3	2013	3	2015
Hosted Payloads Tech Maturation	3	2013	4	2018
OPIR Data Exploitation	1	2013	4	2018
Evolved SBIRS Studies	4	2013	1	2015

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604441F: *Space Based Infrared System (SBIRS) High EMD*	PROJECT 65A040: *Commercially Hosted Infrared Payload (CHIRP)*	

COST ($ in Millions)	All Prior Years	FY 2012	FY 2013#	FY 2014 Base	FY 2014 OCO ##	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
65A040: *Commercially Hosted Infrared Payload (CHIRP)*	22.125	16.518	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	38.643
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 OCO Request will be submitted at a later date

A. Mission Description and Budget Item Justification

The Commercially Hosted Infrared Payload (CHIRP) provided risk reduction and evaluation of WFOV infrared staring and data processing technology to potentially evolve future SBIRS staring sensors and processing algorithms. An on-orbit demonstration quantifed performance levels of a prototype WFOV sensor in an operational environment. CHIRP sensor testing provided Focal Plane Array (FPA) performance/calibration characteristics, assessed WFOV staring algorithm performance in an operational environment, and investigated compatibility with current Overhead Persistent Infrared (OPIR) ground systems for missile warning, missile defense, and other mission areas. CHIRP experience and lessons learned have been incorporated
into plans and objectives for SMI activities, to include the need for further on-orbit performance demonstration, WFOV algorithm development, and ground mission data processing for all OPIR mission areas.

The CHIRP demonstration continued effort begun under Third Generation Infrared Surveillance PE 060443F. CHIRP received FY11 and FY12 funds to continue the Wide-Field-of-View (WFOV) demonstration for technology maturation. Funding was moved to the SBIRS RDT&E Program Element under a separate project number.

This program is assigned to Budget Activity 5, System Development and Demonstration (SDD) because it funds the development and integration of mature systems, and the test, evaluation, and demonstration of those systems.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Title: CHIRP	16.518	0.000	0.000
Description: Continued contracts for Commercially Hosted Infrared Payload (CHIRP) demonstration and related support activities.			
FY 2012 Accomplishments: Continued development and test of mission data processing and ground infrastructure to mature WFOV algorithms and technologies. Demonstrated CHIRP on-orbit capabilities to include fusion of CHIRP data with other OPIR systems. Collected, archived and analyzed on-orbit data against cooperative targets and continue to mature WFOV algorithms. Continued Program			

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604441F: *Space Based Infrared System (SBIRS) High EMD*	PROJECT 65A040: *Commercially Hosted Infrared Payload (CHIRP)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Office and related support activities. CHIRP mission demonstration and data analysis/exploitation continuing under SMI Data Exploitation.			
Accomplishments/Planned Programs Subtotals	16.518	0.000	0.000

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• RDTE: BA05: PE 0604443F: *Third Generation Infrared Surveillance*	0.000	0.000	0.000		0.000	0.000	0.000	0.000	0.000	0.000	78.420

Remarks

D. Acquisition Strategy

Risk reduction and evaluation of WFOV infrared staring and data processing technology will be continued via the SMI project BPAC 657009.

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 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604441F: *Space Based Infrared System (SBIRS) High EMD*	PROJECT 65A040: *Commercially Hosted Infrared Payload (CHIRP)*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
WFOV IR staring technologies risk reduction activities	Various	*See Remarks:Various,	14.797	10.553	Nov 2011	0.000		0.000		-		0.000	0.000	25.350	21.800
		Subtotal	14.797	10.553		0.000		0.000		0.000		0.000	0.000	25.350	21.800

Remarks

Put all R-3 Remarks in the summary Remark Text Box.

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Various Program Support	Various	Various:Various,	0.712	0.793	Oct 2011	0.000		0.000		-		0.000	0.000	1.505	1.352
Technical Engineering	C/T&M	Cobham Analytic Solutions:Lake Forest, CA	2.783	2.360	Jan 2012	0.000		0.000		-		0.000	0.000	5.143	5.143
Technical Support (FFRDC)	RO	Aerospace Corp.:El Segundo, CA	3.833	2.812	Nov 2011	0.000		0.000		-		0.000	0.000	6.645	10.348
		Subtotal	7.328	5.965		0.000		0.000		0.000		0.000	0.000	13.293	16.843

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604441F: *Space Based Infrared System (SBIRS) High EMD*	PROJECT 65A040: *Commercially Hosted Infrared Payload (CHIRP)*	

	All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	22.125	16.518		0.000		0.000		0.000		0.000	0.000	38.643	38.643

Remarks

Performing Activities: System Dynamics Lab (Logan, UT), Americom Government Services (McLean, VA), Northrop Grumman Electronic Systems (Azusa, CA), Science Applications International Corporation (McLean, VA).

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604441F: *Space Based Infrared System (SBIRS) High EMD*	PROJECT 65A040: *Commercially Hosted Infrared Payload (CHIRP)*

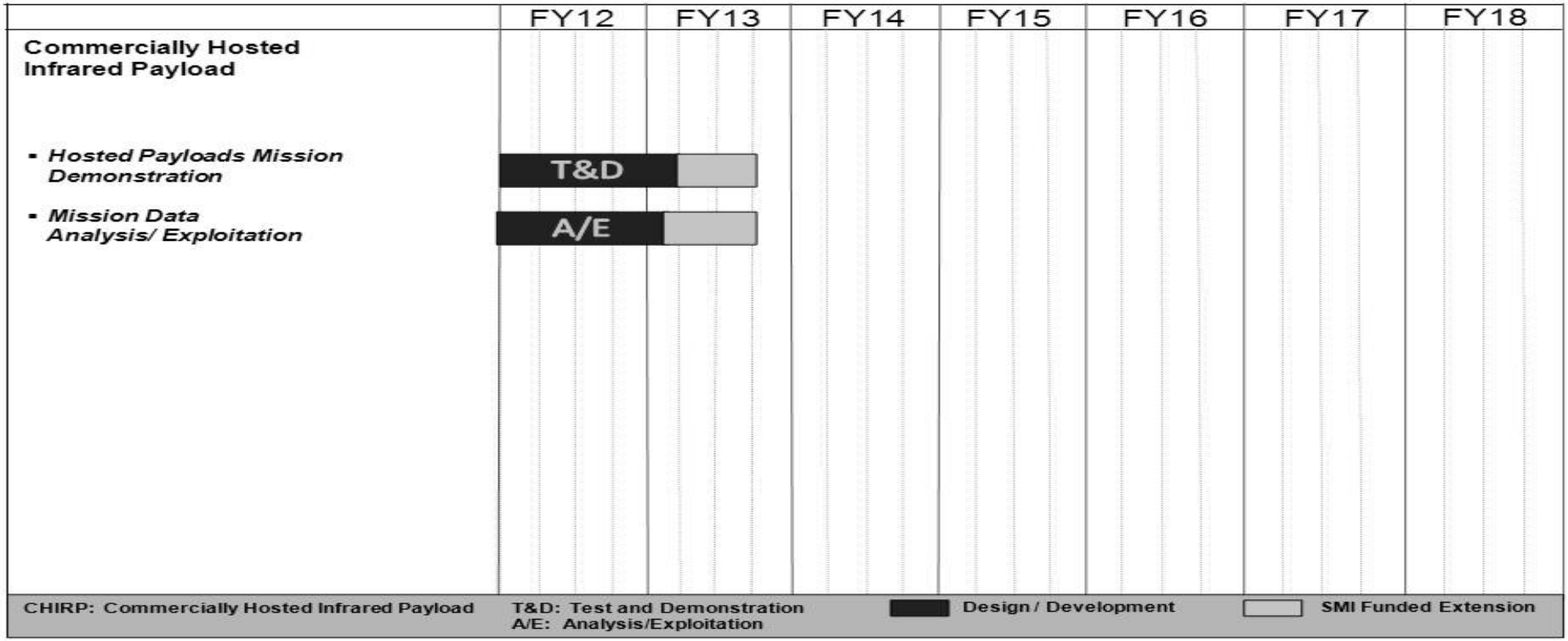


Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0604441F: *Space Based Infrared System (SBIRS) High EMD*	**PROJECT** 65A040: *Commercially Hosted Infrared Payload (CHIRP)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Mission Data Analysis/Data Exploitation (continued under SMI)	1	2012	4	2013
Hosted Payload Mission Demonstration (continued under SMI)	1	2012	4	2013

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force											DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*					R-1 ITEM NOMENCLATURE PE 0604602F: *Armament/Ordnance Development*							
COST ($ in Millions)	**All Prior Years**	**FY 2012**	**FY 2013#**	**FY 2014 Base**	**FY 2014 OCO ##**	**FY 2014 Total**	**FY 2015**	**FY 2016**	**FY 2017**	**FY 2018**	**Cost To Complete**	**Total Cost**
Total Program Element	-	7.755	9.951	16.284	-	16.284	23.596	16.797	5.957	6.064	Continuing	Continuing
653133: *Bombs & Fuzes*	-	3.936	3.993	0.720	-	0.720	1.238	1.198	1.074	1.093	Continuing	Continuing
653134: *BLU-109 and BLU-113 Upgrade*	-	0.000	0.000	11.500	-	11.500	16.500	10.000	0.000	0.000	Continuing	Continuing
655361: *Stores-Aircraft Interface*	-	3.819	5.958	4.064	-	4.064	5.858	5.599	4.883	4.971	Continuing	Continuing

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 OCO Request will be submitted at a later date

Note

In FY 2014, Project 653134, BLU-109 and BLU-113 Upgrade, includes new start efforts.

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 PE develops and improves the following weapons and weapons subsystems: bombs, bomb 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. 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 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 (Penetrator Bomb Enhancement): This project develops, tests and implements upgrades to legacy penetrator bombs, enabling them to hold more targets at risk than currently achievable.
- 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 Operation Flight Program (OFP) cycles.

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 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604602F: *Armament/Ordnance Development*

B. Program Change Summary ($ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	7.755	9.951	7.078	-	7.078
Current President's Budget	7.755	9.951	16.284	-	16.284
Total Adjustments	0.000	0.000	9.206	-	9.206
• Congressional General Reductions	-	0.000			
• Congressional Directed Reductions	-	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	-	0.000			
• Congressional Directed Transfers	-	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	0.000	0.000	9.206	-	9.206

Change Summary Explanation

Base FY 2014,Base BY1 Other Adjustments: +$11.5M, BLU-109/113 upgrade; -$2.294M, higher Air Force priorities

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604602F: *Armament/Ordnance Development*	PROJECT 653133: *Bombs & Fuzes*	

COST ($ in Millions)	All Prior Years	FY 2012	FY 2013#	FY 2014 Base	FY 2014 OCO ##	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
653133: *Bombs & Fuzes*	-	3.936	3.993	0.720	-	0.720	1.238	1.198	1.074	1.093	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 OCO Request will be submitted at a later date

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) Fixed Wing Advanced Precision Kill Weapon System II (FW APKWS II) Joint Capability Technology Demonstration (JCTD) will integrate the existing APKWS II, a rotary wing (helicopter) system, onto the fixed-wing A-10 platform and provide a precision laser guided, low collateral damage capability against static and moving targets.

(c) This project funds follow-on development activities for legacy fuzes, including reliability enhancements and producibility improvements.

- 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, 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.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Title: Munitions Materiel Handling Equipment/Container Design Retrieval System	0.899	0.802	0.466
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			

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604602F: *Armament/Ordnance Development*	PROJECT 653133: *Bombs & Fuzes*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014

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, testing capabilities, as well as the Joint Ordnance Commander's Working Group (JOCG) for Packaging, Handling, and Loading.

FY 2012 Accomplishments:

CDRS provided DoD wide customer support with container design and technical support for munitions/weapons containers developers. Completed 46 customer requests to provide container or technical information and design. Qualified redesigned Miniature Air Launched Decoy (MALD) container for safe decoy shipment. Analyzed P5 Combat Training System Pod shipping container defects and provided corrective action to System Program Office (SPO) Program Manager. Utilized CDRS database to locate containers for three SEEK EAGLE programs, saved $37K. Researched CDRS database for JASSM Super Frame container, saved $2.4K in research time for the JASSM SPO. Researched CDRS database for Army Accelerated Improved Initiative Intercept (AI3) Missile containers, saved US Army program office $2.4K. Provided ten updated container Certificate of Equivalency (COEs) for AMRAAM, JASSM, and Griffin missile program offices. MMHE completed 24 MMHE support equipment projects to include engineering, drafting, proof load, technical data development, and safety authorizations. Fabricated 18 prototypes for project test and evaluation. Completed 20 first article equipment fabrications for drawing verification and delivery to Air Force units for additional OT&E. Engineered and developed Air-to-Air Pylon load adapter and Pylon Storage Stand to support F-35 Program Office. Engineered and developed Multipurpose Load Adapter and Hellfire Preload Adapter to support SOCOM C-130W Small Diameter Bomb (SDB)/Hellfire missile weapons system upgrade. Engineered and developed 30MM ammunition linker/delinker to support AFSOC AC-130 Gunship weapons system upgrade. Engineered and developed new 20MM Ammunition Transfer System base for Medium Caliber SPO. Engineered and developed Lightweight Bomb Lift Beam for the SDB SPO. Provided support to all SPO offices with new weapons and container development. Continued support and sustainment of all previously existing items developed by the MMHE program office. Provided direct customer support through customer support visits to Whiteman AFB, MO, Mountain Home AFB, ID, Anderson AFB, Guam, Moody AFB, GA, Nellis AFB, NV, Edwards AFB, CA , Boise and Tusla ANG.

FY 2013 Plans:

Provide container design expertise and technical support to AF munitions/weapons containers developers. Complete ten Munitions Materiel Handling Equipment (MMHE) support equipment projects to include engineering, drafting, proof load, technical data, and safety authorizations. Fabricate seven prototypes for test and evaluation purposes. Complete seven first article equipment fabrications for drafting verification and delivery to Air Force units for additional test and evaluation. Provide support to all System Program Office (SPO) with new weapons and container development. Continue support to the F-35 programs with

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604602F: *Armament/Ordnance Development*	PROJECT 653133: *Bombs & Fuzes*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
equipment to test and evaluate various pylons and adapters. Continue 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 System Program Office (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. 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.			
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 2012 Accomplishments:*** Conducted PGU-28A/B F-22 qualification testing; conducted 25mm (F-35) Foreign Comparative Test ***FY 2013 Plans:*** Conduct PGU-28A/B F-22 qualification testing; perform 20mm clean sheet (alternate round) assessment.	1.795	2.790	0.000
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 2012 Accomplishments:*** Delivered FY13/14 AF IM Strategic Plan which provided plans of action and milestones for priority AF programs including AMRAAM, SDB-II, BLU-109, HTVSF, general purpose bombs, and BLU-129; supported DoD and Joint Service IM planning. ***FY 2013 Plans:*** Initiate the FY15/16 AF IM Strategic Plan; support DoD and Joint Service IM planning; provide IM planning expertise to individual AF programs. ***FY 2014 Plans:***	0.268	0.401	0.254

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604602F: *Armament/Ordnance Development*	PROJECT 653133: *Bombs & Fuzes*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Deliver the FY 15/16 AF IM Strategic Plan; support DoD and Joint Service IM planning; provide IM planning expertise to individual AF programs.			
Title: Fixed Wing Advanced Precision Kill Weapon System II (FW APKWS II) Joint Capability Technology Demonstration (JCTD) ***Description:*** FW APKWS II JCTD: will integrate the existing APKWS II, a rotary wing (helicopter) system, onto the AV-8B and A-10 platforms and demonstrate its military utility to provide a precision laser guided, low collateral damage capability against static and moving targets, both close support and urban targets; system will leverage existing rocket motor stockpiles. ***FY 2012 Accomplishments:*** Completed two LAU-131A/A Extended Length Launcher jettison tests off the A-10. Completed Preliminary Design Review (PDR) and Critical Design Review (CDR). Completed HERO (Hazards of Electromagnetic Radiation to Ordnance) Susceptible evaluation of APKWS by Navy and provided letter for flight clearance of A-10/F-16 aircraft. SEEK EAGLE prepared request for flight clearance for A-10/F-16 aircraft. Completed two contractor ground shots at China Lake and two contractor flight test/safe separation off A-10 at Eglin. Conducted three performance shots and Military Utility Assessment (MUA) test planning.	0.939	0.000	0.000
Title: Joint Programmable Fuze (JPF -- FMU-152)/Modernized Commodity Fuze (MCF) ***Description:*** Joint fuze modernization to improve design characteristics for enhanced affordability, producibility, and sustainability. ***FY 2012 Accomplishments:*** Explored cooperation with Navy and reviewed fuze design and manufacturing capabilities.	0.035	0.000	0.000
Accomplishments/Planned Programs Subtotals	3.936	3.993	0.720

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

N/A

D. Acquisition Strategy

Fuzes (including the FMU-152) is a continuing effort with most activities performed in-house or through contracted services (small contracts).
Fixed Wing APKWS II JCTD is being conducted under the current contract for the rotary wing APKWS II system.
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).

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604602F: *Armament/Ordnance Development*	PROJECT 653133: *Bombs & Fuzes*

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 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604602F: *Armament/Ordnance Development*	PROJECT 653133: *Bombs & Fuzes*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
IM	TBD	Air Force Research Lab RWM:Eglin AFB, FL	-	0.150	Jan 2012	0.150	Jan 2013	0.150	Jan 2014	-		0.150	Continuing	Continuing	TBD
MMHE/CDRS -- Prototypes	PO	Prototype Fabrication Shop:Eglin AFB, FL	-	0.281	Jan 2012	0.153	Oct 2012	0.100	Oct 2013	-		0.100	Continuing	Continuing	TBD
		Subtotal	0.000	0.431		0.303		0.250		0.000		0.250			

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
IM/APKWS	Various	AFLCMC EBSN & XZWG and AFRL RW:Eglin AFB, FL	-	0.175	Jan 2012	0.075	Jan 2013	0.029		-		0.029	Continuing	Continuing	TBD
APKWS contract support	C/CPAF	TEAS TAMS:Eglin AFB, FL	-	0.075	Jun 2012	0.176	Jun 2013	0.075	Jun 2014	-		0.075	Continuing	Continuing	TBD
Fuzes -- Progam Office support	C/CPAF	AFLCMC EBDZ:Eglin AFB, FL	-	0.035		0.000		0.000		-		0.000	Continuing	Continuing	
MMHE/CDRS contract support	C/FFP	TEAS:Eglin AFB, FL	-	0.333	Jan 2012	0.336	Jan 2013	0.224	Oct 2013	-		0.224	Continuing	Continuing	
MMHE/CDRS -- Program Office support	PO	AFLCMC/EBD:Eglin AFB, FL	-	0.285	Jan 2012	0.313	Oct 2012	0.142	Oct 2013	-		0.142	Continuing	Continuing	TBD
Medium Caliber Ammunition - Program Office support	TBD	AFLCMC EBSN:Eglin AFB, FL	-	0.000		0.900	Oct 2012	0.000		-		0.000	Continuing	Continuing	TBD
		Subtotal	0.000	0.903		1.800		0.470		0.000		0.470			

Remarks

TEAS/TAMS contractors provide support to the System Program Office (SPO) for technical (TEAS) and management/financial (TAMS) services

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604602F: *Armament/Ordnance Development*	PROJECT 653133: *Bombs & Fuzes*

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Medium Caliber	TBD	Various:Various,	-	1.795	Dec 2011	1.890	Jun 2013	0.000		-		0.000	Continuing	Continuing	TBD
FW APKWS II	Various	Various:Various,	-	0.807	Jan 2012	0.000		0.000		-		0.000	Continuing	Continuing	
		Subtotal	0.000	2.602		1.890		0.000		0.000		0.000			

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

	All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	3.936		3.993		0.720		0.000		0.720			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0604602F: *Armament/Ordnance Development*	**PROJECT** 653133: *Bombs & Fuzes*

Armament/Ordinance RDT&E Schedule

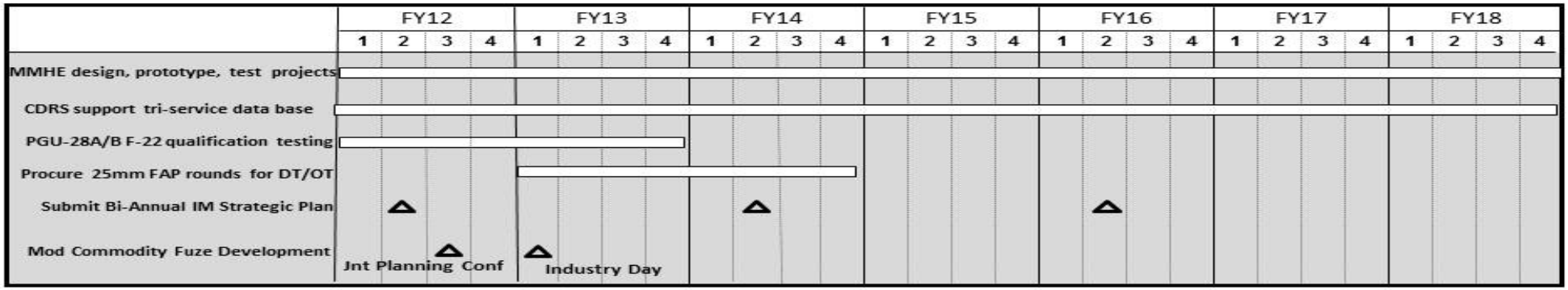


Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604602F: *Armament/Ordnance Development*	PROJECT 653133: *Bombs & Fuzes*

USAF FW APKWS II JCTD Schedule

Start Right... Start Well!

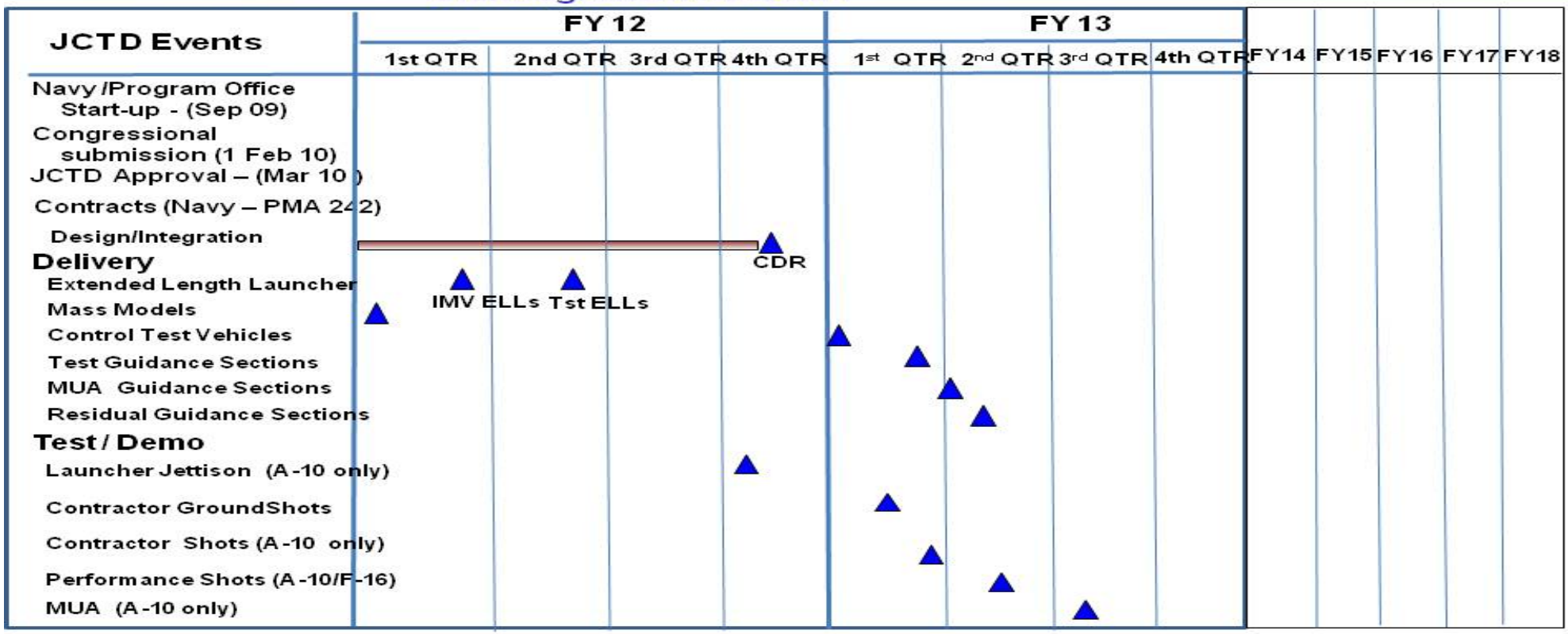


Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0604602F: *Armament/Ordnance Development*	**PROJECT** 653133: *Bombs & Fuzes*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Munitions Materiel Handling Equipment (MMHE): design, prototype, test priority MMHE projects	1	2012	4	2018
Container Design Retrieval System (CDRS): support tri-service data base	1	2012	4	2018
Medium Caliber Ammunition: Conduct PGU-28A/B F-22 qualification testing	1	2012	4	2013
Medium Caliber Ammunition: Procure 25mm Frangible Armor Piercing (FAP) rounds for DT/OT of F-35 gun system	1	2013	4	2014
Submit AF FY13/14 Insensitive Munitions (IM) Strategic Plan	2	2012	2	2012
Submit AF FY15/16 Insensitive Munitions (IM) Strategic Plan	2	2014	2	2014
Submit AF FY17/18 Insensitive Munitions (IM) Strategic Plan	2	2016	2	2016
FW APKWS II JCTD: Design/Integration	1	2012	4	2012
FW APKWS II JCTD: A-10 Fight Tests	4	2012	2	2013
Joint Programmable Fuze/Modernized Commodity Fuze: Joint planning conference	3	2012	3	2012
Joint Programmable Fuze/Modernized Commodity Fuze: Fuze industry Day	1	2013	1	2013

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604602F: *Armament/Ordnance Development*	PROJECT 653134: *BLU-109 and BLU-113 Upgrade*	

COST ($ in Millions)	All Prior Years	FY 2012	FY 2013#	FY 2014 Base	FY 2014 OCO ##	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
653134: *BLU-109 and BLU-113 Upgrade*	-	0.000	0.000	11.500	-	11.500	16.500	10.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 OCO Request will be submitted at a later date

Note

In FY 2014, Project 653134, BLU-109 and BLU-113 Upgrade, includes new start efforts.

A. Mission Description and Budget Item Justification

BLU-109 and BLU-113 Upgrade (Penetrator Bomb Enhancement): This project develops, tests and implements upgrades to penetrator bomb designs (BLU-109, BLU-122, BLU-113) to improve their reliability and survivability during penetration into hardened targets. These enhancements will enable penetrator 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, which improves the survivability and reliability of the BLU-109. This program is an outgrowth of the penetrator Legacy Warhead Improvement Program (LWIP), and work under the program will be accomplished in concert with the Direct Strike Penetrator System analysis-of-alternatives (AoA) conducted in PE 64327, Hardened Target Munitions.

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 2012	FY 2013	FY 2014
Title: Advanced 2000 lb Penetrator (A2K) Demonstration	0.000	0.000	11.500
Description: Conduct A2K design analysis, warhead modifications, and testing to improve BLU-109 performance against increasingly hardened targets. Designs will maintain the current BLU-109 mold line and will attempt to maintain current BLU-109C/B 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 FZUs and cables, modified JDAM hardbacks, and modified warhead cases employed on the threshold platform (B-2A). The demonstration/qualification effort will complete in FY15.			
Accomplishments/Planned Programs Subtotals	0.000	0.000	11.500

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604602F: *Armament/Ordnance Development*	PROJECT 653134: *BLU-109 and BLU-113 Upgrade*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• RDTE:BA04:PE 0604618F: *Joint Direct Attack Munition*	0.000	0.000	2.500		2.500	2.500	0.000	0.000	0.000	Continuing	Continuing
• RDTE:BA04:PE 0604327F: *Hardened Target Munitions*	33.248	16.711	0.103		0.103	0.000	0.000	0.000	0.000	Continuing	Continuing
• PAAF:BA01:Line Item # 353020: *Legacy Weapon Improvement Program*	1.997	3.000	3.000		3.000	3.000	3.000	3.000	3.000	Continuing	Continuing

Remarks

D. Acquisition Strategy

The Advanced 2000 lb Warhead (A2K) Demonstration and Partial Qualification program will provide a BLU-109 modification package that would proceed to a full qualification and low rate initial production (LRIP) for production 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-3, RDT&E Project Cost Analysis: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604602F: *Armament/Ordnance Development*	PROJECT 653134: *BLU-109 and BLU-113 Upgrade*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Eglin Steel - 1 (ES-1)	Various	Various:Various,	-	0.000		0.000		2.581	Jan 2014	-		2.581	Continuing	Continuing	
JDAM Hardware	SS/CPFF	Boeing:St. Charles, MO	-	0.000		0.000		2.302	Jan 2014	-		2.302	Continuing	Continuing	
FZU Modification	SS/CPFF	KPPI:Various,	-	0.000		0.000		1.185	Jan 2014	-		1.185	Continuing	Continuing	
		Subtotal	0.000	0.000		0.000		6.068		0.000		6.068			

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Qualification Tests	Various	Various:Various,	-	0.000		0.000		3.314	Jan 2014	-		3.314	Continuing	Continuing	
		Subtotal	0.000	0.000		0.000		3.314		0.000		3.314			

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Administration/Program Support	Various	Various:Various,	-	0.000		0.000		2.118	Oct 2014	-		2.118	Continuing	Continuing	
		Subtotal	0.000	0.000		0.000		2.118		0.000		2.118			

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604602F: *Armament/Ordnance Development*	PROJECT 653134: *BLU-109 and BLU-113 Upgrade*	

	All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	0.000		0.000		11.500		0.000		11.500			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604602F: *Armament/Ordnance Development*	PROJECT 653134: *BLU-109 and BLU-113 Upgrade*

Advanced 2000 Lb Penetrator (A2K) Schedule
[BLU-109 Upgrade]

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

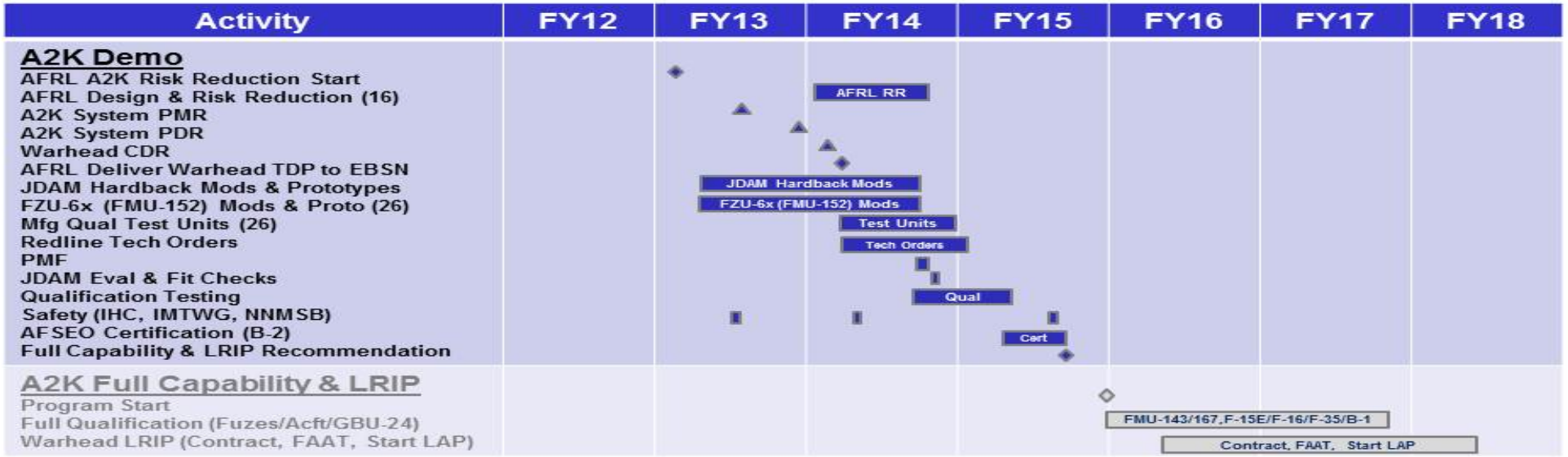


Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0604602F: *Armament/Ordnance Development*	**PROJECT** 653134: *BLU-109 and BLU-113 Upgrade*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Manufacture Demo/Qual Warheads, Aft Closures, FZUs, JDAM Hardware	1	2014	4	2014
Conduct Demonstration/Qualification Tests	3	2014	2	2015
Certify assets for transition to inventory stocks	2	2015	3	2015

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604602F: *Armament/Ordnance Development*	PROJECT 655361: *Stores-Aircraft Interface*	

COST ($ in Millions)	All Prior Years	FY 2012	FY 2013#	FY 2014 Base	FY 2014 OCO ##	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
655361: *Stores-Aircraft Interface*	-	3.819	5.958	4.064	-	4.064	5.858	5.599	4.883	4.971	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 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 2012	FY 2013	FY 2014
Title: UAI Development	3.819	5.958	4.064
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 2012 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, integration support and updates to test. Completed Moving Target LAR Study, began/completed 14 Platform-Store and 2 Mission Planning (MP) interface changes in response to aircraft program needs. With support from UAI PO, B-2 MP SPO signed the UAI ICP, Precision Guided Munitions Planning System designated UAI as its single future MP interface (even to non-UAI a/c), and the Army/Navy/AF Unmanned Systems Interoperability Profile (USIP) weapons IP 5.0 mandated UAI as its primary interface on UAVs.			
FY 2013 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604602F: *Armament/Ordnance Development*	PROJECT 655361: *Stores-Aircraft Interface*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
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 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. ***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, integration support and updates to test. 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	3.819	5.958	4.064

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• None: *N/A*	0.000	0.000	0.000		0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

Remarks

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 OEM 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 August 2011 for 18 months to better align future contract awards with funding through the FYDP.

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 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604602F: *Armament/Ordnance Development*	PROJECT 655361: *Stores-Aircraft Interface*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Interface Control Document (ICD) Development/Updates/ Maintenance	SS/CPIF	Boeing Northrop Grumman Lockheed Martin Raytheon:Various,	-	2.653	Feb 2013	4.978	Jun 2013	3.114	Feb 2014	-		3.114	Continuing	Continuing	TBD
UAI Common Component	SS/CPIF	Northrop Grumman:Bethpage, NY	-	1.034	Feb 2012	0.650	May 2013	0.600	Jan 2014	-		0.600	Continuing	Continuing	TBD
Certification Tool	SS/CPFF	Boeing Northrop Grumman Lockheed Martin Raytheon:Various,	-	0.000		0.200	May 2013	0.200	Jan 2014	-		0.200	Continuing	Continuing	TBD
		Subtotal	0.000	3.687		5.828		3.914		0.000		3.914			

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Administration/Program Support	Various	Various:Various,	-	0.132		0.130		0.150		-		0.150	Continuing	Continuing	TBD

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604602F: *Armament/Ordnance Development*	PROJECT 655361: *Stores-Aircraft Interface*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.132		0.130		0.150		0.000		0.150			

	All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	3.819		5.958		4.064		0.000		4.064			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604602F: *Armament/Ordnance Development*	PROJECT 655361: *Stores-Aircraft Interface*

Exh R-4, UAI Technical Roadmap

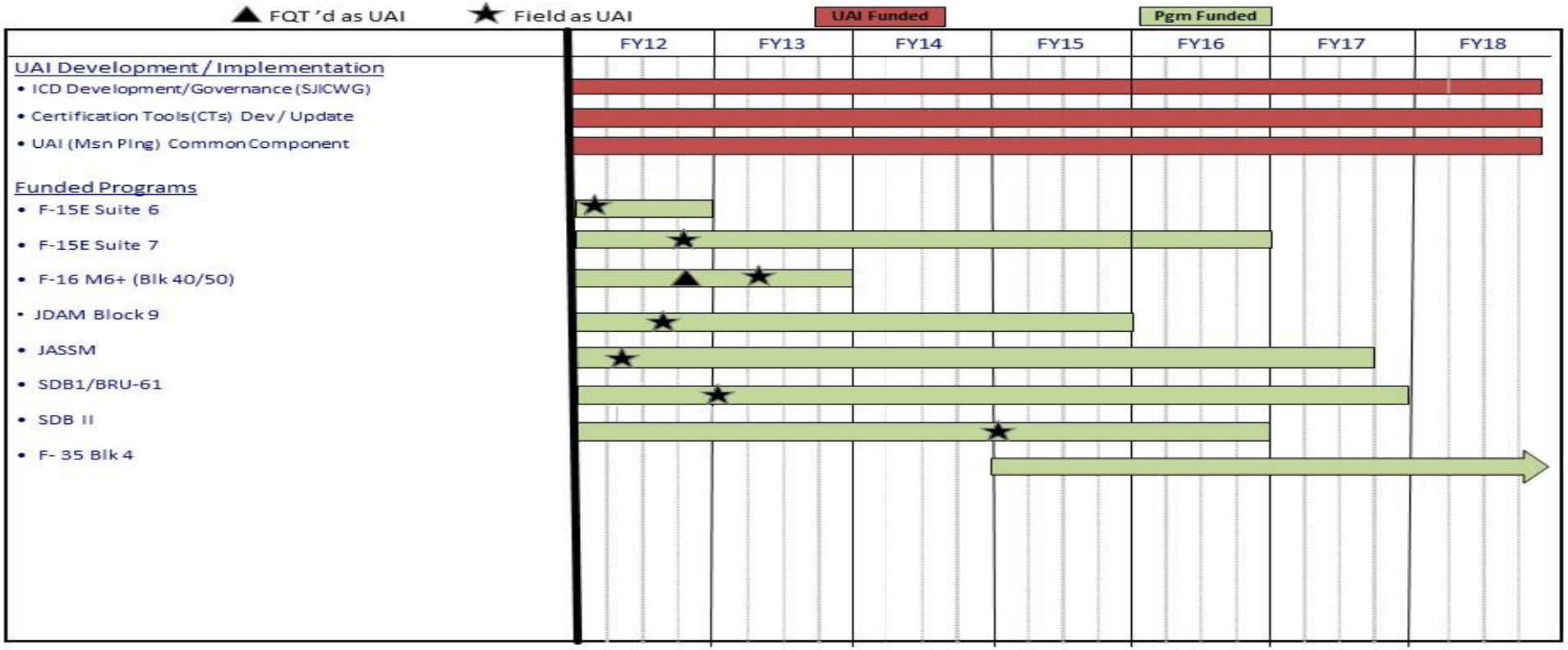


Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0604602F: *Armament/Ordnance Development*	**PROJECT** 655361: *Stores-Aircraft Interface*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
F-15E Suite 6	1	2012	4	2012
F-15E Suite 7	1	2012	4	2016
F-16 M6+ (Blk 40/50)	1	2012	4	2013
JDAM Block 9	1	2012	4	2015
JASSM	1	2012	3	2017
SDB 1/BRU-61	1	2012	4	2017
SDB II	1	2012	4	2016
F-35 Blk 4	4	2014	4	2018

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force											DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*					R-1 ITEM NOMENCLATURE PE 0604604F: *Submunitions*							
COST ($ in Millions)	**All Prior Years**	**FY 2012**	**FY 2013#**	**FY 2014 Base**	**FY 2014 OCO ##**	**FY 2014 Total**	**FY 2015**	**FY 2016**	**FY 2017**	**FY 2018**	**Cost To Complete**	**Total Cost**
Total Program Element	-	2.427	2.567	2.564	-	2.564	2.574	2.647	2.682	2.731	Continuing	Continuing
653166: *Joint Smart Munitions Test and Evaluation*	-	2.427	2.567	2.564	-	2.564	2.574	2.647	2.682	2.731	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 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.

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0604604F: *Submunitions*

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 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	2.427	2.567	2.564	-	2.564
Current President's Budget	2.427	2.567	2.564	-	2.564
Total Adjustments	0.000	0.000	0.000	-	0.000
• Congressional General Reductions	-	0.000			
• Congressional Directed Reductions	-	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	-	0.000			
• Congressional Directed Transfers	-	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	0.000	0.000	0.000	-	0.000

Change Summary Explanation

No Significant Changes

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Title: Model Development and Vulnerability Analysis	0.365	0.375	0.150
Description: Develop, validate, and accredit improved models for target vulnerability and weapons effectiveness in support of Combatant Commands' (CoCOMs) requirements. ***FY 2012 Accomplishments:*** Constructed two geometric models based on CoCOMs' requirements. ***FY 2013 Plans:*** Develop, validate, and accredit 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.			

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0604604F: *Submunitions*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
No OCONUS requirements.			
Title: System Exploitation	1.026	1.035	0.450
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 2012 Accomplishments:*** Exploit 4 high value threat systems. Provided signature data from multiple threat systems in various environments using advanced and developmental seeker/sensor technologies. The 2012 EUCOM Focused Collection Operation highlighted the project's capabilities, both CONUS and OCONUS, to support immediate COCOM signature exploitation requirements. ***FY 2013 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. ***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.			
Title: Bi-Annual Sensor Week	0.000	0.020	0.950
Description: A critical underpinning of the System Exploitation major thrust area, Sensor Week occurs in even years and provides a unique air, ground, and NTM demonstration/validation of candidate Seeker/Sensor/ISR technologies. 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.			

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0604604F: *Submunitions*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
FY 2012 Accomplishments: Previously included in the System Exploitation line. Provides unique air/ground demo of candidate seekers/sensors/ISR assets. ***FY 2013 Plans:*** (Note: Not a new start, previously addressed within System Exploitation, delineated here for improved traceability.) 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. No OCONUS requirements. ***FY 2014 Plans:*** (Note: Not a new start, previously addressed within System Exploitation, delineated here for improved traceability.) 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 2012 Accomplishments:*** Investigated components of the following technologies for utility in ISR activities: Hyper Spectral Imagery (HSI), shortwave IR and Polarmetric Imaging. ***FY 2013 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 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	0.250	0.337	0.214
Title: Fleet Relevance ***Description:*** Obtain/maintain high value signature quality threat assets.	0.786	0.800	0.800

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0604604F: *Submunitions*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
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 2012 Accomplishments:*** Attained new emerging threat assets and decoys. Sustained and maintained existing foreign threat assets to ensure proper "signature representative" nature for systems development and testing. ***FY 2013 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. ***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, TTPs, next generation ISR capabilities, and rapid reaction COCOM exploitation efforts.			
Accomplishments/Planned Programs Subtotals	2.427	2.567	2.564

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• None: *N/A*	0.000	0.000	0.000		0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

Remarks

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-3, RDT&E Project Cost Analysis: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604604F: *Submunitions*	PROJECT 653166: *Joint Smart Munitions Test and Evaluation*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
46th Test Wing	PO	Keeping Fleet Relevant:,	-	0.786	Nov 2011	0.800	Nov 2012	0.800	Nov 2013	-		0.800	Continuing	Continuing	
		Subtotal	0.000	0.786		0.800		0.800		0.000		0.800			

Remarks

Fleet relevance addresses the acquistion of new and emerging threat vehicles, acquistion of high fidelity decoys, and sustainment of fleet signature quality.

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
46th Test Wing (46 OG and 46 TW)	TBD	Conducting Tests and Analysis:Eglin AFB, FL	-	1.591	Nov 2011	1.712	Nov 2012	1.709	Nov 2013	-		1.709	Continuing	Continuing	TBD
		Subtotal	0.000	1.591		1.712		1.709		0.000		1.709			

Remarks

46th Test Wing is the Program Office which conducts inhouse testing.

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
46 Test Wing (46 OG)	TBD	TBD:TBD,	-	0.050	Dec 2011	0.055	Nov 2012	0.055	Nov 2013	-		0.055	Continuing	Continuing	TBD
		Subtotal	0.000	0.050		0.055		0.055		0.000		0.055			

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604604F: *Submunitions*	PROJECT 653166: *Joint Smart Munitions Test and Evaluation*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract

Remarks

46th Test Wing is the Program Office which conducts inhouse testing.

	All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	2.427		2.567		2.564		0.000		2.564			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604604F: *Submunitions*	PROJECT 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.

Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604604F: *Submunitions*	PROJECT 653166: *Joint Smart Munitions Test and Evaluation*

Schedule Details

	Start		End	
Events	Quarter	Year	Quarter	Year
Target/warhead evaluation/analysis, signature test, captive carry flight tests.	1	2012	4	2018

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force											DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*					R-1 ITEM NOMENCLATURE PE 0604617F: *Agile Combat Support*							
COST ($ in Millions)	**All Prior Years**	**FY 2012**	**FY 2013#**	**FY 2014 Base**	**FY 2014 OCO ##**	**FY 2014 Total**	**FY 2015**	**FY 2016**	**FY 2017**	**FY 2018**	**Cost To Complete**	**Total Cost**
Total Program Element	-	7.649	13.059	17.036	-	17.036	24.109	21.504	14.718	14.984	Continuing	Continuing
652895: *CE Readiness*	-	4.144	10.098	14.175	-	14.175	21.198	18.519	11.528	11.736	Continuing	Continuing
654910: *Aeromedical Readiness*	-	3.505	2.961	2.861	-	2.861	2.911	2.985	3.190	3.248	Continuing	Continuing

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 OCO Request will be submitted at a later date

Note

In FY12/FY13, Project 652895, Civil Engineering Readiness, funding supported an Urgent Operational Need (UON) for a Recovery of Airfield Denied By Ordnance (RADBO) capability, requiring modification of a Mine-Resistant Armor-Protected (MRAP) vehicle (existing inventory) with laser, robotic arm, and clearance blade. This Air Forces Central (AFCENT) UON was validated by Air Combat Command (ACC) in August 2012.

A. Mission Description and Budget Item Justification

This Program Element (PE) 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 PE 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 PE 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 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 2014 Air Force					DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*			R-1 ITEM NOMENCLATURE PE 0604617F: *Agile Combat Support*		
B. Program Change Summary ($ in Millions)	**FY 2012**	**FY 2013**	**FY 2014 Base**	**FY 2014 OCO**	**FY 2014 Total**
Previous President's Budget	11.878	13.059	16.750	-	16.750
Current President's Budget	7.649	13.059	17.036	-	17.036
Total Adjustments	-4.229	0.000	0.286	-	0.286
• Congressional General Reductions	-	0.000			
• Congressional Directed Reductions	-	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	-	0.000			
• Congressional Directed Transfers	-	0.000			
• Reprogrammings	-0.115	0.000			
• SBIR/STTR Transfer	-0.214	0.000			
• Other Adjustments	-3.900	0.000	0.286	-	0.286

Change Summary Explanation

FY12 Other Adjustment of -$3.9M was a Congressional Directed Reduction

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604617F: *Agile Combat Support*	PROJECT 652895: *CE Readiness*	

COST ($ in Millions)	All Prior Years	FY 2012	FY 2013#	FY 2014 Base	FY 2014 OCO ##	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
652895: *CE Readiness*	-	4.144	10.098	14.175	-	14.175	21.198	18.519	11.528	11.736	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 OCO Request will be submitted at a later date

Note

In FY13, Project 652895, Civil Engineering Readiness, funding supported an UON for RADBO capability, requiring modification of a MRAP vehicle with laser, robotic arm, and clearance blade. This AFCENT UON was validated by ACC in August 2012.

A. Mission Description and Budget Item Justification

This Civil Engineering Readiness project develops airfield assessment, repair, and explosive ordnance removal, disposal, and mitigation capabilities to enable rapid recovery and regeneration of airfield operations within established time limits. This project also provides efficient and effective 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 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 2012	FY 2013	FY 2014
Title: Airfield Damage Repair	4.144	7.598	10.475
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 mitigation or removal of unexploded ordnance. This effort focuses on timely repair and regeneration of airfield operations within established time limits in order to gain and maintain air superiority.			
FY 2012 Accomplishments: Developed large/multi-crater repair with rapid setting concrete; developed inclement weather TTPs; evaluated asphalt recyclers, pelletized asphalt packaging and storage; updated policy, guidance and applicable TTPs			
FY 2013 Plans: Continue airfield repair improvements; develop concepts for airfield damage and UXO assessment subsystems; research Hot Mix Asphalt dependency options; develop & evaluate flowable fill mix, rapid setting concrete, compaction, equipment saddle tanks and			

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604617F: *Agile Combat Support*	PROJECT 652895: *CE Readiness*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
saw storage technologies; develop repair attrition modeling tool and computer-based products to support command and control; improve job mix formula for calculation of locally procured materials; update TTPs as necessary. ***FY 2014 Plans:*** Develop rapid airfield damage assessment capabilities; update Geospatial Expeditionary Planning Tool; develop damage plotting expertise/timeliness; automate minimum operating strip determination and repair quality tools; update TTPs as necessary.			
Title: Recovery of Airbase Denied by Ordnance (RADBO) UON ***Description:*** This effort provides capability in support of the AFCENT UON for clearance of UXO during runway and air base recovery operations. It integrates laser, robotic arm, and blade to an existing Air Force Cougar MRAP vehicle, which is in use by Explosive Ordnance Disposal personnel. ***FY 2013 Plans:*** Develop, test, and certify the integration of existing Department of Defense systems (Zeus II laser, mine clearance blade, and robotic arm) with an Air Force MRAP vehicle. This effort culminates with an Operational Utility Evaluation (OUE) to develop the Concept of Operations (CONOPS), TTPs, and verify system performance parameters to expedite a fielding decision.	0.000	2.500	0.000
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 beddown at fixed installations. The BEAR initiative, a joint effort with the Army, focuses on efficiency and economy of resources. This project includes autonomous and manual power grid management; reuse of energy sources including waste water; the full spectrum of contingency base waste handling, treatment and energy reuse, power grid situational awareness; power outage management; smart shelter management; shelter usage optimization; thermal comfort energy reduction; and evaluation of overall energy consumption to spread demand more evenly. ***FY 2012 Accomplishments:*** Not Applicable ***FY 2013 Plans:*** Not Applicable ***FY 2014 Plans:*** Continued concept activities and development for Smart Shelter Energy Management System, Phase Change Material capabilities for Expeditionary Systems, and Waste Water Recovery & Reuse Systems.	0.000	0.000	3.700
Accomplishments/Planned Programs Subtotals	4.144	10.098	14.175

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604617F: *Agile Combat Support*	PROJECT 652895: *CE Readiness*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• OPAF:BA04:845100: *Other Base and Maintenance Support, Airbase Operability*	34.854	5.358	37.721		37.721	47.726	33.382	33.656	34.262	Continuing	Continuing

Remarks

D. Acquisition Strategy

The majority of efforts funded in this project employ a streamlined acquisition approach. Whenever practical, commercial items are tested and evaluated as candidates for solutions to user needs. This normally involves characterization, verification and qualification testing to ensure commercial off-the-shelf equipment is properly adapted for military purposes. Plan to award a new Blanket Purchase Agreement (BPA) in FY2013 which will allow for development projects to be contracted for via Task Orders under this BPA.

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 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604617F: *Agile Combat Support*	PROJECT 652895: *CE Readiness*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Airfield Damage Repair	Various	AFCEC:Tyndall AFB, FL	-	4.144	Jan 2012	7.598	Feb 2013	10.475	Jan 2014	-		10.475	Continuing	Continuing	TBD
Recovery of Airbase Denied by Ordnance Vehicle	Various	AFLCMC/ WNZ:Warner Robins AFB, GA	-	0.000		2.500	Apr 2013	0.000		-		0.000	Continuing	Continuing	
Load and Installation Management System	C/CPFF	AFCEC:Tyndall AFB, FL	-	0.000		0.000		1.700	Jan 2014	-		1.700	0.000	1.700	1.700
Smart Shelter Energy Management System	C/CPFF	AFCEC:Tyndall AFB, FL	-	0.000		0.000		1.200	Jan 2014	-		1.200	0.000	1.200	1.200
Phase Change Material for Expeditionary Systems	C/CPFF	AFCEC:Tyndall AFB, FL	-	0.000		0.000		0.800	Jan 2014	-		0.800	0.000	0.800	0.800
		Subtotal	0.000	4.144		10.098		14.175		0.000		14.175			

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
None	TBD	Not specified.:Location not provided.	-	0.000		0.000		0.000		-		0.000	Continuing	Continuing	
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000			

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604617F: *Agile Combat Support*	PROJECT 652895: *CE Readiness*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

	All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	4.144		10.098		14.175		0.000		14.175			

Remarks

NOTE: This is primarily a level of effort Program Element with multiple projects.

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604617F: *Agile Combat Support*	PROJECT 652895: *CE Readiness*

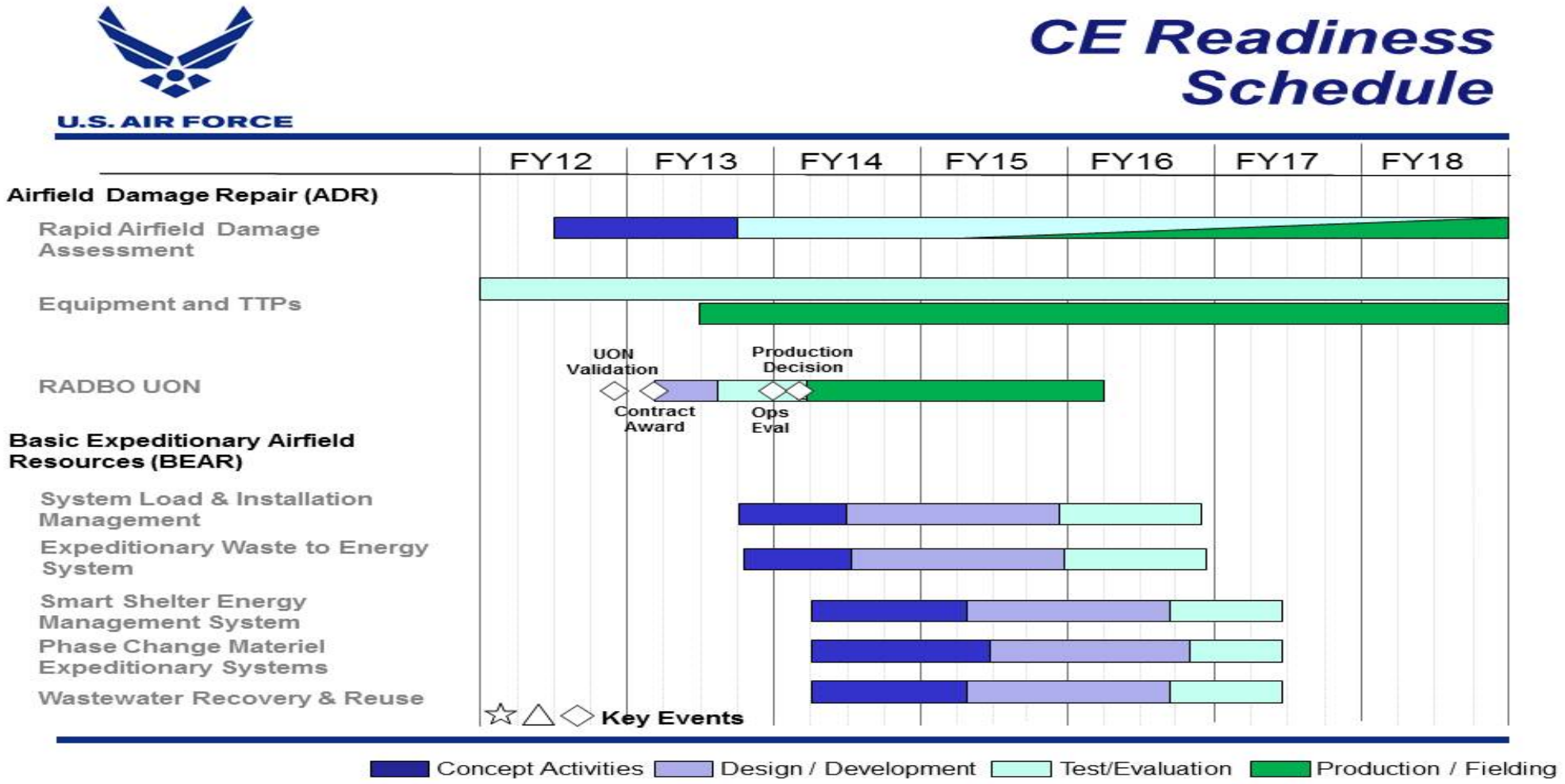


Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0604617F: *Agile Combat Support*	**PROJECT** 652895: *CE Readiness*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
DT&E Large, Multi-Crater Repair	4	2012	4	2013
RADBO UON Validation	4	2012	4	2012
RADBO UON EMD	2	2013	3	2014
DT&E Rapid Airfield Damage Assessment System	4	2013	4	2017
RADBO UON Production Readiness Review	3	2014	3	2014
RADBO UON Production and Deployment	4	2014	2	2016
DT&E ADR Equipment (Automated)	1	2014	1	2015
DT&E of Computer-Based ADR Command & Control	1	2014	3	2014
DT&E Minimum Airfield Operating Surface Requirements	1	2014	4	2014
DT&E BEAR Energy Initiatives	2	2014	2	2017

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604617F: *Agile Combat Support*	PROJECT 654910: *Aeromedical Readiness*	

COST ($ in Millions)	All Prior Years	FY 2012	FY 2013#	FY 2014 Base	FY 2014 OCO ##	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
654910: *Aeromedical Readiness*	-	3.505	2.961	2.861	-	2.861	2.911	2.985	3.190	3.248	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 OCO Request will be submitted at a later date

A. Mission Description and Budget Item Justification

This program provides tactical and strategic management of combat casualties by modernizing 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 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 2012	FY 2013	FY 2014
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 EMEDS hospitals and mobile aeromedical staging facilities. ***FY 2012 Accomplishments:*** Released Request for Proposal, conducted source selection, completed Milestone B, and awarded contract. ***FY 2013 Plans:*** Conduct Prelimenary Design Review and Critical Design Review. Initiate Developmental Test & Evaluation (DT&E). ***FY 2014 Plans:*** Complete DT&E. Conduct and complete Operational Test & Evaluation. Submit DOGS-S unit for Food & Drug Administration approval. Initiate Milestone C.	2.822	0.256	2.041
Title: Field Intravenous Fluid Reconstitution (FIVR) ***Description:*** This effort designs, develops, and conducts manufacture engineering for the FIVR system, which generates intravenous fluids for treating critical casualties in EMEDS hospitals and mobile aeromedical staging facilities.	0.064	0.020	0.020

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604617F: *Agile Combat Support*	PROJECT 654910: *Aeromedical Readiness*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
FY 2012 Accomplishments: Conducted DT&E. Completed contract modification for Firm Fixed Price Contract Line Item Number. ***FY 2013 Plans:*** Complete DT&E. ***FY 2014 Plans:*** Conduct rampdown and closeout.			
Title: Aeromedical Systems Planning ***Description:*** This effort provides foundational studies, requirements analysis, and product demonstrations to satisfy aeromedical operational needs. This effort also defines acquisition strategies and baselines for potential system solutions. ***FY 2013 Plans:*** Conduct foundational studies, requirements analysis, and product demonstrations to satisfy aeromedical operational needs. Define acquisition strategies and baselines for potential system solutions. ***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.	0.000	2.015	0.100
Title: Management Services ***Description:*** This effort provides funding for Program Management Administration and Support. ***FY 2012 Accomplishments:*** Program management support services. ***FY 2013 Plans:*** Program management support services. ***FY 2014 Plans:*** Program management support services.	0.619	0.670	0.700
Accomplishments/Planned Programs Subtotals	3.505	2.961	2.861

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604617F: *Agile Combat Support*	PROJECT 654910: *Aeromedical Readiness*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• Not Applicable: *N/A*	0.000	0.000	0.000		0.000	0.000	0.000	0.000	0.000	0.000	0.000

Remarks

D. Acquisition Strategy

Programs and projects funded in this PE 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 to meet military expectations.

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 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604617F: *Agile Combat Support*	PROJECT 654910: *Aeromedical Readiness*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Deployable Oxygen Generation System - Small (DOGS-S)	C/FFP	AirSep Corporation:Amherst, NY	-	2.822	Aug 2012	0.256		2.041		-		2.041	Continuing	Continuing	TBD
Field Intravenous Fluid Reconstitution (FIVR)	C/CPFF	Applied Research Associates, Inc:Albuquerque, NM	-	0.064	Jun 2012	0.020		0.020		-		0.020	Continuing	Continuing	TBD
Aeromedical Systems Analysis	Various	AFLCMC:Dayton, OH	-	0.000		2.015	Jan 2013	0.100		-		0.100	Continuing	Continuing	
		Subtotal	0.000	2.886		2.291		2.161		0.000		2.161			

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Technical Engineering And Management Support (TEAMS)	C/Various	Core6:San Antonio, TX	-	0.000		0.000		0.000		-		0.000	Continuing	Continuing	TBD
Program Management Administration	C/Various	AFLCMC:Wright-Patterson AFB, OH	-	0.619		0.670		0.700		-		0.700	Continuing	Continuing	TBD

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604617F: *Agile Combat Support*	PROJECT 654910: *Aeromedical Readiness*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.619		0.670		0.700		0.000		0.700			

	All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	3.505		2.961		2.861		0.000		2.861			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604617F: *Agile Combat Support*	PROJECT 654910: *Aeromedical Readiness*

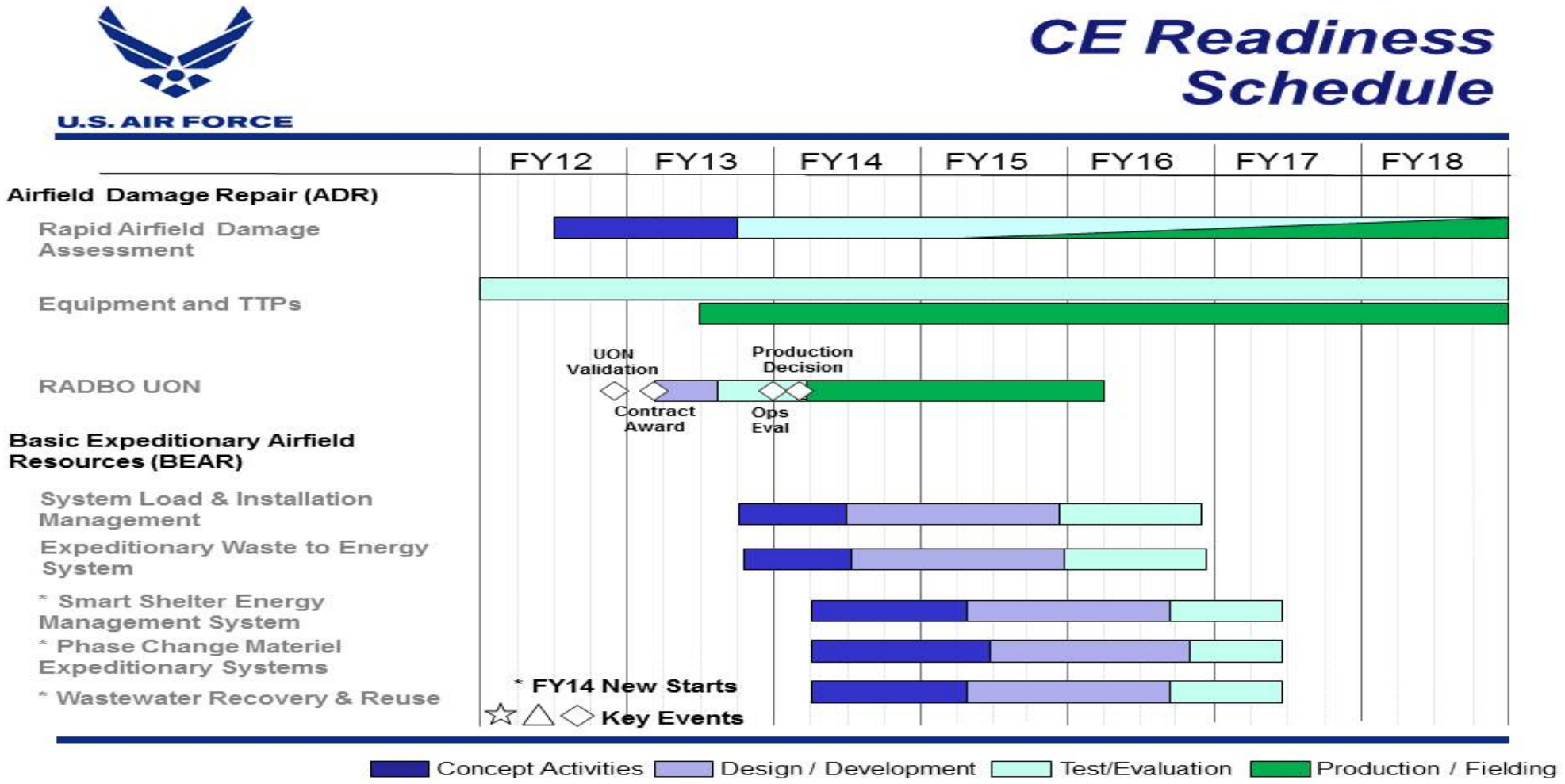


Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604617F: *Agile Combat Support*	PROJECT 654910: *Aeromedical Readiness*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Engineering and Manufacturing Development (EMD) Phase for the Deployable Oxygen Generation System (DOGS) - Small	3	2012	3	2014
Production and Fielding Phase for the DOGS - Small System	4	2014	2	2016
EMD Phase for the Field Intravenous Reconstitiution System	1	2012	1	2014

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force											DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*					R-1 ITEM NOMENCLATURE PE 0604706F: *Life Support Systems*							
COST ($ in Millions)	**All Prior Years**	**FY 2012**	**FY 2013#**	**FY 2014 Base**	**FY 2014 OCO ##**	**FY 2014 Total**	**FY 2015**	**FY 2016**	**FY 2017**	**FY 2018**	**Cost To Complete**	**Total Cost**
Total Program Element	-	8.017	9.720	7.273	-	7.273	11.213	8.588	9.404	9.573	Continuing	Continuing
65412A: *Life Support Systems*	-	8.017	9.720	7.273	-	7.273	11.213	8.588	9.404	9.573	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 OCO Request will be submitted at a later date

Note

In FY 2012, Project 65412A, Life Support Systems, two projects were terminated: Modular Aircrew Common Helmet (MACH) and Flash Blindness Goggles. Funds were realigned from MACH, Flash Blindness Goggles, and Body Armor System to support an Urgent Operational Need (UON) for development of a Ballistic Aircrew Helmet. This Air Forces Central UON was validated by Air Combat Command in May 2012.

In FY 2014, Project 65412A, Life Support Systems, includes a New Start for Aircrew Laser Eye Protection Block III.

A. Mission Description and Budget Item Justification

This Program Element (BPAC 65412A) provides recapitalization, continuing research and analysis, development, integration, test and certification for aircrew flight equipment and airmen combat systems to satisfy joint operational requirements focused on improved and enhanced airmen performance capabilities. Aircrew flight equipment and airmen combat systems consist of human-centered programs that enable weapon systems to optimize full mission envelopes, maximize combat capabilities, and protect airmen. Such 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-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.This project assesses deficiencies and conditions of currently fielded equipment; evaluates and demonstrates feasibility of new technologies; facilitates transition of new technologies to development programs; conducts business case analyses; assesses suitability of commercially available items; and provides other RDT&E support to aircrew flight equipment and airmen combat systems programs.

BA5 - 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 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0604706F: *Life Support Systems*

B. Program Change Summary ($ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	9.280	9.720	7.273	-	7.273
Current President's Budget	8.017	9.720	7.273	-	7.273
Total Adjustments	-1.263	0.000	0.000	-	0.000
• Congressional General Reductions	-	0.000			
• Congressional Directed Reductions	-	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	-	0.000			
• Congressional Directed Transfers	-	0.000			
• Reprogrammings	-1.026	0.000			
• SBIR/STTR Transfer	-0.237	0.000			
• Other Adjustments	0.000	0.000	0.000	-	0.000

Change Summary Explanation

Decrease in FY 2012 for higher Air Force priorities.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Title: Aircrew Flight Equipment (AFE)	0.100	0.000	0.000
Description: This project is a small-dollar, generic effort that evaluates the feasibility of using commercial-off-the-shelf (COTS) and non-developmental item technologies for life support equipment capabilities that may/may not require robust Engineering and Manufacturing Development. The current effort under the AFE project is a COTS Low Profile Parachute (LPP), which aims to replace antiquated Vietnam-era flight equipment to meet Air Force Special Operation Command requirements. The AFE project may include tasks associated with equipment engineering, modification, integration, testing, and procurement of test articles for certification. ***FY 2012 Accomplishments:*** Conducted analysis and testing of LPP at Edwards AFB. ***FY 2013 Plans:*** Complete testing at Edwards AFB; provide safe-to-fly certifications for users. ***FY 2014 Plans:*** N/A			
Title: Cold Weather Aviation System (CWAS)	0.000	0.300	0.250

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0604706F: *Life Support Systems*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Description: This effort evaluates a multi-layered system, which consists of garments, boots and gloves, that will be utilized by aircrew members in arctic weather conditions reaching temperatures as low as -49 degrees Fahrenheit. ***FY 2012 Accomplishments:*** N/A ***FY 2013 Plans:*** Initiate Requests for Information; perform market research; accomplish developmental planning. ***FY 2014 Plans:*** Begin testing of Government Off The Shelf (GOTS) and/or COTS solutions.			
Title: Flash Blindness Goggles ***Description:*** This effort develops eye protection against high intensity and rapid onset flashes encountered during nuclear blast. ***FY 2012 Accomplishments:*** The Flash Blindness Goggles program was cancelled. Funding for this effort was tranferred within BPAC 65412A to support the Ballistic Helmet Urgent Operational Need due to cancellation of requirement. ***FY 2013 Plans:*** N/A ***FY 2014 Plans:*** N/A	0.000	0.000	0.000
Title: Integrated Aircrew Body Armor ***Description:*** This effort integrates multiple components into a single system with the combined capabilities of soft/hard body armor, aircrew survival gear, restraint/recovery harness, and life preserver unit. This provides maximum armor coverage of the torso and enhances ease of use and maneuverability. ***FY 2012 Accomplishments:*** N/A ***FY 2013 Plans:*** Initiate Requests for Information; perform market research; accomplish developmental planning. ***FY 2014 Plans:***	0.000	0.300	0.250

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604706F: *Life Support Systems*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Begin testing of Government Off The Shelf (GOTS) and/or COTS solutions.			
Title: Integrated Aircrew Ensemble (IAE) ***Description:*** This effort develops an IAE to replace the existing aircrew flight ensemble to improve acceleration protection and mitigate thermal burden. An IAE will replace multiple layers of flight gear such as flight suit, G-suit, survival vest and other equipment used during flight operations. This IAE will improve safety, survivability and performance through the use of modern materials to address the full spectrum of aircrew requirements. ***FY 2012 Accomplishments:*** Completed preliminary design review; developed and tested multiple garment layers; redesigned integrated flight layer. ***FY 2013 Plans:*** Complete Critical Design Review; continue Developmental Testing and Evaluation (DT&E); complete component level testing; start system level testing. ***FY 2014 Plans:*** Continue DT&E; conduct Milestone C decision prior to Low Rate Initial Production.	4.755	7.406	3.106
Title: Modular Aircrew Common Helmet (MACH) ***Description:*** This effort develops a common helmet to increase combat capability and reduce the number of helmet variants. ***FY 2012 Accomplishments:*** The MACH program was cancelled. Remaining funds used for costs associated with contract closeout. ***FY 2013 Plans:*** N/A ***FY 2014 Plans:*** N/A	0.050	0.000	0.000
Title: Voice in Beacon (ViB) ***Description:*** This effort provides two-way, line of sight voice and personnel locator beacon capability for peacetime operations to allow downed aircrew to communicate with civil and combat search and rescue assets. ***FY 2012 Accomplishments:*** Initiated Requests for Information; conducted market research; accomplished developmental planning. ***FY 2013 Plans:***	0.050	0.100	0.500

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604706F: *Life Support Systems*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Begin EMD activities based on developmental planning analysis. ***FY 2014 Plans:*** Continue Engineering & Manufacturing Development.			
Title: Aircrew Laser Eye Protection (ALEP) Block III - New Start ***Description:*** This effort develops capabilities to protect aircrew members susceptible to the harmful effects of visible threats, i.e., hazardous lasers. It specifically improves upon ALEP Block II (spectacles) capability through development of a visor solution. ***FY 2012 Accomplishments:*** N/A ***FY 2013 Plans:*** N/A ***FY 2014 Plans:*** Initiate Requests for Information; undergo market research; accomplish Business Case Analysis and Analysis of Alternatives.	0.000	0.000	1.000
Title: Ballistic Helmet Urgent Operational Need ***Description:*** This effort provides capability in support of an Air Forces Central (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 2012 Accomplishments:*** Conducted course of action (COA) planning, market research; industry studies, and COA selection; initiatied contract awards for prototype development, delivery and testing. ***FY 2013 Plans:*** Finish test and evaluation; provide production recommendation to warfighter.	0.075	0.150	0.000
Title: Management Services ***Description:*** This effort provides program management, travel funding, and test and evaluation support. ***FY 2012 Accomplishments:*** Accomplished management services. ***FY 2013 Plans:***	2.987	1.464	2.167

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604706F: *Life Support Systems*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Continue management services. ***FY 2014 Plans:*** Continue management services.			
Accomplishments/Planned Programs Subtotals	8.017	9.720	7.273

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• OPAF:BA04:842990: *Items Less Than $5 Million*	0.000	7.452	5.801		5.801	8.098	8.161	8.271	8.420	Continuing	Continuing

Remarks

E. Acquisition Strategy

The majority of efforts funded in this project employ a streamlined acquisition approach. Whenever practical, 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 EMD, e.g., IAE and 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-3, RDT&E Project Cost Analysis: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604706F: *Life Support Systems*	PROJECT 65412A: *Life Support Systems*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Aircrew Flight Equipment (AFE) (Low Profile Parachute)	C/FFP	Butler Parachute:Roanoke, VA	-	0.100	Aug 2012	0.000		0.000		-		0.000	0.000	0.100	TBD
Ballistic Helmet	C/FFP	Multiple Contractors:,	-	0.075	May 2012	0.150	Apr 2013	0.000		-		0.000	Continuing	Continuing	
Cold Weather Aviation System	TBD	TBD:TBD,	-	0.000		0.300	Jul 2013	0.250	Feb 2014	-		0.250	Continuing	Continuing	TBD
Flash Blindness Goggles	TBD	TBD:TBD,	-	0.000		0.000		0.000		-		0.000	Continuing	Continuing	TBD
Integrated Aircrew Body Armor System	TBD	TBD:TBD,	-	0.000		0.300	Jul 2013	0.250	Feb 2014	-		0.250	Continuing	Continuing	TBD
Integrated Aircrew Ensemble (IAE)	C/FPIF	Tiax:Lexington, MA	-	4.755	Feb 2012	7.406	Jan 2013	3.106	Apr 2014	-		3.106	Continuing	Continuing	TBD
Modular Aircrew Common Helmet (MACH)	C/FPIF	Gentex:Simpson, PA	-	0.050	Aug 2012	0.000		0.000		-		0.000	0.000	0.050	TBD
Voice in Beacon (ViB)	TBD	TBD:TBD,	-	0.050	Feb 2012	0.100	Mar 2013	0.500	Dec 2013	-		0.500	Continuing	Continuing	TBD
Aircrew Laser Eye Protection (ALEP) Block III	TBD	TBD:TBD,	-	0.000		0.000		1.000	Aug 2013	-		1.000	Continuing	Continuing	
		Subtotal	0.000	5.030		8.256		5.106		0.000		5.106			

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Tests (IAE, MACH, etc.)	Various	Various:Various,	-	0.500		0.800		0.500		-		0.500	Continuing	Continuing	
		Subtotal	0.000	0.500		0.800		0.500		0.000		0.500			

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604706F: *Life Support Systems*	PROJECT 65412A: *Life Support Systems*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Support	TBD	ASC/WNU:Wright-Patterson AFB, OH	-	2.087		0.364		1.200		-		1.200	Continuing	Continuing	
Travel	Various	Various:Various,	-	0.400		0.300		0.467		-		0.467	Continuing	Continuing	
		Subtotal	0.000	2.487		0.664		1.667		0.000		1.667			

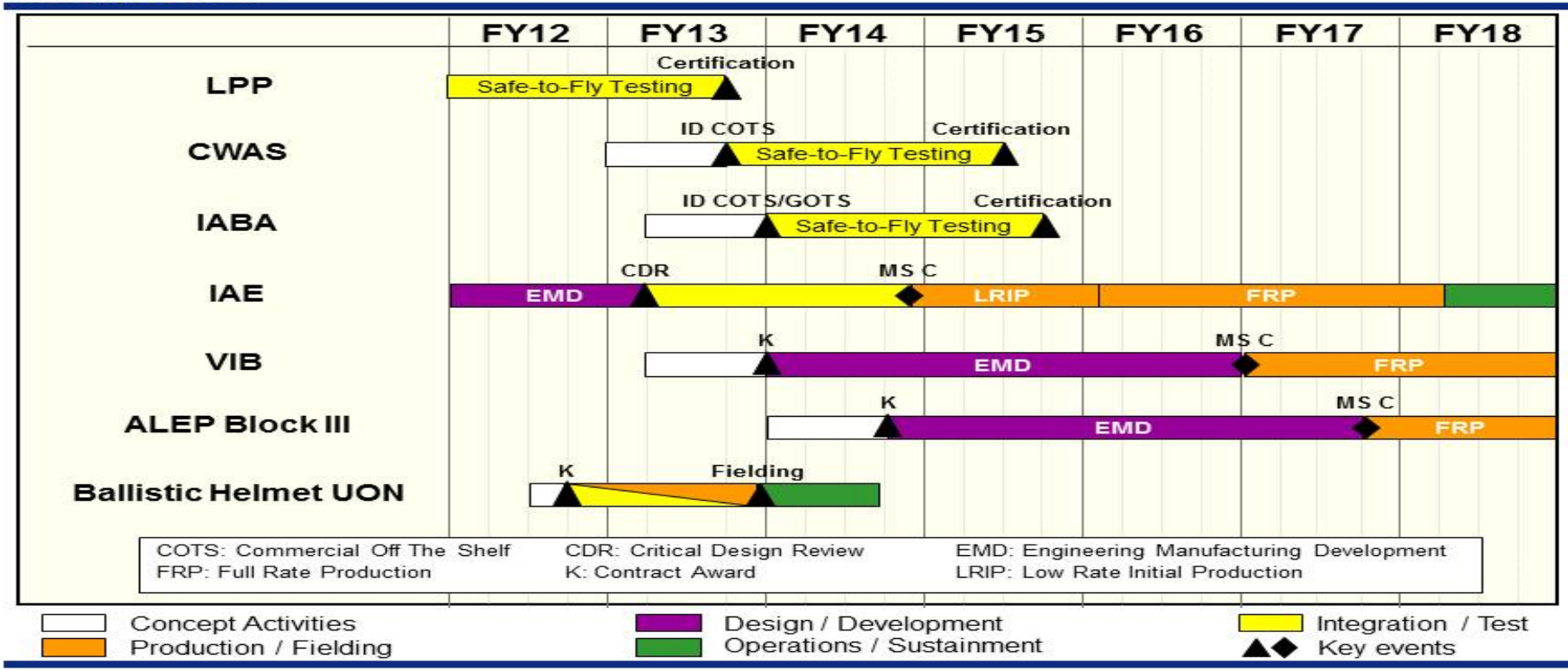
	All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	8.017		9.720		7.273		0.000		7.273			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604706F: *Life Support Systems*	PROJECT 65412A: *Life Support Systems*

U.S. AIR FORCE

LSS RDT&E Schedule



FY14 Staffer Brief

Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604706F: *Life Support Systems*	PROJECT 65412A: *Life Support Systems*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Aircrew Flight Equipment - LPP [Engineering and Manufacturing Development]	1	2012	4	2013
Ballistic Helmet [Design & Development]	4	2012	2	2013
CWAS [Engineering and Manufacturing Development]	2	2014	1	2016
Integrated Aircrew Body Armor [Engineering and Manufacturing Development	2	2014	2	2015
ALEP Block III [Business Case Analysis and Analysis of Alternatives]	4	2013	4	2014
ALEP Block III [Engineering Manufacturing and Development]	4	2014	3	2017
IAE [Engineering and Manufacturing Development]	1	2012	3	2014
IAE [Developmental Test & Evaluation]	4	2012	4	2012
IAE [Milestone C]	3	2014	4	2014
IAE [Low Rate Initial Production]	3	2014	2	2015
IAE [Initial Operational Test & Evaluation]	3	2014	3	2014
IAE [Full Rate Production Decision Review]	2	2015	4	2017
ViB [Business Case Analysis and Analysis of Alternatives]	3	2012	4	2013
ViB [Engineering and Manufacturing Development]	1	2014	4	2016
ViB [Milestone C]	4	2016	4	2016

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force											DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*					R-1 ITEM NOMENCLATURE PE 0604735F: *Combat Training Ranges*							
COST ($ in Millions)	**All Prior Years**	**FY 2012**	**FY 2013#**	**FY 2014 Base**	**FY 2014 OCO ##**	**FY 2014 Total**	**FY 2015**	**FY 2016**	**FY 2017**	**FY 2018**	**Cost To Complete**	**Total Cost**
Total Program Element	-	7.869	9.222	33.200	-	33.200	25.872	20.040	19.301	19.648	Continuing	Continuing
652286: *Combat Training Range Equipment*	-	7.869	9.222	33.200	-	33.200	25.872	20.040	19.301	19.648	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 OCO Request will be submitted at a later date

A. Mission Description and Budget Item Justification

The Combat Training Range (CTR) Program Element (PE) 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 PE provides funding for the development of electronic warfare training capabilities to include, threat emitters, communication jammers, instrumentation equipment/systems, and evolutionary upgrades to facilitate standardization across all platforms to include coalition, F-22A and F-35 aircraft. The P5 Combat Training System (P5CTS), a collaborative development between USAF and USN, provides air combat training systems for both services at operational locations worldwide. Increments include hardware and software upgrades, an encrypted software communications architecture compliant data link to facilitate interoperability in a multiple independent level security environment and training with F-22A and F-35, internal pod replacement subsystems, and integration of new aircraft Operational Flight Programs. This PE 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 Increment 1 is currently in process of initiating 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 will include the purchase of additional JTE systems, Mobile Command and Control Units (MC2U) and Fixed Command and Contorl Units (FC2U) and additional sparing. Consistent with the evolutionary acquisition strategy and documented ACC training requirements, development will continue with next generation threat systems. Future increments will continue to add additional capability to the warfighter's training ranges. JTE Increment 2 - Advanced Radar Threat System (JI2-ARTS) will develop, design, build and test a threat system simulator based on a foreign fielded, long range, double digit, surface-to-air missile(SAM) threat system. The ARTS-V1 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 be trained against the ARTS-V1, but the most stringent requirements placed on the ARTS-V1 system design come from fifth generation aircraft capabilities. This PE includes Legacy Range Threat Systems including Miniature Multiple Threat Emitter Systems-M3P (Mini-MUTES), Multiple Threat Emitter System (MUTES), Modular Threat Emitter (MTE) and Tactical Radar Threat Generator (TRTG), Band Simulator and Unmanned Modular Threat Emitter (UMTE) Systems, which are being considered for modernization that will extend the system's service life and allow for upgrades to antiquated components for increased reliability and capabilities. Additionally, this PE funds studies and technology development to enhance range systems, such as radio and GPS jammers, weapon drop scoring systems and infrastructure networks. These enhancements add a critical dimension to exercises and optimize warfighter training.

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604735F: *Combat Training Ranges*

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 prior to full-rate production.

B. Program Change Summary ($ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	8.106	9.222	28.828	-	28.828
Current President's Budget	7.869	9.222	33.200	-	33.200
Total Adjustments	-0.237	0.000	4.372	-	4.372
• Congressional General Reductions	-	0.000			
• Congressional Directed Reductions	-	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	-	0.000			
• Congressional Directed Transfers	-	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	-0.237	0.000			
• Other Adjustments	0.000	0.000	4.372	-	4.372

Change Summary Explanation

FY14 funding increased to fund ARTS pre-milestone B activities to mature radar technology needed for high fidelity double digit SAM simulator.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Title: P5 Combat Training System (CTS)	3.547	0.000	6.925

Description: 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. Additionally, funds cover efforts to facilitate interoperability in a multi-level security encryption environment, training with F-22A and F-35, internal pod replacement subsystems, integration of new aircraft operational Flight Programs and the development of solutions to enable live, virtual and constructive capabilities.

FY 2012 Accomplishments:

Continued development, integration and testing of P5 Combat Training Systems (P5CTS) evolutionary upgrades to provide software/hardware upgrades, aircraft/pod integration, upgrades for range applications, interoperability improvements, encrypted communication.

FY 2013 Plans:

N/A

FY 2014 Plans:

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0604735F: *Combat Training Ranges*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
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. Additionally, funds cover efforts to facilitate interoperability in a multi-level security encryption environment, training with F-22A and F-35, internal pod replacement subsystems, integration of new aircraft operational Flight Programs and the development of solutions to enable live, virtual and constructive capabilities.			
Title: P5 CTS Program Management Administration (PMA) ***Description:*** Funding for Range Instrumentation Systems development, integration and testing of P5 Combat Training Systems (P5CTS) support. Funding supports program operations to include TDYs for site activations and installations, IT support and other basic management costs. It also provides for hiring of contractor subject matter experts to work system related efforts. ***FY 2012 Accomplishments:*** Funding for Range Instrumentation Systems development, integration and testing of P5 Combat Training Systems (P5CTS) support. Funding supported program operations to include TDYs for site activations and installations, IT support and other basic management costs. It also provided for hiring of contractor subject matter experts to work system related efforts. ***FY 2013 Plans:*** Funding for Range Instrumentation Systems development, integration and testing of P5 Combat Training Systems (P5CTS) support. Funding supports program operations to include TDYs for site activations and installations, IT support and other basic management costs. It also provides for hiring of contractor subject matter experts to work system related efforts. ***FY 2014 Plans:*** Funding for Range Instrumentation Systems development, integration and testing of P5 Combat Training Systems (P5CTS) support. Funding supports program operations to include TDYs for site activations and installations, IT support and other basic management costs. It also provides for hiring of contractor subject matter experts to work system related efforts.	3.128	0.300	1.735
Title: Joint Threat Emitter Inc 1 (JTE1) ***Description:*** The Joint Threat Emitter (JTE) Increment 1 is designed to train aircrews how 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, SA6, SA13 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 attempts to use Commercial-Off-The-Shelf (COTS) where possible.The JTE system utilizes a either a mobile command and control unit (MC2U) or a Fixed Command and Control Unit (FC2U) to control up to 12 JTE systems. ***FY 2012 Accomplishments:***	0.000	5.787	8.218

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0604735F: *Combat Training Ranges*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
N/A ***FY 2013 Plans:*** Begin 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 a software sustainment capability.			
Title: Advanced Threat Technical Development ***Description:*** Reduce program risk to develop, design, build and test a capability that provides full fidelity simulation of modern advanced threat radars to train aircrews against Next Generation threats. This capability is geared toward the training of 5th Generation aircrews and will be employed in the joint training environment at established DoD Training, Test, and Electronic Combat Ranges. The systems will look as much like, and have the same physical and operational characteristics as possible, as the intended threats. ***FY 2012 Accomplishments:*** Continued Risk Reduction efforts in preparation for a Milestone A decision for the JI2-Variant 1 (JI2-V1) system ***FY 2013 Plans:*** N/A ***FY 2014 Plans:*** N/A	0.812	0.000	0.000
Title: Advanced Radar Threat System (ARTS) Development ***Description:*** Reduce risk and prepare solicitation for competitive development. Develop, design, build and test a threat system simulator based on a foreign fielded, long range, double digit, surface-to-air missile(SAM) threat system. ARTS-V1, formerly JI2-V1, uses technolgy developed in the Pre-EMD activities of the later system. The ARTS-V1 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 be trained against the ARTS-V1, but the most stringent requirements placed on the ARTS-V1 system design come from fifth generation aircraft capabilities ***FY 2012 Accomplishments:***	0.000	2.835	15.812

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0604735F: *Combat Training Ranges*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
N/A ***FY 2013 Plans:*** Complete Pre-Milestone B technology development activities for the JI2-V1 system ***FY 2014 Plans:*** Source Selection with contract an EMD award end of FY14. The EMD effort will develop, design, build and test a threat system simulator based on a foreign fielded, long range, double digit, surface-to-air missile(SAM) threat system.			
Title: Threats PMA ***Description:*** Threats - Support and Management Service costs associated with Range Threat Systems for all program support costs including PMA costs and A&AS costs (TDY, TEAS, TAMS, Contractor Support) ***FY 2012 Accomplishments:*** Threat mission support costs including contractor support, TDY and Supplies ***FY 2013 Plans:*** Threat mission support costs including contractor support, TDY and Supplies ***FY 2014 Plans:*** Threat mission support costs including contractor support, TDY and Supplies	0.382	0.300	0.510
Accomplishments/Planned Programs Subtotals	7.869	9.222	33.200

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• OPAF: BA03: 834190: *Combat Training Ranges*	36.455	17.422	7.939		7.939	23.791	17.498	15.048	19.049	Continuing	Continuing
• OPAF: BA05: 861900: *Spares and Repair Parts*	0.903	0.934	3.698		3.698	1.339	1.119	0.665	0.677	Continuing	Continuing
• APAF: BA07: 000075: *Other Production Charges*	14.867	0.000	28.888		28.888	6.018	0.000	0.000	22.350	Continuing	Continuing
• APAF: BA 06: 000999: *Initial Spares/Repair Parts*	1.466	1.642	1.374		1.374	2.069	1.957	1.816	1.849	Continuing	Continuing

Remarks

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0604735F: *Combat Training Ranges*

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-3, RDT&E Project Cost Analysis: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604735F: *Combat Training Ranges*	PROJECT 652286: *Combat Training Range Equipment*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Cubic Defense Applications (P5CTS)	C/FFP	Cubic Defense:San Diego, CA	-	0.000		0.000		0.000		-		0.000	Continuing	Continuing	
JTE Increment II - Advanced Radar Threat System (JI2-ARTS) - Pre-Milestone A Activities	MIPR	MSIC:Redstone Arsenal, AL	-	0.075	Apr 2013	0.000		0.000		-		0.000	Continuing	Continuing	
Advanced Radar Threat System (ARTS) Development	C/TBD	TBD:,	-	0.447	Apr 2013	2.835	Aug 2013	15.812	Aug 2014	-		15.812	Continuing	Continuing	
JTE Increment I Development	C/CPFF	TBD:TBD,	-	0.000		5.787	Aug 2013	8.218	Mar 2014	-		8.218	Continuing	Continuing	
Legacy System Improvements	MIPR	NAWCWD:China Lake, CA	-	0.000		0.000		0.000		-		0.000	Continuing	Continuing	
Rockwell-Collins, Inc (P5CTS)	SS/CPFF	Rockwell-Collins, Inc:Cedar Rapids, IA	-	0.000		0.000		0.000		-		0.000	Continuing	Continuing	
Army Joint Tactical Radio System (JTRS-HMS) (P5CTS)	SS/CPAF	General Dynamics:Scottsdale AZ	-	0.000		0.000		0.000		-		0.000	Continuing	Continuing	
National Security Agency (NSA)	SS/FFP	NSA:Ft George Meade, MD,	-	0.000		0.000		0.000		-		0.000	Continuing	Continuing	
Boeing - F15 (P5CTS)	Various	Boeing:0, MO	-	0.400	Jun 2012	0.000		0.000		-		0.000	Continuing	Continuing	
Lower L-Band Development	TBD	Various:Various,	-	0.000		0.000		6.240	Jun 2014	-		6.240	Continuing	Continuing	
Encryption Development	TBD	Various:Various,	-	2.736	Dec 2011	0.000		0.000		-		0.000	Continuing	Continuing	
Sustainment Ugrades	C/TBD	Not specified.:,	-	0.231	Jun 2012	0.000		0.685	Dec 2013	-		0.685	Continuing	Continuing	
		Subtotal	0.000	3.889		8.622		30.955		0.000		30.955			

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604735F: *Combat Training Ranges*	PROJECT 652286: *Combat Training Range Equipment*	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
AFLCMC/HBZC, Hill AFB (Direct Msn Support)	MIPR	Various:Various,	-	0.290	May 2013	0.000		0.000		-		0.000	Continuing	Continuing	
AAC/EBYI, Eglin AFB - Direct Msn Spt	Various	TBD:TBD,	-	0.446	Jan 2012	0.300	Jan 2013	0.557	Jan 2014	-		0.557	Continuing	Continuing	
		Subtotal	0.000	0.736		0.300		0.557		0.000		0.557			

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Block I/II Flight Test, 46 Test Wing	Various	Eglin AFB:FL,	-	0.180	Mar 2012	0.000		0.000		-		0.000	Continuing	Continuing	
		Subtotal	0.000	0.180		0.000		0.000		0.000		0.000			

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
AFLCMC/HBZC, Hill AFB (PMA)	Various	AFLCMC/HBZC:Hill AFB, UT	-	0.382	Sep 2013	0.300	May 2013	0.510	May 2014	-		0.510	Continuing	Continuing	
AFLCMC/EBYC (TEAS/ TAMS)	C/FFP	Jacobs/Oasis:Eglin AFB, FL	-	2.682	Mar 2012	0.000		1.178	Mar 2014	-		1.178	Continuing	Continuing	
		Subtotal	0.000	3.064		0.300		1.688		0.000		1.688			

	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	7.869		9.222		33.200		0.000		33.200			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604735F: *Combat Training Ranges*	PROJECT 652286: *Combat Training Range Equipment*

P5CTS RDT&E Schedule

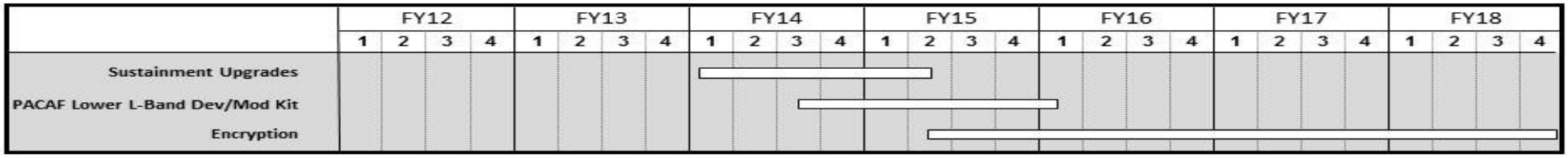


Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604735F: *Combat Training Ranges*	PROJECT 652286: *Combat Training Range Equipment*

Combat Training Ranges

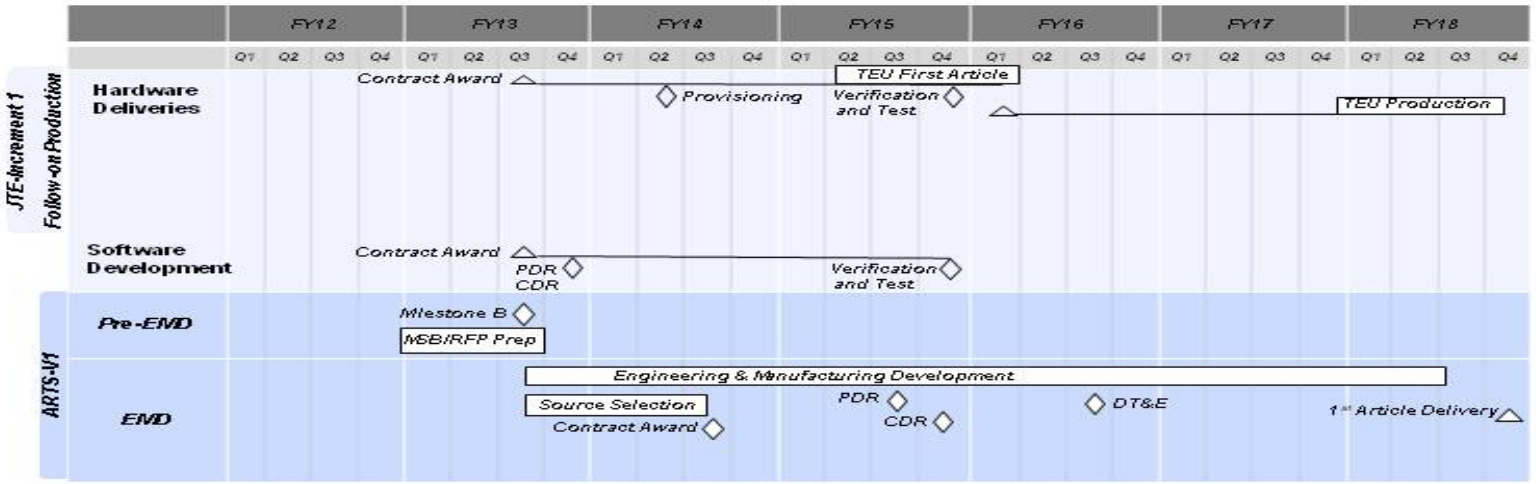


Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604735F: *Combat Training Ranges*	PROJECT 652286: *Combat Training Range Equipment*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
P5CTS Development	1	2014	4	2015
--Sustainment Upgrades	1	2014	2	2015
--PACAF Lower L-Band Development	3	2014	1	2016
--Encryption	2	2015	4	2018
JTE Development	1	2014	4	2015
-- Advanced Threat Simulator Pre-Milestone A Activities	1	2013	1	2014
-- Advanced Threat Simulator Technical Development	2	2013	4	2014
-- Advanced Radar Threat System (ARTS) EMD	4	2014	2	2018
-- JI1 Follow-on Software Development	1	2013	4	2015
-- JI1 Follow-on PDR/CDR	4	2013	4	2013
-- JI1 Follow-on Test	3	2015	4	2015

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force												DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*					R-1 ITEM NOMENCLATURE PE 0604740F: *Integrated Command & Control Applications (IC2A)*							
COST ($ in Millions)	**All Prior Years**	**FY 2012**	**FY 2013#**	**FY 2014 Base**	**FY 2014 OCO ##**	**FY 2014 Total**	**FY 2015**	**FY 2016**	**FY 2017**	**FY 2018**	**Cost To Complete**	**Total Cost**
Total Program Element	-	0.010	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	0.010
652523: *Product Lines*	-	0.010	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	0.010
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 OCO Request will be submitted at a later date

Note

In FY 2012, Project 652523, Product Lines, was terminated in order to meet higher Air Force priorities.

A. Mission Description and Budget Item Justification

In FY12, Project 2523, Product Lines, executed program management functions of assigned programs. It also planned, controlled, organized, staffed and led a diverse team of military, civilian and contracted acquisition and technical professionals that developed leading edge capabilities for the warfighter. Product Lines developed reusable software components based on Service Oriented Architectures, Core Enterprise Services, and Web Based technologies that enabled the Air Force to achieve net centric operations and warfare capability. It provided AF-wide enterprise Command and Control functionality. The components are developed in small increments providing continuous deliveries of increasing capability to the warfighter.

B. Program Change Summary ($ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	0.010	0.000	0.000	-	0.000
Current President's Budget	0.010	0.000	0.000	-	0.000
Total Adjustments	0.000	0.000	0.000	-	0.000
• Congressional General Reductions	-	0.000			
• Congressional Directed Reductions	-	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	-	0.000			
• Congressional Directed Transfers	-	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	0.000	0.000	0.000	-	0.000

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Title: Program Management Administration (PMA)	0.010	0.000	0.000

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604740F: *Integrated Command & Control Applications (IC2A)*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Description: Program Support Administration costs support management with engineering and technical support for development and implementation. ***FY 2012 Accomplishments:*** Supported program activities which enabled the System Program Office (SPO) to discharge responsibilities as applicable.			
Accomplishments/Planned Programs Subtotals	0.010	0.000	0.000

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• NA: *N/A*	0.000	0.000	0.000		0.000	0.000	0.000	0.000	0.000	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-3, RDT&E Project Cost Analysis: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604740F: *Integrated Command & Control Applications (IC2A)*	PROJECT 652523: *Product Lines*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Services	Various	AFLCMC/ HN:Hanscom AFB, MA	-	0.010	Oct 2011	0.000		0.000		-		0.000	0.000	0.010	TBD
		Subtotal	0.000	0.010		0.000		0.000		0.000		0.000	0.000	0.010	

	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	0.010		0.000		0.000		0.000		0.000	0.000	0.010	

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0604740F: *Integrated Command & Control Applications (IC2A)*	**PROJECT** 652523: *Product Lines*

Product Lines Schedule

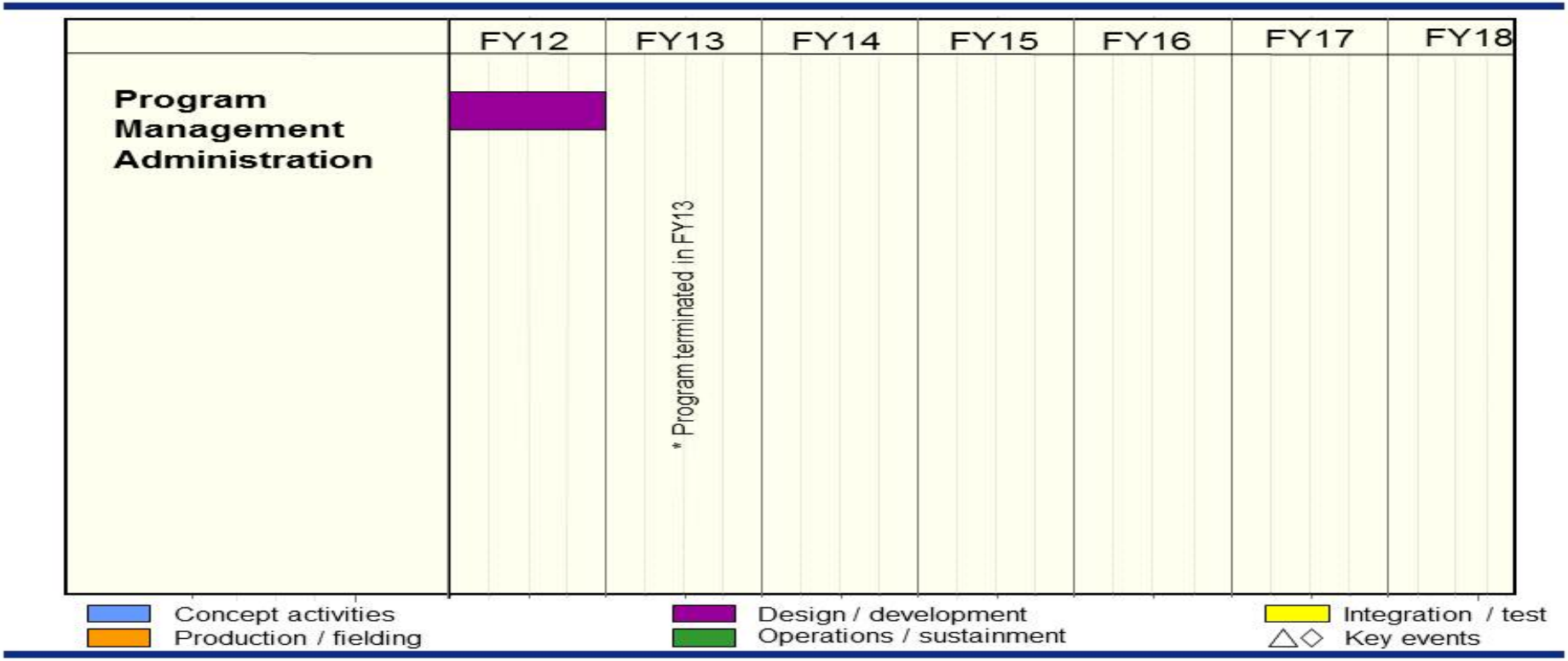


Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0604740F: *Integrated Command & Control Applications (IC2A)*	**PROJECT** 652523: *Product Lines*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Program Management Administration	1	2012	4	2012

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force											DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*					R-1 ITEM NOMENCLATURE PE 0604750F: *Intelligence Equipment*							
COST ($ in Millions)	**All Prior Years**	**FY 2012**	**FY 2013#**	**FY 2014 Base**	**FY 2014 OCO ##**	**FY 2014 Total**	**FY 2015**	**FY 2016**	**FY 2017**	**FY 2018**	**Cost To Complete**	**Total Cost**
Total Program Element	-	0.995	0.803	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
652053: *National Air Intel Center*	-	0.995	0.803	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 OCO Request will be submitted at a later date

Note

In FY 2014, Project Number 652053, National Air Intel Center, efforts transferred to PE 0603260F (BA5), Intelligence Advanced Development, Project Number 652053, National Air Intel Center, to increase management efficiency, reduce administrative actions, and minimize activity duplication.

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 that will 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 (AF ISR Agency). Development of new/improved capabilities to meet the requirements is managed by AFRL/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 2014 Air Force					DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*			R-1 ITEM NOMENCLATURE PE 0604750F: *Intelligence Equipment*		
B. Program Change Summary ($ in Millions)	**FY 2012**	**FY 2013**	**FY 2014 Base**	**FY 2014 OCO**	**FY 2014 Total**
Previous President's Budget	0.995	0.803	0.000	-	0.000
Current President's Budget	0.995	0.803	0.000	-	0.000
Total Adjustments	0.000	0.000	0.000	-	0.000
• Congressional General Reductions	-	0.000			
• Congressional Directed Reductions	-	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	-	0.000			
• Congressional Directed Transfers	-	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	0.000	0.000	0.000	-	0.000

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Title: EW Flagging	0.487	0.486	0.000
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 2012 Accomplishments:*** Fielded third spiral release of EW Flagging and initiated development of final version of EW Flagging capability. ***FY 2013 Plans:*** Continuing development of final spiral release of EW Flagging capability ***FY 2014 Plans:*** N/A			
Title: Project Theo	0.145	0.058	0.000
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 2012 Accomplishments:*** Delivered second spiral release and initiated third spiral release. ***FY 2013 Plans:***			

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0604750F: *Intelligence Equipment*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Delivering third spiral release and intiate development of final version (2.0) of Project Theo. ***FY 2014 Plans:*** N/A			
Title: High Performance Aero Vehicle Modeler (HP-AVM) ***Description:*** Continues update of the tool, with a focus on modeling previously unknown airframes, that provides detailed engineering assessments of threat aircraft performance and characteristics. ***FY 2012 Accomplishments:*** Delivered first spiral release, initiated and delivered second spiral release. Initiated development of final version of HP-AVM capability. ***FY 2013 Plans:*** Fielding final version (3) of HP-AVM capability. ***FY 2014 Plans:*** N/A	0.343	0.243	0.000
Title: PMA ***Description:*** Maintains a Program Management Office, including program supervision, finance and acquisition strategy execution. ***FY 2012 Accomplishments:*** Maintained a Program Management Office, including program supervision, finance and acquisition strategy execution. ***FY 2013 Plans:*** Continue Program Management Office, including program supervision, finance and acquisition strategy execution. ***FY 2014 Plans:*** N/A	0.020	0.016	0.000
Accomplishments/Planned Programs Subtotals	0.995	0.803	0.000

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0604750F: *Intelligence Equipment*

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• RDTE: BA04: 0603260F: *Intelligence Advanced Development*	4.013	3.866	3.983		3.983	4.352	4.334	8.814	8.973	Continuing	Continuing
• RDTE: BA05: 0603260F: *Intelligence Advanced Development*	0.000	0.000	0.977		0.977	1.123	1.130	1.145	1.165	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 (AF ISR Agency, formerly the Air Intelligence Agency). 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-3, RDT&E Project Cost Analysis: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604750F: *Intelligence Equipment*	PROJECT 652053: *National Air Intel Center*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Electronic Warfare Flagging	Various	Various:Various,	-	0.487	Nov 2011	0.486	Nov 2012	0.000		-		0.000	Continuing	Continuing	3.530
Project Theo (Automated Text Retrieval, Analysis & Exploitation Capability)	C/CPFF	Northrop Grumman Mission Systems, General Dynamics, and Janya:Fairborn, OH	-	0.145	Nov 2011	0.058	Nov 2012	0.000		-		0.000	Continuing	Continuing	TBD
High Performance Aero Vehicle Modeler	C/CPFF	Northrop Grumman Mission Systems:Fairborn, OH	-	0.343	Nov 2011	0.243	Nov 2012	0.000		-		0.000	0.000	0.586	1.066
		Subtotal	0.000	0.975		0.787		0.000		0.000		0.000			

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
PMA	Various	Air Force Research Laboratory - Information	-	0.020	Oct 2011	0.016	Oct 2012	0.000		-		0.000	Continuing	Continuing	TBD

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604750F: *Intelligence Equipment*	PROJECT 652053: *National Air Intel Center*

Management Services ($ in Millions)

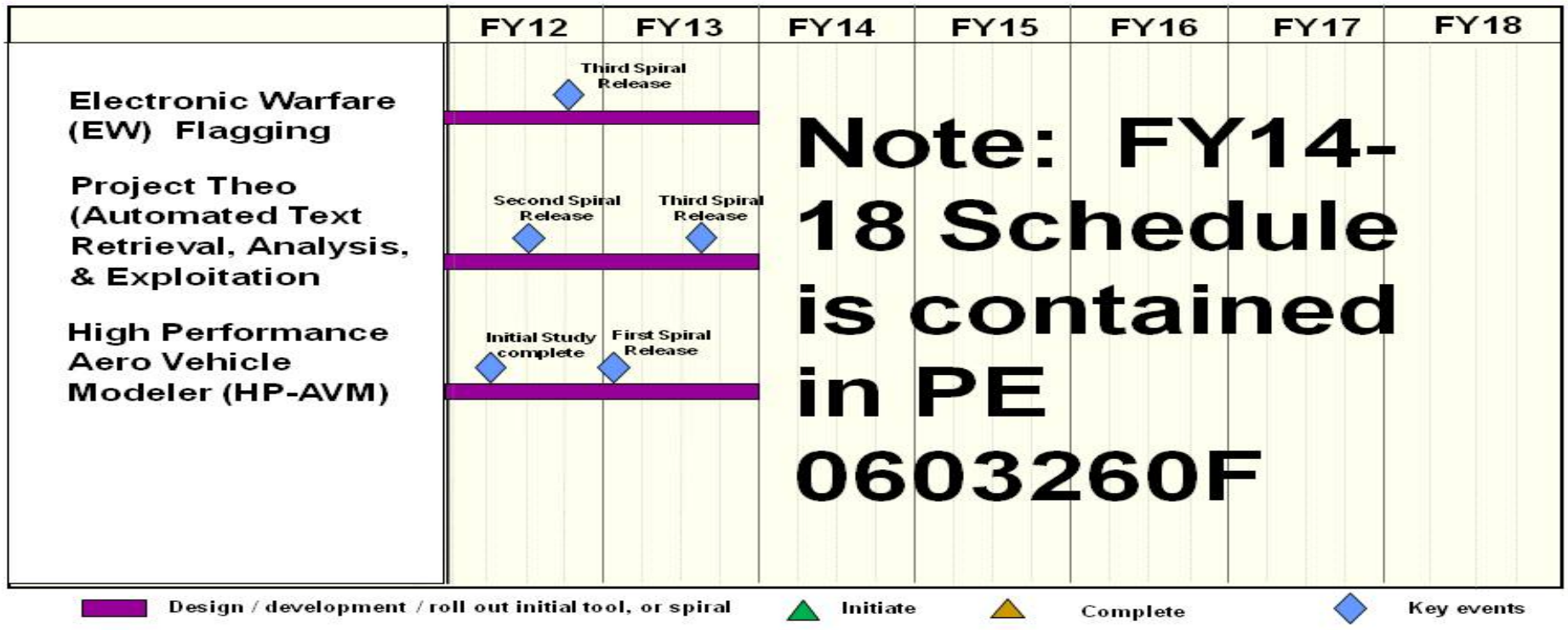
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Directorate:Rome, NY													
		Subtotal	0.000	0.020		0.016		0.000		0.000		0.000			

	All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	0.995		0.803		0.000		0.000		0.000			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604750F: *Intelligence Equipment*	PROJECT 652053: *National Air Intel Center*

Intelligence Equipment Program Schedule



FY14 PB R-Docs

Depicted by installation/production flow

Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0604750F: *Intelligence Equipment*	**PROJECT** 652053: *National Air Intel Center*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Electronic Warfare (EW) Flagging	1	2012	4	2013
Third Spiral Release - EW Flagging	4	2012	4	2012
Project Theo (Automated Text Retrieval, Analysis, and Exploitation Capability)	1	2012	4	2013
Second Spiral Release - Project Theo	2	2012	2	2012
Third Spiral Release - Project Theo	3	2013	3	2013
High Performance Aero Vehicle Modeler (HP-AVM)	1	2012	4	2013
Initial Study HP-AVM	2	2012	2	2012
Field Second Spiral Release HP-AVM	1	2013	1	2013

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force											DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*					R-1 ITEM NOMENCLATURE PE 0604800F: *F-35 - EMD*							
COST ($ in Millions)	**All Prior Years**	**FY 2012**	**FY 2013#**	**FY 2014 Base**	**FY 2014 OCO ##**	**FY 2014 Total**	**FY 2015**	**FY 2016**	**FY 2017**	**FY 2018**	**Cost To Complete**	**Total Cost**
Total Program Element	17,449.086	1,366.147	1,210.306	816.335	-	816.335	654.432	516.094	175.591	77.992	Continuing	Continuing
653831: *Joint Strike Fighter*	17,449.086	1,366.147	1,192.506	782.335	-	782.335	621.432	486.094	175.591	77.992	Continuing	Continuing
653832: *JSF DEPLOYABILITY AND SUITABILITY ENHANCEMENT*	0.000	0.000	17.800	34.000	-	34.000	33.000	30.000	0.000	0.000	Continuing	Continuing
MDAP/MAIS Code(s): 198												

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 OCO Request will be submitted at a later date

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 Conventional Take Off and Landing (CTOL) flight test article
FY08: 1 Short Take Off and Vertical Landing (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 Carrier Variant (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

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0604800F: *F-35 - EMD*

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 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	1,387.926	1,210.306	1,039.035	-	1,039.035
Current President's Budget	1,366.147	1,210.306	816.335	-	816.335
Total Adjustments	-21.779	0.000	-222.700	-	-222.700
• Congressional General Reductions	-	0.000			
• Congressional Directed Reductions	-	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	-	0.000			
• Congressional Directed Transfers	-	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	-21.779	0.000			
• Other Adjustments	0.000	0.000	-222.700	-	-222.700

Change Summary Explanation

FY14 change due to SDD funding profile being rephased to better align resources to requirements.

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604800F: *F-35 - EMD*	PROJECT 653831: *Joint Strike Fighter*	

COST ($ in Millions)	All Prior Years	FY 2012	FY 2013#	FY 2014 Base	FY 2014 OCO ##	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
653831: *Joint Strike Fighter*	17,449.086	1,366.147	1,192.506	782.335	-	782.335	621.432	486.094	175.591	77.992	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 OCO Request will be submitted at a later date

Note

Total cost including USN, USMC, International partner contributions and USAF funding are: FY12 $2,735.504M, FY13 $2,803.393M and FY14 $1,777.322M. R-2 data reflects variant unique funding only.

R-2A costs shown above reflect service funding only.

R-2A (section B)/R-3 displays total combined Service (i.e. not Service specific), including International partners, funding for JSF Engineering and Manufacturing Development(EMD) and JSF Deployability and Suitability Enhancements (D&S).

JSF 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

JSF 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-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0604800F: *F-35 - EMD*	**PROJECT** 653831: *Joint Strike Fighter*

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.

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 Conventional Take Off and Landing (CTOL) flight test article
FY08: 1 Short Take Off and Vertical Landing (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 Carrier Variant (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 2012	FY 2013	FY 2014
Title: System Development and Demonstration	2,025.446	1,795.102	761.153
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 2012 Accomplishments: Continued 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.			
FY 2013 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604800F: *F-35 - EMD*	PROJECT 653831: *Joint Strike Fighter*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
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. ***FY 2014 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.			
Title: F135 Propulsion System ***Description:*** SDD execution of the F135 Propulsion System (Pratt & Whitney) including International Commonality Effort; includes testing, autonomic logistics, integration & performing technology maturation efforts. ***FY 2012 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 2013 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 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. Funding increase from FY13 to FY14 due to increase of total SDD contract value resulting from the total program baseline review.	277.559	359.618	399.749
Title: F136 Propulsion System ***Description:*** SDD execution of the F136 Propulsion System (General Electric/Rolls Royce) ***FY 2012 Accomplishments:*** Continued F136 Propulsion System Development effort by the General Electric/Rolls Royce Fighter Engine Team (GE/RR FET)	5.000	0.000	0.000
Title: Systems Engineering (SE) ***Description:*** SDD Systems Engineering (SE) including systems operations requirements analysis, program integration, requirements integration, and interoperability support. ***FY 2012 Accomplishments:***	44.121	20.063	32.188

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604800F: *F-35 - EMD*	PROJECT 653831: *Joint Strike Fighter*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Continued SDD Systems Engineering that includes systems operations requirements analysis, program integration, requirements integration, and interoperability support. ***FY 2013 Plans:*** Continue SDD Systems Engineering that includes systems operations requirements analysis, program integration, requirements integration, and interoperability support. ***FY 2014 Plans:*** Continue SDD Systems Engineering that includes systems operations requirements analysis, program integration, requirements integration, and interoperability support.			
Title: Development Test & Evaluation (DT&E) ***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 2012 Accomplishments:*** Continued government DT&E/OT in support of test aircraft. Continued 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 2013 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 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. 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.	152.406	374.258	381.713
Title: Development Support ***Description:*** SDD Support efforts for airframe, air vehicle systems, mission systems, weapons integration, mission support, and autonomic logistics development activities. ***FY 2012 Accomplishments:***	137.364	140.477	95.760

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604800F: *F-35 - EMD*	PROJECT 653831: *Joint Strike Fighter*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Continued SDD Support efforts for airframe, air vehicle systems, mission systems, weapons integration, mission support, and autonomic logistics development activities. ***FY 2013 Plans:*** Continue SDD Support efforts for airframe, air vehicle systems, mission systems, weapons integration, mission support, and autonomic logistics development activities. ***FY 2014 Plans:*** Continue SDD Support efforts for airframe, air vehicle systems, mission systems, weapons integration, mission support, and autonomic logistics development activities.			
Title: Program Management Support ***Description:*** Management support services, civilian pay, travel, engineering technical services, and studies analyses and evaluations in support of program objectives. ***FY 2012 Accomplishments:*** Continued management support services, travel, engineering technical services, and studies analyses and evaluations in support of program objectives. Initiated use of RDT&E for Air Force civilian pay. ***FY 2013 Plans:*** Continue management support services, travel, engineering technical services, and studies analyses and evaluations in support of program objectives. Program Management Support increase is due to increase in Air Systems Nautical Command personnal. Continue use of RDT&E for civilian pay (Air Force Only). ***FY 2014 Plans:*** Continue management support services, travel, engineering technical services, and studies analyses and evaluations in support of program objectives. Program Management Support decrease is due to acress the board reduction between both services. Continue use of RDT&E for civilian pay. (Air Force Only)	93.608	113.875	106.759
Accomplishments/Planned Programs Subtotals	2,735.504	2,803.393	1,777.322
Other Service Funding Adjustment	1,369.357	1,610.887	994.987
Air Force Subtotals	1,366.147	1,192.506	782.335

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604800F: *F-35 - EMD*	PROJECT 653831: *Joint Strike Fighter*	

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• RDTEN: BA05: PE 604800N: *JSF SDD (CV)*	605.998	724.392	507.753		507.753	570.181	450.625	254.021	23.023	0.000	22,922.837
• RDTEN: BA05: PE 604800M: *JSF SDD (STOVL)*	617.695	737.149	482.823		482.823	557.360	439.945	244.047	96.185	0.000	22,962.048
• RDTEN: BA05: PE 0604800N: *USRL*	26.044	19.534	0.000		0.000	0.000	0.000	0.000	0.000	0.000	149.262
• APAF: BA01: Line Item # ATA000: *JSF CTOL,PE 207142F, BP10*	3,289.615	3,124.302	3,060.770		3,060.770	3,921.250	5,188.155	5,250.891	5,850.477	150,878.750	189,907.778
• APN: BA01: Line Item # 0147: *JSF (CV), PE 204146N*	1,447.097	1,007.632	1,135.444		1,135.444	1,082.046	1,468.775	2,054.690	2,532.068	26,737.969	45,618.677
• APN: BA01: Line Item # 0147C: *JSF Advance Procurement (CV),PE 204146N*	109.066	65.180	94.766		94.766	132.063	185.904	246.779	190.141	3,364.677	5,219.579
• APAF: BA01:ATA000: *JSF CTOL Advance Procurement, PE 207142F, BP10 AP*	228.977	293.400	363.783		363.783	482.795	509.828	578.000	588.404	18,585.140	22,633.855
• APN: BA01: Line Item #0152: *JSF (STOVL), PE 204146M*	1,141.906	1,404.737	1,267.260		1,267.260	1,209.937	1,461.056	2,125.324	2,814.618	29,224.711	41,203.070
• APN: BA01: 0152C: *JSF Advance Procurement (STOVL),PE 204146M*	117.229	106.199	103.195		103.195	143.887	203.057	226.014	136.732	4,095.291	5,755.765
• International Production: *JSF International Production*	1,808.640	3,453.903	5,738.517		5,738.517	7,563.725	8,328.889	8,153.307	7,347.293	Continuing	Continuing
• OPN: BA04:4265: *JSF Other Procurement, PE 204261N*	5.665	0.000	0.000		0.000	0.000	0.000	0.000	0.000	0.000	5.665
• OPN: BA03: 4267: *JSF Logistics Information Systems (ALIS), PE 204261N*	0.000	3.826	4.827		4.827	4.554	4.604	5.729	5.830	43.558	72.928
• APAF: BA06: Line Item # F03500: *JSF Initial Spares, PE 0207142F, BP16*	149.556	181.833	103.582		103.582	235.183	271.211	235.251	342.508	Continuing	Continuing

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604800F: *F-35 - EMD*	PROJECT 653831: *Joint Strike Fighter*	

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• APN: BA06: 0605: *Initial Spares (CV), PE 204146N*	29.902	41.466	42.060		42.060	17.310	32.270	121.283	63.995	Continuing	Continuing
• APN: BA06: 0605: *Initial Spares (STOVL), PE 204146M*	23.430	99.006	41.707		41.707	131.216	94.193	66.423	127.264	Continuing	Continuing
• MILCON: BA01: PE 207142F: *JSF Military Construction*	24.250	13.530	41.900		41.900	72.100	65.000	66.170	11.000	1,554.200	2,358.300
• USN MILCON: BA01: *USN JSF Military Construction*	144.400	117.600	209.000		209.000	320.500	151.700	48.100	0.000	830.600	2,259.300
• RDT&E: BA07: PE 027142F: *JSF Follow-on Development (FoD), BPAC 675346*	0.000	8.117	23.000		23.000	104.866	132.174	229.912	300.050	Continuing	Continuing
• RDT&E: BA07: PE 0207142F: *Dual Capable Aircraft (DCA), BPAC 676011*	9.682	0.000	10.000		10.000	0.000	0.000	0.000	0.000	Continuing	Continuing
• International R&D: *International R&D (SDD/FoD)*	145.664	149.346	4.411		4.411	0.000	0.000	0.000	0.000	0.000	4,947.074
• OPAF: BA01: 821800: *Joint Strike Fighter, PE 0207142F*	0.000	0.600	2.200		2.200	2.943	2.471	2.345	2.387	0.000	12.946
• APN: BA05: BP0593: *Modifications (CV), PE 204146N*	0.000	0.000	31.100		31.100	52.900	62.130	98.980	102.456	Continuing	Continuing
• RDTE: BA05: PE 0604800F: *JSF Deployability and Suitability Enhancements, BPAC 653832*	0.000	17.800	34.000		34.000	33.000	30.000	0.000	0.000	0.000	114.800
• RDTEN: BA05: PE 604800M: *F-35B Sustainment/Capability Enhancements (STOVL), BPAC 3350*	0.000	0.000	14.904		14.904	14.976	14.960	0.000	0.000	Continuing	Continuing
• RDTEN: BA05: PE 604800N, BPAC 3352: *F-35C Sustainment/ Capability Enhancements (CV)*	0.000	0.000	14.992		14.992	14.997	14.991	0.000	0.000	Continuing	Continuing

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604800F: *F-35 - EMD*	PROJECT 653831: *Joint Strike Fighter*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• RDTEN:BA05: PE 604800M: *F-35B Follow-on Development (STOVL), BPAC 3351*	0.000	0.000	14.904		14.904	19.968	60.837	114.965	172.906	Continuing	Continuing
• APN: BA05: BP0592: *Modifications (STOVL), PE 204146M*	0.000	0.000	147.130		147.130	291.910	284.360	176.610	181.234	Continuing	Continuing
• RDTEN:BA05: PE 0604800N: *F-35C Follow-on Development (CV), BPAC 3353*	0.000	0.000	11.442		11.442	19.996	60.963	115.057	173.276	Continuing	Continuing
• APAF: BA05: F03500: *JSF Modifications, PE 20742F, BP11*	0.000	147.995	157.777		157.777	245.462	223.683	252.141	256.680	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.

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.

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604800F: *F-35 - EMD*	PROJECT 653831: *Joint Strike Fighter*

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 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604800F: *F-35 - EMD*	PROJECT 653831: *Joint Strike Fighter*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Lockheed Martin - SDD	C/CPAF	Lockheed Martin:Ft. Worth, TX	27,393.270	2,008.281	Nov 2011	1,795.102	Dec 2012	761.153	Dec 2013	-		761.153	2,093.817	34,051.623	27,535.632
Lockheed Martin - IDIQ D0022	SS/ Various	Lockheed Martin:Ft. Worth, TX	11.572	17.165	Nov 2011	0.000		0.000		-		0.000	0.000	28.737	85.000
Lockheed Martin - IDIQ D0009	SS/ Various	Lockheed Martin:Ft. Worth, TX	16.759	0.000		0.000		0.000		-		0.000	0.000	16.759	68.500
Lockheed Martin - BOA	SS/ Various	Lockheed Martin:Ft. Worth, TX	3.511	0.000		0.000		0.000		-		0.000	0.000	3.511	30.000
Pratt & Whitney - SDD	SS/CPAF	Pratt &Whitney:Hartford, CT	6,906.621	277.559	Nov 2011	359.618	Nov 2012	399.749	Dec 2013	-		399.749	274.288	8,217.835	6,810.646
Pratt & Whitney - Close Out Contract C0132	SS/CPFF	Pratt &Whitney:Hartford, CT	1.364	0.000		0.000		0.000		-		0.000	0.000	1.364	1.364
Pratt & Whitney - CDP Close Out Contract C0050	SS/CPAF	Pratt &Whitney:Hartford, CT	2.211	0.000		0.000		0.000		-		0.000	0.000	2.211	2.211
Pratt & Whitney - BOA	SS/CPFF	Pratt &Whitney:Hartford, CT	35.983	0.000		0.000		0.000		-		0.000	0.000	35.983	35.983
Pratt & Whitney - IDIQ	SS/ Various	Pratt &Whitney:Hartford, CT	10.925	0.000		0.000		0.000		-		0.000	0.000	10.925	10.925
General Electric - SDD	SS/ Various	FET:Cincinnati, OH	2,155.573	5.000	Nov 2012	0.000		0.000		-		0.000	0.000	2,160.573	2,415.492
General Electric - IDIQ D0009	SS/ Various	FET:Cincinnati, OH	0.264	0.000		0.000		0.000		-		0.000	0.000	0.264	0.264
General Electric - IDIQ D0074	SS/ Various	FET:Cincinnati, OH	4.175	0.000		0.000		0.000		-		0.000	0.000	4.175	4.175
General Electric - F136 Transition	SS/CPFF	FET:Cincinnati, OH	100.400	0.000		0.000		0.000		-		0.000	0.000	100.400	100.400
General Electric - BOA	SS/ Various	FET:Cincinnati, OH	5.548	0.000		0.000		0.000		-		0.000	0.000	5.548	5.548

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604800F: *F-35 - EMD*	PROJECT 653831: *Joint Strike Fighter*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
General Electric - Phase IIIb	SS/CPAF	FET:Cincinnati, OH	382.753	0.000		0.000		0.000		-		0.000	0.000	382.753	382.750
Systems Engineering	Various	Various:Various,	289.956	44.121	Nov 2011	15.601	Nov 2012	28.547	Nov 2013	-		28.547	99.915	478.140	
		Subtotal	37,320.885	2,352.126		2,170.321		1,189.449		0.000		1,189.449	2,468.020	45,500.801	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
AFFTC/Eglin	Various	Various:Various,	102.435	14.298	Nov 2011	15.340	Oct 2012	5.416	Nov 2013	-		5.416	8.672	146.161	
ASC/AFRL	Various	ASC/AFRL:Wright Patterson AFB, OH	55.685	8.762	Nov 2011	8.255	Oct 2012	2.525	Nov 2013	-		2.525	5.475	80.702	
Bolling AFB	Various	Bolling AFB:Washington, DC	6.775	0.000		0.000		0.000		-		0.000	0.000	6.775	
DMEA	Various	DMEA:Wright Patterson, AFB, OH	5.630	0.000	Nov 2011	1.400	Nov 2012	0.000	Nov 2013	-		0.000	0.000	7.030	
ESC	Various	ESC:Hanscom AFB, MA	7.103	0.000	Nov 2011	0.511	Nov 2012	0.000	Nov 2013	-		0.000	0.000	7.614	
AEDC/Fuel	Various	Various:Various,	143.754	0.000	Nov 2011	23.266	Nov 2012	0.000	Nov 2013	-		0.000	0.000	167.020	
NADEP Jacksonville	Various	NADEP:Jacksonville, FL	7.880	0.000	Nov 2011	1.757	Oct 2012	0.000	Nov 2013	-		0.000	0.000	9.637	
Miscellaneous	Various	Various:Various,	226.696	51.771	Nov 2011	21.332	Nov 2012	37.488	Nov 2013	-		37.488	80.491	417.778	
NAWC China Lake	Various	NAWC WD:China Lake, CA	96.177	21.418	Nov 2011	24.833	Nov 2012	20.710	Nov 2013	-		20.710	51.927	215.065	
NAWC TSD	Various	NAWC TSD:Orlando, FL	9.680	0.000	Nov 2011	0.771	Nov 2012	0.000	Nov 2013	-		0.000	0.000	10.451	
NAWC Patuxent River	Various	NAWC AD:Patuxent River, MD	299.158	41.115	Nov 2011	42.672	Nov 2012	29.621	Nov 2013	-		29.621	100.346	512.912	
NSWC	Various	Various:Various,	3.813	0.000	Nov 2011	0.308	Nov 2012	0.000	Nov 2013	-		0.000	0.000	4.121	
SPAWAR	Various	Various:Various,	8.434	0.000	Nov 2011	0.032	Nov 2012	0.000	Nov 2013	-		0.000	0.000	8.466	

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604800F: *F-35 - EMD*	PROJECT 653831: *Joint Strike Fighter*

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
SBIR Technology Insertion Congressional Add	Various	Various:Various,	24.187	0.000		0.000		0.000		-		0.000	0.000	24.187	
DFAS	Various	Various:Various,	0.000	0.000		0.000		0.000		-		0.000	0.000	0.000	
		Subtotal	997.407	137.364		140.477		95.760		0.000		95.760	246.911	1,617.919	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
NAWC Patuxent River	Various	NAWC AD:Patuxent River, MD	301.964	74.780	Nov 2011	115.186	Nov 2012	153.350	Nov 2013	-		153.350	318.568	963.848	
NAWC China Lake	Various	NAWC WD:China Lake, CA	26.630	7.581	Nov 2011	5.829	Nov 2012	3.820	Nov 2013	-		3.820	9.249	53.109	
Edwards AFB	Various	Edwards AFB:Edwards AFB, CA	340.541	23.905	Nov 2011	82.500	Nov 2012	130.000	Nov 2013	-		130.000	263.000	839.946	
Other (including Classified PIDs)	Various	Various:Various,	26.080	30.757	Nov 2011	56.449	Nov 2012	61.803	Nov 2013	-		61.803	137.987	313.076	
JITC	Various	JITC:Various,	0.000	0.000		0.000		0.000		-		0.000	0.000	0.000	
WEPS/Eglin	Various	WEPS:Eglin AFB, FL	27.829	0.000	Nov 2011	0.000		0.000		-		0.000	0.000	27.829	
OT - AFOTEC/AFFTC	Various	OT AFOTEC/ AFFTC:Various,	93.604	15.383	Nov 2011	108.518	Nov 2012	32.740	Nov 2013	-		32.740	344.578	594.823	
OT - JITC/OPTEV	Various	OT JITC/ OPTEV:Various,	6.211	0.000	Nov 2011	5.776	Oct 2012	0.000	Nov 2013	-		0.000	0.100	12.087	
		Subtotal	822.859	152.406		374.258		381.713		0.000		381.713	1,073.482	2,804.718	

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604800F: *F-35 - EMD*	PROJECT 653831: *Joint Strike Fighter*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Business Integration - Cost - ACT I	SS/CPFF	ACT I:Arlington, VA	5.700	2.903	Nov 2011	0.000	Dec 2012	0.000		-		0.000	1.681	10.284	18.731
Security - Mantech	C/FP	Mantech:Arlington, VA	50.978	10.500	Nov 2011	11.046	Dec 2012	11.600	Dec 2013	-		11.600	12.484	96.608	94.474
Autolog - SEIT - DRC	C/CPFF	DRC:Arlington, VA	5.916	0.000		0.000		0.000		-		0.000	0.000	5.916	
Chief Engineer - First Principles	C/CPFF	First Principles:Arlington, VA	3.016	1.988	Nov 2011	1.136	Nov 2012	1.128	Dec 2013	-		1.128	3.190	10.458	11.852
ASC Civilian Pay	Various	ASC:Wright Patterson AFB, OH	0.000	14.564	Nov 2011	35.724	Oct 2012	18.586	Oct 2013	-		18.586	76.779	145.653	
Operations - Wyle	C/CPFF	Wyle:Arlington, VA	90.871	20.774	Nov 2011	3.305	Dec 2012	4.704	Dec 2013	-		4.704	27.429	147.083	193.907
Operations - SAFTAS	C/CPAF	SAFTAS:Arlington, VA	101.734	20.529	Nov 2011	0.000	Dec 2012	3.350	Dec 2013	-		3.350	33.778	159.391	192.329
Operations - Stanley	C/CPFF	Stanley:Arlington, VA	159.020	22.350	Nov 2011	22.051	Dec 2012	24.604	Dec 2013	-		24.604	35.090	263.115	268.705
Operations- TBD	C/CPAF	TBD:Arlington, VA	0.000	0.000		0.000		0.000		-		0.000	0.000	0.000	
GE F136 Congressional Studies	Various	Various:Various,	0.800	0.000		0.000		0.000		-		0.000	0.000	0.800	
Travel and Misc	Various	Various:Various,	14.499	0.000	Nov 2011	0.000	Oct 2012	0.000	Nov 2013	-		0.000	17.652	32.151	
PMA Cost	Various	Various:Various,	0.000	0.000		45.075	Oct 2012	46.428	Oct 2013	-		46.428	0.000	91.503	
		Subtotal	432.534	93.608		118.337		110.400		0.000		110.400	208.083	962.962	

	All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Subtotals	39,573.685	2,735.504		2,803.393		1,777.322		0.000		1,777.322	3,996.496	50,886.400	
Other Service Funding Adjustment	22,124.599	1,369.357		1,610.887		994.987		-		994.987	2,635.387	28,735.217	-
Project Cost Totals	39,573.685	1,366.147		1,192.506		782.335		0.000		782.335	3,996.496	50,886.400	

Remarks

NOTE 1: Prior Years reflect $17,449.086M USAF/$16,874.804M USN/ 602.142 USMC / $4,647.653M International/Total $39,573.685M

FY 2012 reflects $1,366.147 USAF/$605.998M USN/$617.695M USMC/$145.664M International/Total $2,735.504M

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604800F: *F-35 - EMD*	PROJECT 653831: *Joint Strike Fighter*	

	All Prior Years	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract

FY 2013 reflects $1,192.506M USAF/$724.392M USN/$737.149M USMC/$149.346M International/Total $2,803.393M

FY 2014 reflects $782.335M USAF/$507.753M USN/$482.823M USMC/$4.411M International/Total $1,777.322M

NOTE 2:R-2A/R-3 displays total combined service(i.e. not Service-specific, including International partners, funding for JSF Engineering and Manufacturing Development (EMD) and JSF Deployability and Suitability Enhancements(D&S).

JSF EMD Includes:
USAF PE 0604800F BPAC 653831
USN PE 0604800N Project Unit 2261
USMC PE 0604800M Project Unit 2262

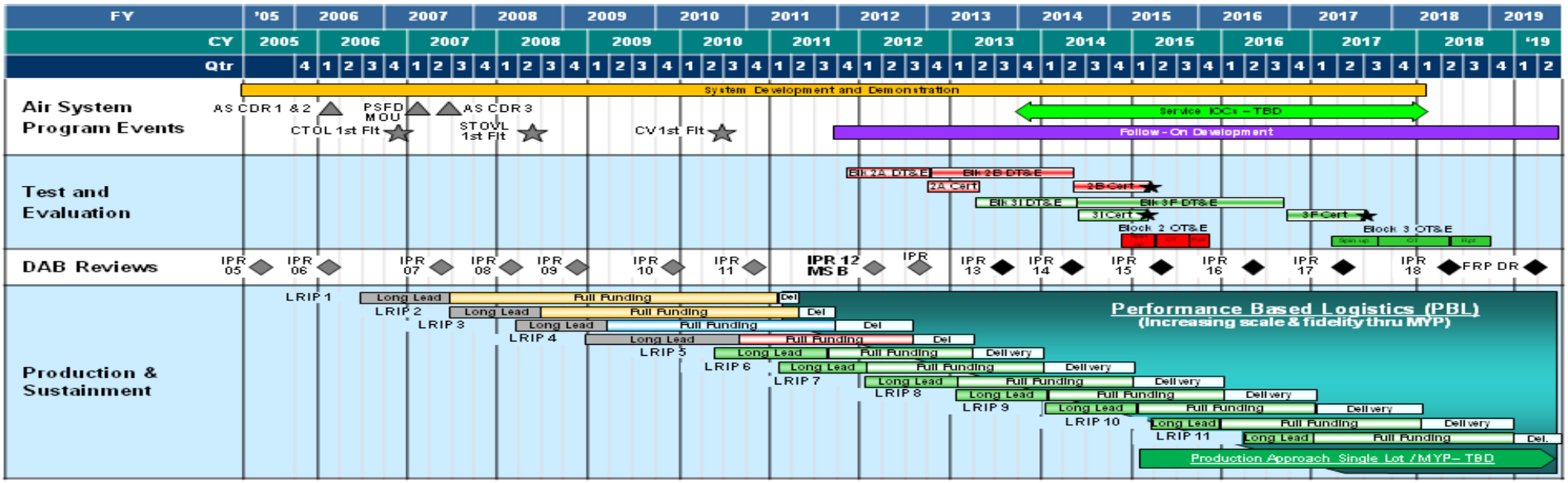
D&S Includes:
USAF PE 0604800F BPAC 653832
USN PE 0604800N Project Unit 3352
USMC PE 0604800M Project Unit 3350

JSF 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 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604800F: *F-35 - EMD*	PROJECT 653831: *Joint Strike Fighter*

F-35 Program Top Level Schedule

Distro A



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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0604800F: *F-35 - EMD*	**PROJECT** 653831: *Joint Strike Fighter*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Test & Evaluation: Block 2A DT&E/Cert	1	2012	3	2013
Test & Evaluation: Block 2B DT&E/Cert	1	2013	2	2015
Test & Evaluation: Block 3I DT&E/Cert	3	2013	2	2015
Test & Evaluation: Block 3F DT&E/Cert	3	2014	3	2017
Test & Evaluation: Initial Operational Test and Evaluation (IOT&E)	1	2015	4	2018
System Development Reviews: Interim Program Review (IPR) FY12-1	2	2012	2	2012
System Development Reviews: Interim Program Review (IPR) FY12-2	4	2012	4	2012
System Development Reviews: Interim Program Review (IPR) FY13	4	2013	4	2013
System Development Reviews: Interim Program Review (IPR) FY14	3	2014	3	2014
System Development Reviews: Interim Program Review (IPR) FY15	3	2015	3	2015
System Development Reviews: Interim Program Review (IPR) FY16	3	2016	3	2016
System Development Reviews: Interim Program Review (IPR) FY17	3	2017	3	2017
System Development Reviews: Interim Program Review (IPR) FY18	3	2018	3	2018

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604800F: *F-35 - EMD*	PROJECT 653832: *JSF DEPLOYABILITY AND SUITABILITY ENHANCEMENT*	

COST ($ in Millions)	All Prior Years	FY 2012	FY 2013#	FY 2014 Base	FY 2014 OCO ##	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
653832: *JSF DEPLOYABILITY AND SUITABILITY ENHANCEMENT*	0.000	0.000	17.800	34.000	-	34.000	33.000	30.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 OCO Request will be submitted at a later date

Note

NOTE:
R-2A costs shown above reflect service funding only.

R-2A(section B)/R-3 displays total combined service funding (i.e. not service specific), including International partners, for JSF Engineering and Manufacturing Development (EMD) and JSF Deployability and Suitability Enhancements (D&S).

JSF 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

JSF 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-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604800F: *F-35 - EMD*	PROJECT 653832: *JSF DEPLOYABILITY AND SUITABILITY ENHANCEMENT*

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, and integrated training simulators. These enhancements will provide vital on-demand support to the war-fighter within a deployed environment and are not funded via the existing System Development and Demonstration (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 2012	FY 2013	FY 2014
Title: Sustainment and Capability Enhancements ***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, and integrated training simulators. ***FY 2013 Plans:*** Initiate disciplined systems engineering, requirements decomposition, technology maturation, and development of suitability and deployability enhancements. ***FY 2014 Plans:*** Conduct systems engineering, technology maturation, integration and test planning for Deployability and Suitability enhancements.	0.000	17.800	56.867
Title: Development Test and Evaluation ***Description:*** Verification and testing for deployability and suitability enhancements ***FY 2014 Plans:*** Initiate government test and evaluation of capability enhancements for Deployable Autonomic Logistics Information system, and Low Observable maintenance enhancements.	0.000	0.000	0.639
Title: Development Support ***Description:*** Initiate SDD support efforts for airframe, air vehicle systems, mission systems, weapons integration, mission support, and autonomic logistics development activities.	0.000	0.000	6.390

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604800F: *F-35 - EMD*	PROJECT 653832: *JSF DEPLOYABILITY AND SUITABILITY ENHANCEMENT*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
FY 2014 Plans: Initiate development enhancement support for Deployable Autonomic Logisitics Information System, decentralized maintenance capabilities, Low Observable maintenance enhancements, security architecture updates, and integrated training simulators.			
Accomplishments/Planned Programs Subtotals	0.000	17.800	63.896
Other Service Funding Adjustment	-	-	29.896
Air Force Subtotals	0.000	17.800	34.000

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• RDTEN: BA05: PE 0604800N: *JSF SDD (CV)*	605.998	724.392	507.753		507.753	570.181	450.625	254.021	23.023	Continuing	Continuing
• RDTEN: BA05: PE 0604800M: *JSF SDD (STOVL)*	617.695	737.149	482.823		482.823	557.360	439.945	244.047	96.185	Continuing	Continuing
• RDTEN:BA05: PE 0604800N: *USRL, BPAC 3194*	26.044	19.534	0.000		0.000	0.000	0.000	0.000	0.000	0.000	149.262
• APAF: BA01: ATA000: *JSF CTOL,PE 0207142F, BP10*	3,289.615	3,124.302	3,060.770		3,060.770	3,921.250	5,188.155	5,250.891	5,850.477	150,878.750	189,907.778
• APAF: BA01: Line Item # ATA000: *JSF CTOL Advance Procurement, PE 0207142F, BP10 AP*	228.977	293.400	363.783		363.783	482.795	509.828	578.000	588.404	18,585.140	22,633.855
• APN: BA01: BP0147: *JSF (CV), PE 204146N*	1,447.097	1,007.632	1,135.444		1,135.444	1,082.046	1,468.775	2,054.690	2,532.068	26,737.969	45,618.677
• APN: BA01: BP0147C: *JSF Advance Procurement (CV), PE 204146N*	109.066	65.180	94.766		94.766	132.063	185.904	246.779	190.141	3,364.677	5,219.579
• APN: BA01: BP0152: *JSF (STOVL), PE 204146M*	1,141.906	1,404.737	1,267.260		1,267.260	1,209.937	1,461.056	2,125.324	2,814.618	29,224.711	41,203.070
• APN: BA01: BP0152C: *JSF Advance Procurement (STOVL),PE 204146M*	117.229	106.199	103.195		103.195	143.887	203.057	226.014	136.732	4,095.291	5,755.765

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604800F: *F-35 - EMD*	PROJECT 653832: *JSF DEPLOYABILITY AND SUITABILITY ENHANCEMENT*	

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• International Production: *JSF International Production*	1,808.640	3,453.903	5,738.517		5,738.517	7,563.725	8,328.889	8,153.307	7,347.293	Continuing	Continuing
• OPN: BA04: BP4265: *JSF Other Procurement, PE 204261N*	5.665	0.000	0.000		0.000	0.000	0.000	0.000	0.000	0.000	5.665
• OPN: BA03: BP4267: *JSF Logistics Information Systems (ALIS), PE 204261N*	0.000	3.826	4.827		4.827	4.554	4.604	5.729	5.830	43.558	72.928
• APAF: BA06: ATA000: *JSF Initial Spares*	149.556	181.833	103.582		103.582	235.183	271.211	235.251	342.508	Continuing	Continuing
• APN: BA06:BP0605: *Initial Spares (CV), PE 204146N*	29.902	41.466	42.060		42.060	17.310	32.270	121.283	63.995	Continuing	Continuing
• RDTE: BA05: PE 0604800F: *JSF SDD, BPAC 653831*	1,366.147	1,192.506	782.335		782.335	621.432	486.094	175.591	77.992	Continuing	Continuing
• APN: BA06: BP0605: *Initial Spares (STOVL), PE 204146M*	23.430	99.006	41.707		41.707	131.216	94.193	66.423	127.264	Continuing	Continuing
• RDTEN: BA05: PE 604800M: *F-35B Follow-on Development (STOVL), BPAC 3351*	0.000	0.000	14.904		14.904	19.968	60.837	114.965	172.906	Continuing	Continuing
• APN: BA05: BP0592: *Modifications (STOVL), PE 204146M*	0.000	0.000	147.130		147.130	291.910	284.360	176.610	181.234	Continuing	Continuing
• MILCON: BA01: PE 207142F: *JSF Military Construction*	24.250	13.530	41.900		41.900	72.100	65.000	66.170	11.000	1,554.200	2,358.300
• USN MILCON: BA01: *USN JSF MILCON*	144.400	117.600	209.000		209.000	320.500	151.700	48.100	0.000	830.600	2,259.300
• APAF: BA05: F03500: *JSF Modifications, PE 20742F, BP11*	0.000	147.995	157.777		157.777	245.462	223.683	252.141	256.680	Continuing	Continuing
• RDTE: BA07: PE 207142F: *JSF Follow-on Development (FoD), BPAC 675346*	0.000	8.117	23.000		23.000	104.866	132.174	229.912	300.050	Continuing	Continuing
• International R&D: *International R&D (SDD/FOD)*	145.664	149.346	4.411		4.411	0.000	0.000	0.000	0.000	0.000	4,947.074

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604800F: *F-35 - EMD*	PROJECT 653832: *JSF DEPLOYABILITY AND SUITABILITY ENHANCEMENT*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• OPAF: BA01: 821800: *Joint Strike Fighter, PE 0207152F*	0.000	0.600	2.200		2.200	2.943	2.471	2.345	2.387	0.000	12.946
• RDTEN:BA05: PE 604800M: *F-35B Sustainment/Capability Enhancements (STOVL), BPAC 3350*	0.000	0.000	14.904		14.904	14.976	14.960	0.000	0.000	Continuing	Continuing
• RDTEN: BA05: PE 604800N: *F-35C Sustainment/Capability Enhancements (CV), BPAC 3352*	0.000	0.000	14.992		14.992	14.997	14.991	0.000	0.000	Continuing	Continuing
• RDTEN:BA05: PE 604800N: *F-35C Follow-on Development (CV, BPAC 3353)*	0.000	0.000	11.442		11.442	19.996	60.963	115.057	173.276	Continuing	Continuing
• RDTE: BA07:PE 207142F: *Dual Capable Aircraft (DCA), BPAC 676011*	9.682	0.000	10.000		10.000	0.000	0.000	0.000	0.000	Continuing	Continuing
• APN: BA05: BP0593: *Modifications (CV), PE 204146N*	0.000	0.000	31.100		31.100	52.900	62.130	98.980	102.456	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.

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.

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604800F: *F-35 - EMD*	PROJECT 653832: *JSF DEPLOYABILITY AND SUITABILITY ENHANCEMENT*

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 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604800F: *F-35 - EMD*	PROJECT 653832: *JSF DEPLOYABILITY AND SUITABILITY ENHANCEMENT*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Prime LM Deployability & Suitability Enhancements	SS/CPAF	LM:Ft Worth, TX	0.000	0.000		17.800	Jul 2013	56.867	Dec 2012	-		56.867	109.461	184.128	184.234
		Subtotal	0.000	0.000		17.800		56.867		0.000		56.867	109.461	184.128	184.234

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Development Support	TBD	Various:Various,	0.000	0.000		0.000		6.390	Dec 2013	-		6.390	12.299	18.689	18.700
		Subtotal	0.000	0.000		0.000		6.390		0.000		6.390	12.299	18.689	18.700

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WR	Various:Various,	0.000	0.000		0.000		0.639	Dec 2013	-		0.639	1.230	1.869	
		Subtotal	0.000	0.000		0.000		0.639		0.000		0.639	1.230	1.869	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

	All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Subtotals	0.000	0.000		17.800		63.896		0.000		63.896	122.990	204.686	
Other Service Funding Adjustment	-	-		-		29.896		-		29.896	59.990	89.886	-
Project Cost Totals	0.000	0.000		17.800		34.000		0.000		34.000	122.990	204.686	

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604800F: *F-35 - EMD*	PROJECT 653832: *JSF DEPLOYABILITY AND SUITABILITY ENHANCEMENT*	

	All Prior Years	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract

Remarks

NOTE: R-2A/R-3 displays combined service funding for JSF Engineering Manufacturing and Development(EMD) and JSF Deployability and Suitability Enhancements (D&S).

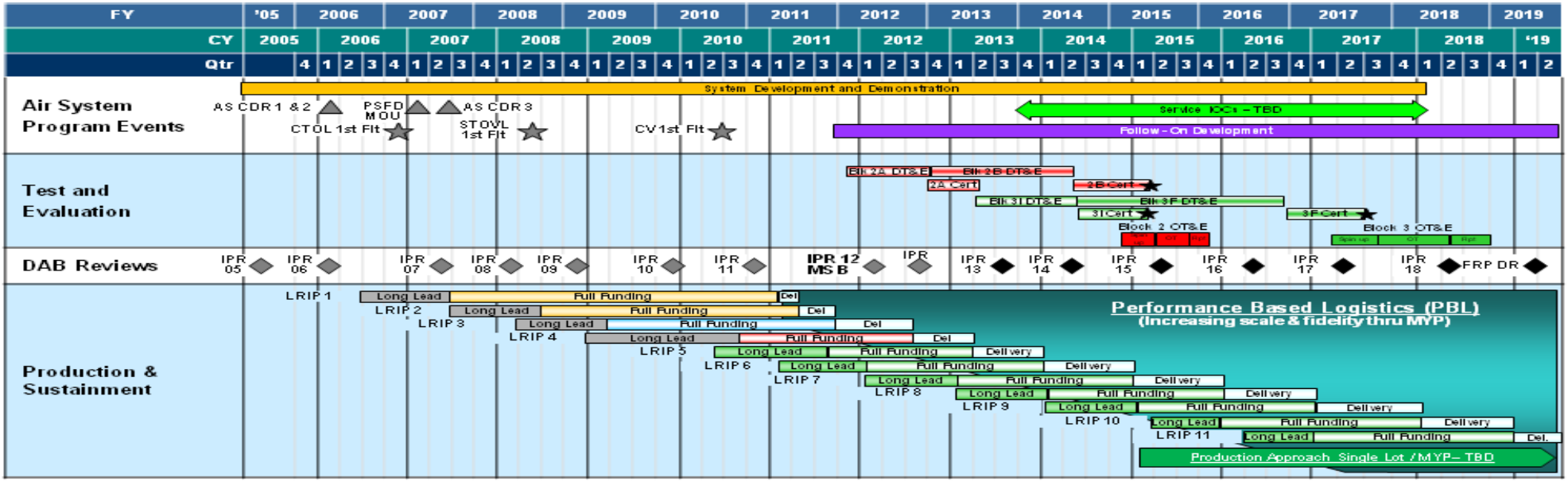
JSF EMD Includes:
USAF PE 0604800F BPAC 653831
USN PE 0604800N Project Unit 2261
USMC PE 0604800M Project Unit 2262

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 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604800F: *F-35 - EMD*	PROJECT 653832: *JSF DEPLOYABILITY AND SUITABILITY ENHANCEMENT*

F-35 Program Top Level Schedule

Distro A



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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604800F: *F-35 - EMD*	PROJECT 653832: *JSF DEPLOYABILITY AND SUITABILITY ENHANCEMENT*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Contract Award	3	2013	3	2013
Deployment and Suitability Enhancement Efforts	3	2013	4	2016

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force											DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*					R-1 ITEM NOMENCLATURE PE 0604851F: *Intercontinental Ballistic Missile - EMD*							
COST ($ in Millions)	**All Prior Years**	**FY 2012**	**FY 2013#**	**FY 2014 Base**	**FY 2014 OCO ##**	**FY 2014 Total**	**FY 2015**	**FY 2016**	**FY 2017**	**FY 2018**	**Cost To Complete**	**Total Cost**
Total Program Element	-	129.728	135.437	145.442	-	145.442	88.651	1.363	1.707	1.737	Continuing	Continuing
655037: *Support Equipment*	-	62.068	95.393	97.544	-	97.544	66.251	1.363	1.707	1.737	Continuing	Continuing
655081: *ICBM Crypto*	-	27.943	32.044	47.898	-	47.898	22.400	0.000	0.000	0.000	Continuing	Continuing
657006: *ICBM EMD: Fuze Support*	-	39.717	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
657010: *Operational Equipment*	-	0.000	8.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 OCO Request will be submitted at a later date

Note

In FY 2012, 657006, ICBM EMD: Fuze Support, efforts were transferred from PE 0604222F, Nuclear Weapons Support, 654236, Engineering Analysis, in order to consolidate ICBM fuze related activities as they progress towards deployable products.

In FY 2013, Project Number 657006, ICBM EMD: Fuze Support, efforts were transferred to PE 0604933F, ICBM Fuze Modernization, 655082, ICBM Fuze Support, in order to distinguish the effort as a pre-ACAT I program.

In FY 2014, Project Number 655037, Support Equipment, includes the new start efforts for the Instrumentation Wafer Replacement Program (IWRP) and the Signal Conditioner Monitor Group (SCMG) replacement.

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, Single Integrated Operation Plan (SIOP) Targeting Application Computer System (STACS), and Transporter Erector Replacement Program (TERP). Efforts also include design, development, and testing of replacement flight test equipment such as the Instrumentation Wafer Replacement Program (IWRP) and the Signal Conditioner Monitor Group (SCMG) replacement.

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604851F: *Intercontinental Ballistic Missile - EMD*

The ICBM Cryptography Upgrade Increment II (ICU II) program expands on the ICBM Cryptography Upgrade Increment I program to incorporate remote key/code change, irreversible transformation of launch/enable codes, and continuous signal lockout, increasing nuclear weapons security during annual code change cycles and preventing the loss of missile status monitoring.

ICBM EMD: Fuze Support reflects FY 2012 efforts related to fuze modernization efforts previously included in PE 0604222F and now included in PE 0604933.

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.

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 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	148.307	135.437	130.417	-	130.417
Current President's Budget	129.728	135.437	145.442	-	145.442
Total Adjustments	-18.579	0.000	15.025	-	15.025
• Congressional General Reductions	-	0.000			
• Congressional Directed Reductions	-	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	-	0.000			
• Congressional Directed Transfers	-	0.000			
• Reprogrammings	-14.222	0.000			
• SBIR/STTR Transfer	-4.357	0.000			
• Other Adjustments	0.000	0.000	15.025	-	15.025

Change Summary Explanation

FY 2012 funding reflects a decrease of $14.222M due to higher AF priorities and a decrease of $4.357M due to a SBIR Transfer.

FY 2014 funding reflects an increase of $12.920M for RFSE, an increase of $2.500M for the HAC/RMPE Message Generator, and a decrease of $0.395M for program efficiencies.

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604851F: *Intercontinental Ballistic Missile - EMD*	PROJECT 655037: *Support Equipment*	

COST ($ in Millions)	All Prior Years	FY 2012	FY 2013#	FY 2014 Base	FY 2014 OCO ##	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
655037: *Support Equipment*	-	62.068	95.393	97.544	-	97.544	66.251	1.363	1.707	1.737	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 OCO Request will be submitted at a later date

Note

For FY 2014, 655037, Support Equipment, includes new start efforts for the Instrumentation Wafer Replacement Program (IWRP) and the Signal Conditioner Monitor Group (SCMG) replacement.

A. Mission Description and Budget Item Justification

The ongoing Support Equipment program replaces obsolete/unsupportable/non-serviceable weapon system support and test equipment necessary to extend the operational life of the Minuteman III weapon system through 2030. The efforts include design, development, and testing of replacement support equipment such as the Electrical-Electronic Equipment Test Sets (EEETS), Reentry Field Support Equipment (RFSE), Minuteman Code System Media (CSM), Payload Transporter Replacement (PTR), Higher Authority Command/Rapid Message Processing Element (HAC/RMPE) Message Generator, Single Integrated Operation Plan (SIOP) Targeting Application Computer System (STACS) and Transporter Erector Replacement Program (TERP).

It also includes 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 Group (SCMG) replacement program. FDEs are required by USSTRATCOM and the Department of Energy to determine continuing reliability and effectiveness of the ICBM weapon system.

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 2012	FY 2013	FY 2014
Title: Electrical-Electronic Equipment Test Set (EEETS)	4.775	3.737	0.000
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).			
FY 2012 Accomplishments:			

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604851F: *Intercontinental Ballistic Missile - EMD*	PROJECT 655037: *Support Equipment*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Designed, developed, fabricated and tested EEETS components. Conducted a successful Critical Design Review (CDR) and received all hardware necessary for assembly. ***FY 2013 Plans:*** Complete design, development, fabrication and testing of EEETS. Install, test, audit and verify units at flight test and contractor repair facilities.			
Title: Reentry Field Support Equipment (RFSE) ***Description:*** Design and develop the RFSE to replace the current reentry systems 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 2012 Accomplishments:*** Designed, developed, fabricated and tested RFSE components. Continued Independent Verification & Validation (IV&V) activities. Conducted a successful CDR. ***FY 2013 Plans:*** Continue design, development, fabrication and testing of RFSE units. Continue IV&V activities and hold Test Readiness Review (TRR). ***FY 2014 Plans:*** Continue design, development, fabrication and testing of RFSE units. Conduct configuration audits and a successful Milestone C briefing. Continue IV&V activities.	40.937	32.685	28.753
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 NSA codes, 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 2012 Accomplishments:***	9.364	15.824	7.393

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604851F: *Intercontinental Ballistic Missile - EMD*	PROJECT 655037: *Support Equipment*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Continued design, development, and testing of CSM software. Completed and deployed Segment #1. Conducted a successful Segment #2 CDR. Continued Nuclear Safety Cross Check Analysis (NSCCA) activities. Began design, development and testing of the DTU. ***FY 2013 Plans:*** Continue design, development, and testing of CSM software. Conduct Segment #2 Test Readiness Review (TRR). Continue NSCCA activities. Continue design, development and testing of the DTU. ***FY 2014 Plans:*** Continue design, development, and testing of CSM software. Conduct Segment #2 configuration audits. Continue NSCCA activities. Continue design, development and testing of CTU replacement. Receive deployment authorization for Segment #2. Conduct a successful Milestone C briefing.			
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. This effort was previously known as the Payload Transporter Tractor and Trailer (PT III). The name was changed to differentiate it from the currently fielded PT III trailer. ***FY 2012 Accomplishments:*** Conducted a successful Milestone B briefing and awarded the Engineering & Manufacturing Development (EMD) contract. Began design and development activities. ***FY 2013 Plans:*** Continue design, development, fabrication and testing of PTR. Conduct 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).	2.754	15.984	20.866
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	2.100	2.522	0.935

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604851F: *Intercontinental Ballistic Missile - EMD*	PROJECT 655037: *Support Equipment*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
MInuteman III command and control. This program will replace the test support equipment with a modern, sustainable common platform and standard interfaces. ***FY 2012 Accomplishments:*** Designed, developed, fabricated, and tested HAC/RMPE Message Generator. Conducted a successful PDR. ***FY 2013 Plans:*** Conduct a successful CDR. Complete developmental testing and configuration audits. ***FY 2014 Plans:*** Complete design, development, fabrication and testing of HAC/RMPE Message Generator.			
Title: Single Integrated Operational Plan (SIOP) 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 Operations Plan (OPLAN) changes and updates to ICBM missile wings for execution. ***FY 2012 Accomplishments:*** Awarded EMD contract. Began design and development activities. ***FY 2013 Plans:*** Continue design and development activities. Conduct a successful Systems Requirements Review and technical interchange meetings. ***FY 2014 Plans:*** Continue design and development activities. Conduct a successful PDR and CDR.	0.622	4.670	4.678
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 Plans:*** Begin design, development, fabrication and testing of replacement TE. Award the EMD contract and conduct a successful PDR. ***FY 2014 Plans:***	0.000	13.691	26.290

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604851F: *Intercontinental Ballistic Missile - EMD*	PROJECT 655037: *Support Equipment*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Continue design, development, fabrication and testing of replacement TE. Conduct a successful CDR and First Article Build. Initiate system qualification testing.			
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 will directly support FDE and developmental flight tests from Vandenberg AFB and is necessary in order to conduct test flights. The IWRP will maximize the use of off-the-shelf components to meet mission requirements. This is an FY14 New Start. ***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.	0.000	0.000	1.123
Title: Signal Conditioner Monitor Group (SCMG) Replacement ***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 FDE and developmental flight tests. The Signal Conditioner Monitor Group (SCMG) provides telemetry data on the RS and monitors RS discrete signals for post flight analysis. This is an FY14 New Start. ***FY 2014 Plans:*** Begin design, development, fabrication and test of SCMG replacement components.	0.000	0.000	1.216
Title: Program Management Administration ***Description:*** Direct unique program cost required for program management and oversight. ***FY 2012 Accomplishments:*** Program support, travel, printing, supplies, Advisory and Assistance Service. ***FY 2013 Plans:*** Program support, travel, printing, supplies, Advisory and Assistance Service. ***FY 2014 Plans:*** Program support, travel, printing, supplies, Advisory and Assistance Service.	1.516	6.280	6.290
Accomplishments/Planned Programs Subtotals	62.068	95.393	97.544

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604851F: *Intercontinental Ballistic Missile - EMD*	PROJECT 655037: *Support Equipment*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• MPAF: BA05: Line Item # 00099L: *Missile Replacement Equipment - Ballistic*	65.874	56.657	39.104		39.104	116.258	87.766	59.253	60.320	Continuing	Continuing

Remarks

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-3, RDT&E Project Cost Analysis: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604851F: *Intercontinental Ballistic Missile - EMD*	PROJECT 655037: *Support Equipment*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
ICBM Prime Integration Contract	SS/CPIF	Northrop Grumman Mission Systems:Clearfield, UT	-	58.110	Oct 2011	74.519	Oct 2012	55.227	Nov 2013	-		55.227	Continuing	Continuing	TBD
TERP EMD	C/CPAF	TBD:,	-	0.000		12.062	Jun 2013	31.139	Dec 2013	-		31.139	Continuing	Continuing	
		Subtotal	0.000	58.110		86.581		86.366		0.000		86.366			

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Nuclear Surety Cross-Check Analysis	SS/CPAF	Northrop Grumman IT:Mclean, VA	-	1.676	Oct 2011	0.000		0.000		-		0.000	Continuing	Continuing	TBD
Cost Estimation	C/CPFF	Tecolote:Salt Lake City, UT	-	0.000		0.300	Dec 2012	0.500	Dec 2013	-		0.500	Continuing	Continuing	
Advisory and Assistance Support	Various	Various:,	-	0.000		0.300	Nov 2012	1.750	Dec 2013	-		1.750	Continuing	Continuing	
		Subtotal	0.000	1.676		0.600		2.250		0.000		2.250			

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Independent Validation and Verification	SS/CPAF	Northrop Grumman IT:Mclean, VA	-	0.766	Oct 2011	1.932	Nov 2012	2.638	Dec 2013	-		2.638	Continuing	Continuing	TBD
		Subtotal	0.000	0.766		1.932		2.638		0.000		2.638			

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604851F: *Intercontinental Ballistic Missile - EMD*	PROJECT 655037: *Support Equipment*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
PMA - Contractor Support	Various	Various:,	-	0.525	Oct 2011	3.879	Nov 2012	3.979	Nov 2013	-		3.979	Continuing	Continuing	TBD
PMA - Government Costs	Various	ICBM Program Office:Hill AFB, UT	-	0.991	Oct 2011	2.401	Oct 2012	2.311	Nov 2013	-		2.311	Continuing	Continuing	TBD
		Subtotal	0.000	1.516		6.280		6.290		0.000		6.290			

	All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	62.068		95.393		97.544		0.000		97.544			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604851F: *Intercontinental Ballistic Missile - EMD*	PROJECT 655037: *Support Equipment*

Support Equipment

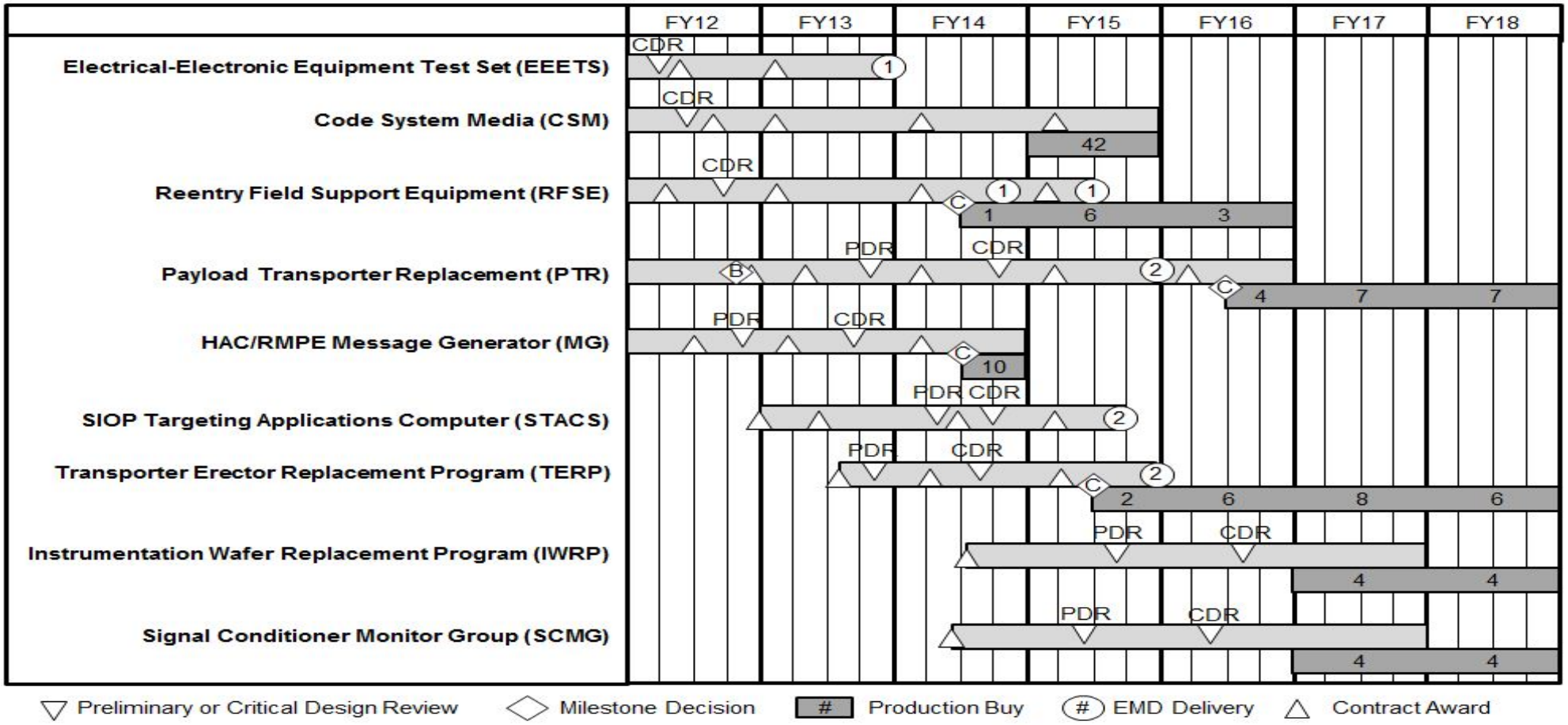


Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0604851F: *Intercontinental Ballistic Missile - EMD*	**PROJECT** 655037: *Support Equipment*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
EEETS Critical Design Review (CDR)	1	2012	1	2012
EEETS EMD Delivery	4	2013	4	2013
CSM CDR	2	2012	2	2012
RFSE CDR	3	2012	3	2012
RFSE Milestone C	2	2014	2	2014
RFSE EMD Unit 1 Delivery	4	2014	4	2014
RFSE EMD Unit 2 Delivery	2	2015	2	2015
PTR Milestone B	4	2012	4	2012
PTR Engineering & Manufacturing Development (EMD) Contract Award	4	2012	4	2012
PTR Preliminary Design Review (PDR)	4	2013	4	2013
PTR CDR	4	2014	4	2014
PTR EMD Deliveries	4	2015	4	2015
PTR Milestone C	2	2016	2	2016
HAC/RMPE MG PDR	4	2012	4	2012
HAC/RMPE MG CDR	3	2013	3	2013
HAC/RMPE MG Milestone C	2	2014	2	2014
STACS EMD Contract Award	4	2012	4	2012
STACS PDR	2	2014	2	2014
STACS CDR	3	2014	3	2014
STACS EMD Deliveries	3	2015	3	2015
TERP EMD Contract Award	3	2013	3	2013
TERP PDR	4	2013	4	2013

Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604851F: *Intercontinental Ballistic Missile - EMD*	PROJECT 655037: *Support Equipment*

	Start		End	
Events	Quarter	Year	Quarter	Year
TERP CDR	3	2014	3	2014
TERP Milestone C	2	2015	2	2015
TERP EMD Deliveries	4	2015	4	2015
IWRP EMD Contract Award	3	2014	3	2014
IWRP PDR	3	2015	3	2015
IWRP CDR	3	2016	3	2016
SCMG EMD Contract Award	2	2014	2	2014
SCMG PDR	2	2015	2	2015
SCMG CDR	2	2016	2	2016

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604851F: *Intercontinental Ballistic Missile - EMD*	PROJECT 655081: *ICBM Crypto*	

COST ($ in Millions)	All Prior Years	FY 2012	FY 2013#	FY 2014 Base	FY 2014 OCO ##	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
655081: *ICBM Crypto*	-	27.943	32.044	47.898	-	47.898	22.400	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 OCO Request will be submitted at a later date

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).

The associated production funding for the program is in M30MLG, Minuteman III Modifications, starting in FY15.

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 2012	FY 2013	FY 2014
Title: ICBM Crypto Upgrade Increment II (ICU II)	27.940	30.554	46.408
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 2012 Accomplishments: Conducted successful Milestone B briefing. Developed design of A4 drawer hardware components, identified and tested parts to ensure they meet hardness and weapon system specifications and obtained National Security Administration fail safe design approval. Completed A4 drawer prototype. Began Operational Ground Program (OGP), Console Operations Program (COP), Wing Code Processing System (WCPS) Minuteman Applications Program (WMAP) and Strategic Air Command Code Processing System (SCPS) Application Program (SAP) software update efforts. Completed Software Requirements Review. Started trainer			

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604851F: *Intercontinental Ballistic Missile - EMD*	PROJECT 655081: *ICBM Crypto*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
modification effort. Awarded Nuclear Safety Cross-Check Analysis (NSCCA) Performance Analysis & Technical Evaluation (PATE) contract. ***FY 2013 Plans:*** Continue A4 Drawer hardware development. Conduct a successful A4 Drawer Preliminary Design Review (PDR) and Critical Design Review (CDR). Continue development of OGP, COP, WMAP and SAP software development. Conduct software PDRs and CDRs. Continue development of trainer modifications. Continue NSCCA/PATE activities for nuclear surety and safety. ***FY 2014 Plans:*** Complete A4 Drawer development and conduct Test Readiness Review (TRR), qualification testing and weapon system testing. Complete OGP, COP, WMAP, and SAP software development and conduct Test Readiness Review (TRR), qualification testing and weapon system testing. Develop technical data and prepare for verification. Conduct hardware and software Developmental Test and Evaluation. Complete development of trainer modifications and conduct testing. Complete NSCCA/PATE activities for nuclear surety and safety. Prepare for Milestone C production decision.			
Title: Program Management Administration ***Description:*** Direct unique program cost required for program management and oversight. ***FY 2012 Accomplishments:*** Program support, travel, printing, supplies, Advisory and Assistance Service. ***FY 2013 Plans:*** Program support, travel, printing, supplies, Advisory and Assistance Service. ***FY 2014 Plans:*** Program support, travel, printing, supplies, Advisory and Assistance Service.	0.003	1.490	1.490
Accomplishments/Planned Programs Subtotals	27.943	32.044	47.898

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• MPAF: BA 05: Line Item # M30MLG: *Minuteman III Modifications*	0.000	0.000	0.000		0.000	11.760	29.700	30.234	30.778	0.000	102.472

Remarks

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604851F: *Intercontinental Ballistic Missile - EMD*	PROJECT 655081: *ICBM Crypto*

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-3, RDT&E Project Cost Analysis: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604851F: *Intercontinental Ballistic Missile - EMD*	PROJECT 655081: *ICBM Crypto*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
ICBM Prime Integration Contract	SS/CPIF	Northrop Grumman:Clearfield, UT	-	26.340	Mar 2012	25.061	Mar 2013	42.535	Mar 2014	-		42.535	Continuing	Continuing	TBD
		Subtotal	0.000	26.340		25.061		42.535		0.000		42.535			

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Engineering Suport	MIPR	NSA:,	-	0.000		0.850	Jun 2013	1.000	Jun 2014	-		1.000	Continuing	Continuing	
Cost Estimation	C/CPFF	Tecolote:Salt Lake City, UT	-	0.000		0.200	Dec 2012	0.200	Dec 2013	-		0.200	Continuing	Continuing	
Comprehensive Cost and Reqirements System Support	C/CPFF	IDS:El Segundo, CA	-	0.000		0.143	Jan 2013	0.143	Jan 2014	-		0.143	Continuing	Continuing	
		Subtotal	0.000	0.000		1.193		1.343		0.000		1.343			

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Independant Validation and Verification	Various	ICBM Program Officer:Hill AFB, UT	-	1.600	Oct 2011	0.000		0.000		-		0.000	Continuing	Continuing	TBD
NSCCA/PATE	C/CPFF	Northrop Grumman:Clearfield, UT	-	0.000		4.000	Mar 2013	2.380	Mar 2014	-		2.380	Continuing	Continuing	
Hardness Test	MIPR	TBD:,	-	0.000		0.300	Jul 2013	0.150	Oct 2013	-		0.150	Continuing	Continuing	
		Subtotal	0.000	1.600		4.300		2.530		0.000		2.530			

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604851F: *Intercontinental Ballistic Missile - EMD*	PROJECT 655081: *ICBM Crypto*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
PMA - Government Costs	Various	ICBM Program Office:Hill AFB, UT	-	0.003	Oct 2012	1.490	Nov 2012	1.490	Nov 2013	-		1.490	Continuing	Continuing	TBD
		Subtotal	0.000	0.003		1.490		1.490		0.000		1.490			

	All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	27.943		32.044		47.898		0.000		47.898			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604851F: *Intercontinental Ballistic Missile - EMD*	PROJECT 655081: *ICBM Crypto*

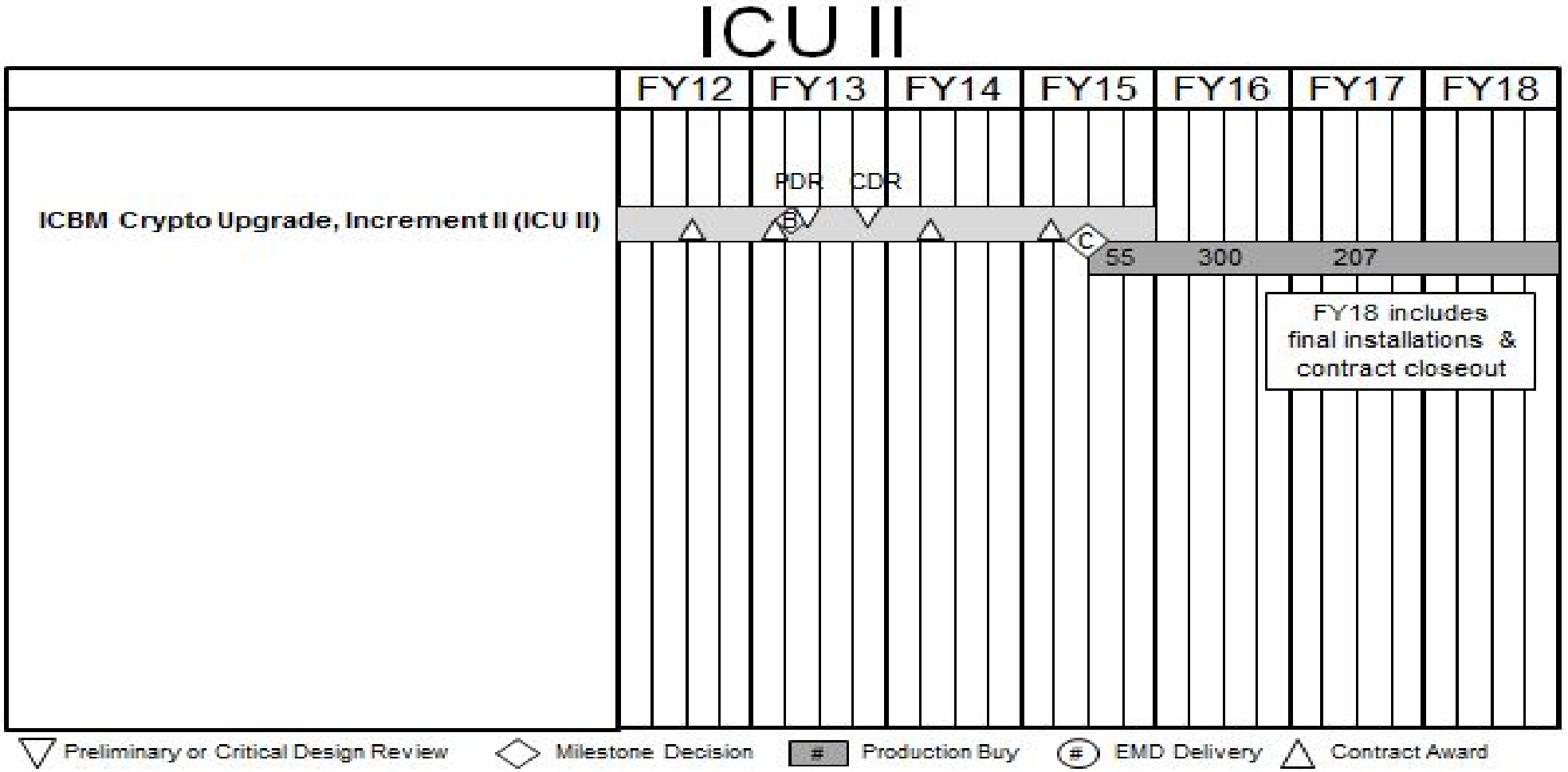


Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0604851F: *Intercontinental Ballistic Missile - EMD*	**PROJECT** 655081: *ICBM Crypto*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Milestone B	2	2013	2	2013
Preliminary Design Review (PDR)	2	2013	2	2013
Critical Design Review (CDR)	4	2013	4	2013
Milestone C	3	2015	3	2015

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604851F: *Intercontinental Ballistic Missile - EMD*	PROJECT 657006: *ICBM EMD: Fuze Support*	

COST ($ in Millions)	All Prior Years	FY 2012	FY 2013#	FY 2014 Base	FY 2014 OCO ##	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
657006: *ICBM EMD: Fuze Support*	-	39.717	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 OCO Request will be submitted at a later date

Note

In FY 2012, 657006, ICBM EMD: Fuze Support, efforts were transferred from PE 0604222F Nuclear Weapons Support, 654236, Engineering Analysis, in order to consolidate ICBM fuze-related activities as they progress towards deployable products.

In FY 2013, 657006, ICBM EMD: Fuze Support, efforts were transferred to PE 0604933F, ICBM Fuze Modernization, 655082, ICBM Fuze Support, in order to distinguish the effort as a pre-ACAT I program.

A. Mission Description and Budget Item Justification

ICBM Fuze Modernization will provide a replacement Mk21 fuze associated with the W87 warhead and a Mk12A fuze associated with the W78/88-1 Life Extension Program (LEP) warhead. The Mk21 fuze is three times past its design life and ongoing Mk21 refurbishment does not meet Nuclear Weapon Stockpile Plan requirements. The Mk12A fuze must be modified to support the W78/88-1 LEP warhead incorporating enhanced nuclear surety capabilities required by National Security Presidential Directive (NSPD) 28.

The fuze modernization schedule was rebaselined to ensure Mk12A fuze development remains sychronized with the W78/88-1 LEP warhead first production unit delivery shift from FY21 to FY23.

The US Air Force will develop Mk21 and Mk12A fuzes in cooperation with the National Nuclear Security Administration (NNSA), US Navy and United Kingdom. ICBM Fuze Modernization will leverage technologies, parts, components and development/production capabilities resulting from extensive fuze work performed by the US Navy and NNSA. Mk21 and Mk12A fuzes will be similar to the US Navy D5 fuze, but W78/88-1 LEP and W87 warhead requirements dictate some unique differences. The ICBM Fuze Modernization 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.

As a cooperative USAF, USN and NNSA weapon sustainment acquisition, the USAF will implement joint DoD-DOE Nuclear Weapons Life Cycle Activities. The ICBM Fuze Modernization will be tailored to use joint DoD-DOE phase 6.X processes for routine nuclear stockpile activities to align with USN and NNSA operations.

The production phase MPAF funding is budgeted under M30MLG, Minuteman III Modifications, starting in FY18.

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604851F: *Intercontinental Ballistic Missile - EMD*	PROJECT 657006: *ICBM EMD: Fuze Support*

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 2012	FY 2013	FY 2014
Title: Developmental Planning ***Description:*** Developmental planning, requirements definition, contract and acquisition strategy. ***FY 2012 Accomplishments:*** Completed concept assessment phase. Conducted Feasibility Study and Option Down-Select. Prepared and released request for proposals. ***FY 2013 Plans:*** Reflected in PE 0604933F ICBM Fuze Modernization, Project Number 655082 ICBM Fuze Support.	3.868	0.000	0.000
Title: System Engineering ***Description:*** Coordinate development efforts of W78 Life Extension Program (LEP) and Mk12A arming and fuzing. Synchronize DoD arming and fuzing and DoE warhead requirements. Study and assess weapon system cost/schedule/performance impacts. ***FY 2012 Accomplishments:*** Evaluated Air Force/Navy/United Kingdom performance requirements, physical characteristics, logistical and operation concepts, and physical environments. Developed common Military Characteristics (MCs) and Stockpile-to-Target Sequence (STS) requirements. Developed and validated modeling and simulation. Developed engineering design models. Examined nuclear surety themes as directed by National Security Presidential Directive (NSPD)-28. ***FY 2013 Plans:*** Reflected in PE 0604933F ICBM Fuze Modernization, Project Number 655082 ICBM Fuze Support.	7.043	0.000	0.000
Title: Hardware Development ***Description:*** Preliminary design of common technology, components, and parts. ***FY 2012 Accomplishments:*** Developed common parts, components and technology for application to Mk21 and Mk12A/W78 LEP arming and fuzing. Examined nuclear surety themes as directed by NSPD-28. ***FY 2013 Plans:***	19.000	0.000	0.000

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604851F: *Intercontinental Ballistic Missile - EMD*	PROJECT 657006: *ICBM EMD: Fuze Support*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Reflected in PE 0604933F ICBM Fuze Modernization, Project Number 655082 ICBM Fuze Support.			
Title: Warhead Engineering/Oversight ***Description:*** Engineering/oversight of Air Force Fuze Modernization with NNSA warhead activities. ***FY 2012 Accomplishments:*** Provided engineering analysis, direction and evaluation. Developed and performed finite element modeling of reentry vehicles. Conducted environmental ground testing. Planned and supported extended range flight testing. ***FY 2013 Plans:*** Reflected in PE 0604933F ICBM Fuze Modernization, Project Number 655082 ICBM Fuze Support.	5.160	0.000	0.000
Title: Program Management Administration ***Description:*** Direct unique program cost required for program management and oversight. ***FY 2012 Accomplishments:*** Program support, travel, printing, supplies, Advisory and Assistance Service. ***FY 2013 Plans:*** Reflected in PE 0604933F ICBM Fuze Modernization, Project Number 655082 ICBM Fuze Support.	4.646	0.000	0.000
Accomplishments/Planned Programs Subtotals	39.717	0.000	0.000

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• MPAF: BA05: Line Item # M30MLG: *Minuteman III Modifications*	0.000	0.000	0.000		0.000	0.000	0.000	0.000	50.000	1,892.200	1,942.200
• RDTE: BA05: PE 0604933F: *ICBM Fuze Modernization*	0.000	73.512	129.411		129.411	214.836	275.952	353.256	396.568	1,032.000	2,475.535

Remarks

D. Acquisition Strategy

Mk21 and Mk12A fuzes will be modernized in a coolaborative 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

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604851F: *Intercontinental Ballistic Missile - EMD*	PROJECT 657006: *ICBM EMD: Fuze Support*

first, followed by Mk21 and Mk12A. The US Navy Mk5 fuze entered Phase 6.3 Development Engineering in Aug 2012. USAF Mk21 fuze will enter Phase 6.3 in Mar 2013. Both Services participate in all design and development efforts to ensure use of adaptable comonents, subassemblies and technology. Both Services will use NNSA/SAndia National Laboratories to perform fuze design and development. The USAF will separately compete and contract for MM III unique missile modification and fuze integration 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 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604851F: *Intercontinental Ballistic Missile - EMD*	PROJECT 657006: *ICBM EMD: Fuze Support*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Preliminary Design Development	MIPR	Sandia National Labs:Albuquerque, NM	-	19.000	Oct 2011	0.000		0.000		-		0.000	Continuing	Continuing	TBD
		Subtotal	0.000	19.000		0.000		0.000		0.000		0.000			

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Minuteman Systems Engineering	C/CPFF	Northrop Grumman:Clearfield, UT	-	7.043	Oct 2011	0.000		0.000		-		0.000	Continuing	Continuing	TBD
Acquisition and Engineering Support	C/CPFF	Booze Allen Hamilton:Clearfield, UT	-	2.800	Oct 2011	0.000		0.000		-		0.000	Continuing	Continuing	TBD
Warhead Engineering Support	MIPR	NNSA:Albuquerque, NM	-	1.500	Nov 2011	0.000		0.000		-		0.000	Continuing	Continuing	TBD
Extended Range Support	MIPR	Navy:Alexandria, VA	-	1.500	Feb 2012	0.000		0.000		-		0.000	Continuing	Continuing	TBD
LPO Engineering Support	C/CPFF	Booze Allen Hamilton:Albuquerque, NM	-	1.080	Jan 2012	0.000		0.000		-		0.000	Continuing	Continuing	TBD
LPO Program Management Support	C/CPFF	ITT:Albuquerque, NM	-	1.080	Oct 2011	0.000		0.000		-		0.000	Continuing	Continuing	TBD
		Subtotal	0.000	15.003		0.000		0.000		0.000		0.000			

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test Planning	C/CPFF	Northrop Grumman:Clearfield, UT	-	1.000	Nov 2011	0.000		0.000		-		0.000	Continuing	Continuing	TBD

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604851F: *Intercontinental Ballistic Missile - EMD*	PROJECT 657006: *ICBM EMD: Fuze Support*

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Ground Test	Various	Little Mountain Test Facility:TBD, UT	-	0.500	Dec 2011	0.000		0.000		-		0.000	Continuing	Continuing	TBD
		Subtotal	0.000	1.500		0.000		0.000		0.000		0.000			

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Cost Estimation	C/T&M	Tecolote Research, Inc:Santa Barbara, CA	-	0.800	Nov 2011	0.000		0.000		-		0.000	Continuing	Continuing	TBD
Program Management Administration & SPO Support	Various	Hill AFB:Clearfield, UT	-	3.414	Oct 2011	0.000		0.000		-		0.000	Continuing	Continuing	TBD
		Subtotal	0.000	4.214		0.000		0.000		0.000		0.000			

	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	39.717		0.000		0.000		0.000		0.000			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604851F: *Intercontinental Ballistic Missile - EMD*	PROJECT 657006: *ICBM EMD: Fuze Support*

ICBM Fuze Modernization

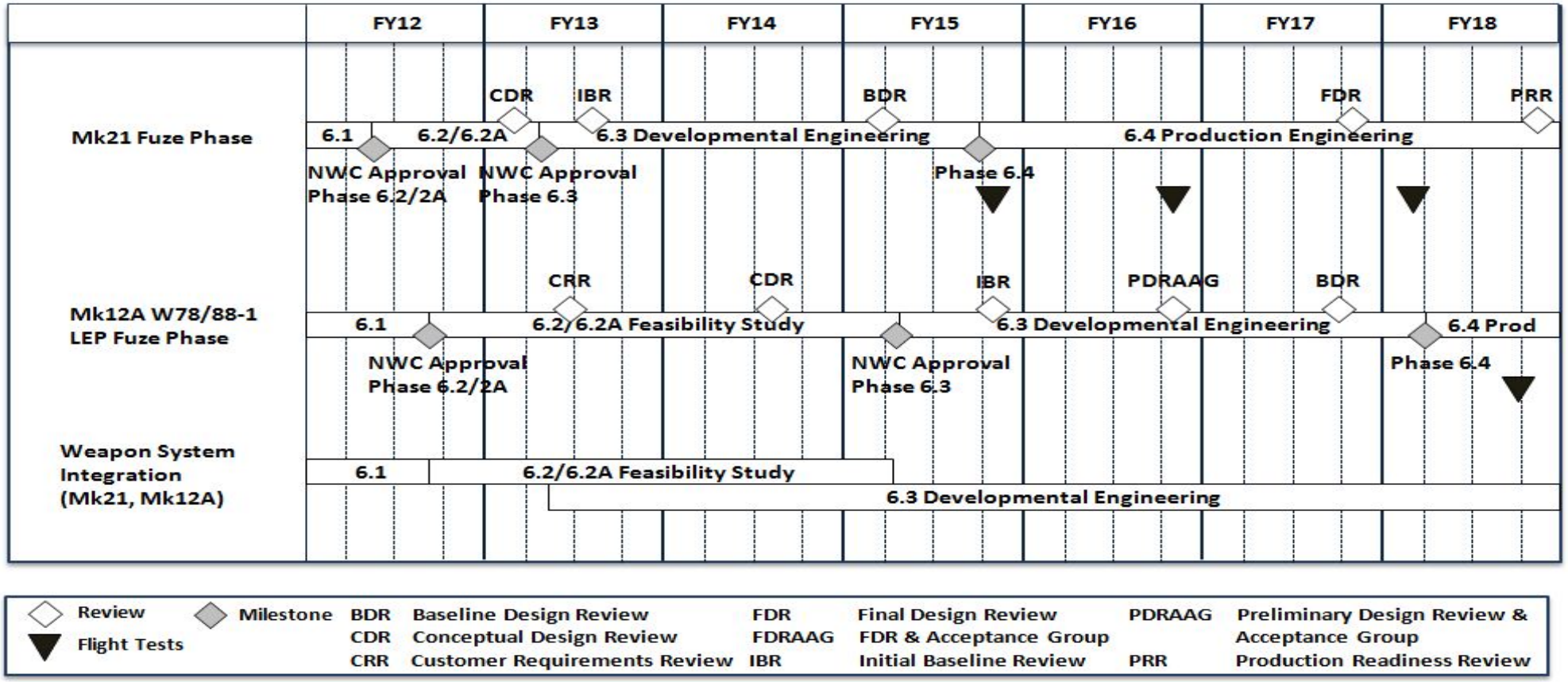


Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604851F: *Intercontinental Ballistic Missile - EMD*	PROJECT 657006: *ICBM EMD: Fuze Support*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Mk21 NWC Phase 6.2 Feasibility Study Approval	2	2012	2	2012
Mk21 Conceptual Design Review (CDR)	1	2013	1	2013
Mk21 NWC Phase 6.3 Development Engineering Approval	2	2013	2	2013
Mk21 Initial Baseline Review (IBR)	3	2013	3	2013
Mk21 Baseline Design Review (BDR)	1	2015	1	2015
Mk21 NWC Phase 6.4 Production Engineering	3	2015	3	2015
Mk21 Developmental Flight Tests	4	2015	4	2018
Mk21 Final Design Review (FDR)	4	2017	4	2017
Mk21 Production Readiness Review (PRR)	4	2018	4	2018
Mk12A NWC Phase 6.2 Feasibility Study Approval	3	2012	3	2012
Mk12A Customer Requirements Review (CRR)	2	2013	2	2013
Mk12A CDR	3	2014	3	2014
Mk12A NWC Phase 6.3 Development Engineering Approval	2	2015	2	2015
Mk12A IBR	4	2015	4	2015
Mk12A Preliminary Design Review & Acceptance Group (PDRAAG)	4	2016	4	2016
Mk12A BDR	3	2017	3	2017
Mk12A NWC Phase 6.4 Production Engineering	1	2018	1	2018
Mk12A Developmental Flight Tests	3	2018	4	2018

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604851F: *Intercontinental Ballistic Missile - EMD*	PROJECT 657010: *Operational Equipment*	

COST ($ in Millions)	All Prior Years	FY 2012	FY 2013#	FY 2014 Base	FY 2014 OCO ##	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
657010: *Operational Equipment*	-	0.000	8.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 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 program 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, will support development of requirements and implementation timeline for a follow-on SRM program.

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 2012	FY 2013	FY 2014
Title: Solid Rocket Motor (SRM) Modernization ***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 Plans:*** Accomplish studies to investigate the application of new technologies into the Minuteman III booster stack. Evaluate 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.	0.000	7.600	0.000
Title: Program Management Administration ***Description:*** Direct unique program cost required for program management and oversight. ***FY 2013 Plans:*** Program support, travel, printing, supplies, Advisory and Assistance Service.	0.000	0.400	0.000
Accomplishments/Planned Programs Subtotals	0.000	8.000	0.000

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604851F: *Intercontinental Ballistic Missile - EMD*	PROJECT 657010: *Operational Equipment*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• RDTE: BA04: PE 0603851F: *ICBM - Dem/Val, PAP*	43.327	44.959	40.853		40.853	49.267	48.851	47.715	48.574	Continuing	Continuing

Remarks

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-3, RDT&E Project Cost Analysis: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604851F: *Intercontinental Ballistic Missile - EMD*	PROJECT 657010: *Operational Equipment*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Technical Requirements Analysis	C/TBD	TBD:TBD,	-	0.000		7.600	Apr 2013	0.000		-		0.000	Continuing	Continuing	TBD
		Subtotal	0.000	0.000		7.600		0.000		0.000		0.000			

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Administration & SPO/ Other Support	Various	Various:,	-	0.000		0.400	Apr 2013	0.000		-		0.000	Continuing	Continuing	TBD
		Subtotal	0.000	0.000		0.400		0.000		0.000		0.000			

	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	0.000		8.000		0.000		0.000		0.000			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604851F: *Intercontinental Ballistic Missile - EMD*	PROJECT 657010: *Operational Equipment*

Operational Equipment

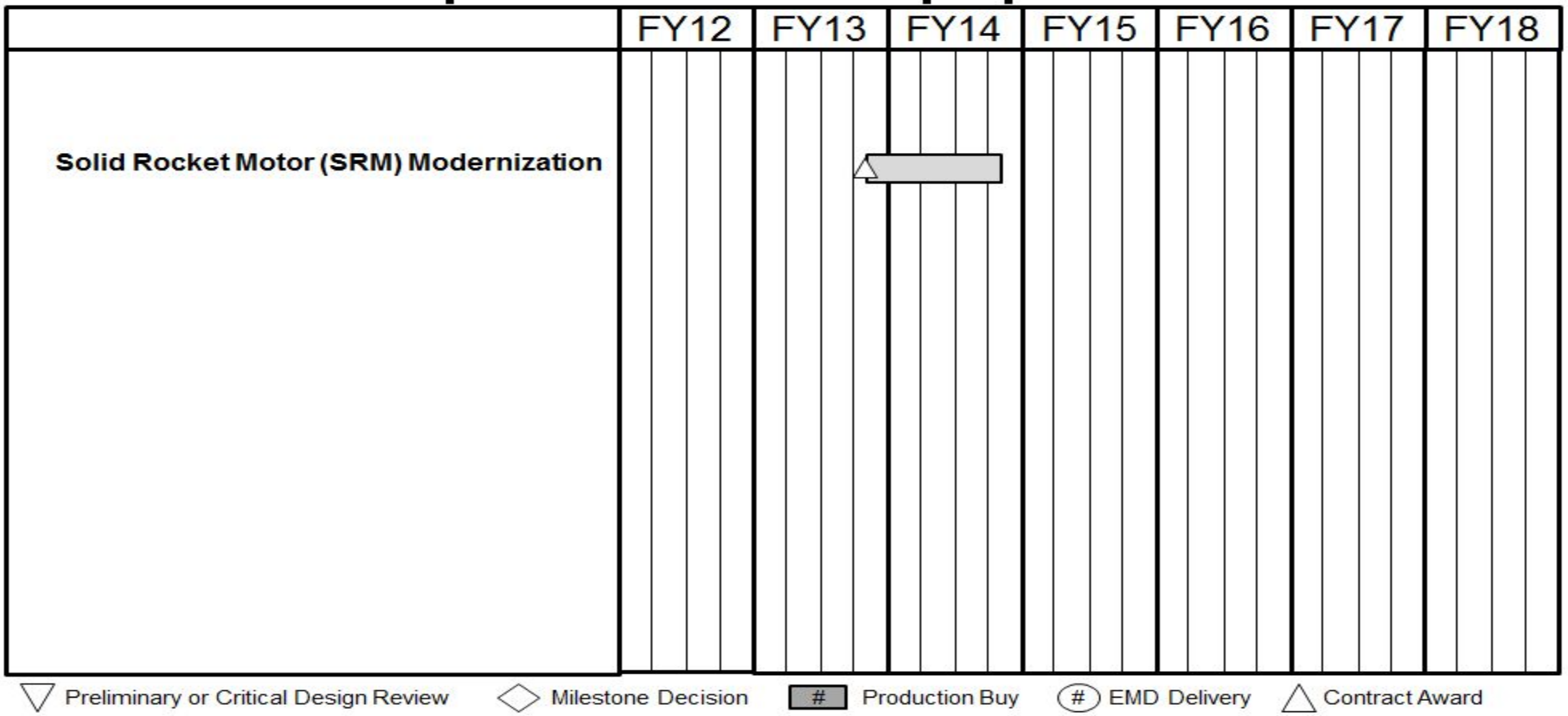


Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604851F: *Intercontinental Ballistic Missile - EMD*	PROJECT 657010: *Operational Equipment*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
SRM Modernization Contract Award	4	2013	4	2014

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force											DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*					R-1 ITEM NOMENCLATURE PE 0604853F: *Evolved Expendable Launch Vehicle Program (SPACE) - EMD*							
COST ($ in Millions)	**All Prior Years**	**FY 2012**	**FY 2013#**	**FY 2014 Base**	**FY 2014 OCO ##**	**FY 2014 Total**	**FY 2015**	**FY 2016**	**FY 2017**	**FY 2018**	**Cost To Complete**	**Total Cost**
Total Program Element	1,569.032	14.081	7.980	27.963	-	27.963	35.000	20.000	0.000	0.000	Continuing	Continuing
650004: *Evolved Expendable Launch Vehicle*	1,569.032	14.081	7.980	27.963	-	27.963	35.000	20.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		
MDAP/MAIS Code(s): 176												

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 OCO Request will be submitted at a later date

A. Mission Description and Budget Item Justification

The Evolved Expendable Launch Vehicle (EELV) program is a space launch system that satisfies the government's National Launch Forecast (NLF) requirements. EELV is a launch service, not a weapon system, primarily funded with procurement funds.

EELV is responsible for launching government manifested payloads. EELV supports military, intelligence, and international partnership mission requirements. The program also supports development and qualification of new entrants for launching government manifested payloads.

The program has research and developmental items including: new entrant certification and studies; fleet standardization of the RS-68 main engine upgrade; current RL10 and common upper stage development; integration of space vehicles for research and development purposes; Pre-Planned Product Improvements (P3I) to ensure sustainability (includes, but is not limited to, secondary payload adaptor standard service, Global Positioning System (GPS) Metric Tracking capability, space launch flight termination system (SLFTS), dual launch capability, future flight safety strategy, development of replacement components, flight and ground instrumentation), 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.

As of 26 March 2012, the EELV program was formally designated as a Major Defense Acquisition (MDAP) not in the sustainment phase. In addition, the EELV program was designated as an Acquisition Category ID (ACAT ID) program. This program element is in Budget Activity 5, System Development and Demonstration, because it supports development and demonstration of the EELV concept leading to deployment of a lower cost expendable launch vehicle system.

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604853F: *Evolved Expendable Launch Vehicle Program (SPACE) - EMD*

B. Program Change Summary ($ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	14.524	7.980	7.963	-	7.963
Current President's Budget	14.081	7.980	27.963	-	27.963
Total Adjustments	-0.443	0.000	20.000	-	20.000
• Congressional General Reductions	-	0.000			
• Congressional Directed Reductions	-	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	-	0.000			
• Congressional Directed Transfers	-	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	-0.443	0.000			
• Other Adjustments	0.000	0.000	20.000	-	20.000

Change Summary Explanation

FY14: $20M added to develop GPS III Dual Launch capability.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Title: EELV Pre-planned product improvement (P3I) and Special Studies	14.081	7.980	7.963

Description: Funded EELV product improvements, replacement components, system enhancements, and special studies to allow EELV to meet National Launch Forecast requirements through 2030.

FY 2012 Accomplishments:

Continued development and qualification of RL10C upper stage engine. Prime contractor transitioned the integration of the RL10C upper stage engine conversion program to Independent Research and Development (IR&D). Continued GPS metric tracking development and conducted flight certifications. Continued the P3I efforts of development of secondary payload standard service efforts, development of replacement components, flight and ground instrumentation to include upgraded space launch flight termination system (SLFTS), and special studies.

FY 2013 Plans:

Complete development and qualification of RL10C upper stage engine conversion program. Complete development of secondary payload standard service and GPS metric tracking system to include last flight certification. Continue P3I efforts, to include, but not limited to, development of replacement components, common upper stage engine, and conduct special studies.

FY 2014 Plans:

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0604853F: *Evolved Expendable Launch Vehicle Program (SPACE) - EMD*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
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.			
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:*** Initiation of dual launch development activities will occur, key components to include communication hardware, launch vehicle infrastructure, and adaptor equipment.	0.000	0.000	20.000
Accomplishments/Planned Programs Subtotals	14.081	7.980	27.963

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• MPAF: BA05 Line Item # MSEELV: *Evolved Expendable Launch Vehicle*	1,681.673	1,679.856	1,852.900		1,852.900	1,961.200	1,827.400	1,838.900	2,072.500	23,514.598	44,154.301

Remarks

E. Acquisition Strategy

The Evolved Expendable Launch Vehicle (EELV) Acquisition Strategy restructures the approach of the EELV Program to address many challenges the program has experienced throughout the EELV system lifecycle. In cooperation with the NRO, the Air Force will commit to an annual production rate of launch vehicles establishing better predictability to maintain mission success, stabilize the industrial base, reduce costs, allow competition, prevent or mitigate any cost or redesign impacts to space vehicles, and sustain the program to assure access to space. This strategy will continue to allow the Department of Defense to reliably place medium-, intermediate-, and heavy-class National Security Space (NSS) space vehicles into earth orbit. This acquisition strategy directly addresses the Fiscal Year (FY) 2013 - 2019 (Phase 1) timeframe. Once a New Entrant demonstrates a successful launch of an EELV-class launch system the Air Force will award integration studies. RDT&E-funded projects are included on the contract as separate contract line items. The EELV system and certified new entrants will launch the government portion of the NLF through 2030 and the government will continue to work to partner with industry to continuously improve products and processes to enhance reliability and reduce both the contractor's and government's total costs.

In October 2011, the Air Force, NRO, and NASA signed a coordinated strategy for certification of commercial new entrants in order to compete to launch EELV-class payloads. As of 26 March 2012, the EELV program was formally designated as a Major Defense Acquisition (MDAP) not in the sustainment phase. In addition, the EELV program was designated as an Acquisition Category ID (ACAT ID) program.

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604853F: *Evolved Expendable Launch Vehicle Program (SPACE) - 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 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604853F: *Evolved Expendable Launch Vehicle Program (SPACE) - EMD*	PROJECT 650004: *Evolved Expendable Launch Vehicle*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Delta IV development	C/FFP	Boeing:Huntington Beach, CA	710.182	0.000		0.000		0.000		-		0.000	0.000	710.182	
Atlas V development	C/FFP	Lockheed Martin:Denver, CO	583.511	0.000		0.000		0.000		-		0.000	0.000	583.511	
United Launch Alliance (ULA) Development	SS/CPIF	United Launch Services:Denver, CO	134.077	12.752	Oct 2011	3.540	Oct 2012	21.398	Oct 2013	-		21.398	50.840	222.607	TBD
		Subtotal	1,427.770	12.752		3.540		21.398		0.000		21.398	50.840	1,516.300	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 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	0.000		0.000		0.000		-		0.000	0.000	43.617	
FFRDC Mission Assurance	SS/CPAF	Aerospace:El Segundo, CA	74.983	0.829	Oct 2011	0.980	Oct 2012	2.291	Oct 2013	-		2.291	3.190	82.273	
Special studies	Various	Various:,	0.000	0.421		3.276	Mar 2013	3.576	Oct 2013	-		3.576	0.000	7.273	
		Subtotal	118.600	1.250		4.256		5.867		0.000		5.867	3.190	133.163	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Other Cntr Spt (PMA)	Various	Various:Various,	22.662	0.079	Oct 2011	0.184	Oct 2012	0.698	Oct 2013	-		0.698	0.970	24.593	

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604853F: *Evolved Expendable Launch Vehicle Program (SPACE) - EMD*	PROJECT 650004: *Evolved Expendable Launch Vehicle*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	22.662	0.079		0.184		0.698		0.000		0.698	0.970	24.593	

	All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	1,569.032	14.081		7.980		27.963		0.000		27.963	55.000	1,674.056	

Remarks

N/A

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604853F: *Evolved Expendable Launch Vehicle Program (SPACE) - EMD*	PROJECT 650004: *Evolved Expendable Launch Vehicle*

U.S. AIR FORCE

EELV RDT&E Program Schedule

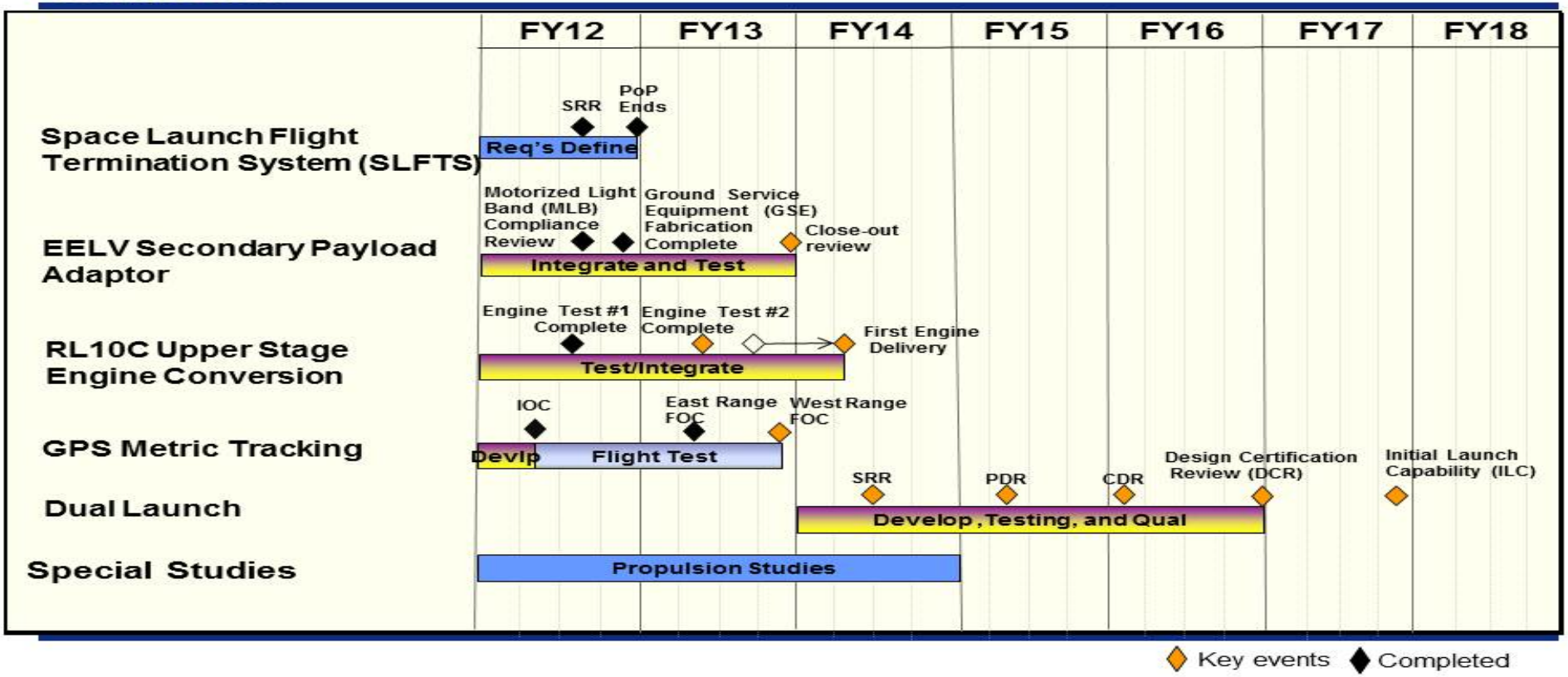


Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0604853F: *Evolved Expendable Launch Vehicle Program (SPACE) - EMD*	**PROJECT** 650004: *Evolved Expendable Launch Vehicle*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
EELV Secondary Payload Adapter (ESPA) Motorized Light Band Compliance Review	3	2012	3	2012
ESPA Ground Support Equipment Fabrication Complete	4	2012	4	2012
EPSA Close Out Review	4	2013	4	2013
RL10C Engine Test #1	2	2012	3	2012
RL10C Engine Test #2	4	2012	2	2013
RL10C First Engine Delivery	4	2013	2	2014
GPS MT Initial Operational Capability	2	2012	2	2012
GPS MT Certification Flights	2	2012	4	2013
GPS MT Eastern Range Full Operational Capability	2	2013	2	2013
GPS MT Western Range Full Operational Capability	4	2013	4	2013
Dual Launch SRR	3	2014	3	2014
Dual Launch Preliminary Design Review (PDR)	2	2015	2	2015
Dual Launch CDR	1	2016	1	2016
Dual Launch Qualification Testing	3	2016	4	2016
Dual Launch Capability Initial Launch Capability (ILC)	4	2017	1	2018
Special Studies (SS): Upper Stage Engine Risk Reduction	2	2013	2	2014
SS: Low Cost Manufacturing	3	2013	4	2014
SS: Booster Engine Risk Reduction	2	2014	4	2014

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force											DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*					R-1 ITEM NOMENCLATURE PE 0604932F: *Long Range Standoff Weapon*							
COST ($ in Millions)	**All Prior Years**	**FY 2012**	**FY 2013#**	**FY 2014 Base**	**FY 2014 OCO ##**	**FY 2014 Total**	**FY 2015**	**FY 2016**	**FY 2017**	**FY 2018**	**Cost To Complete**	**Total Cost**
Total Program Element	-	0.000	2.004	5.000	-	5.000	40.500	203.600	349.300	440.300	Continuing	Continuing
657011: *LONG RANGE STAND-OFF*	-	0.000	2.004	5.000	-	5.000	40.500	203.600	349.300	440.300	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 OCO Request will be submitted at a later date

Note

In FY13, LRSO efforts were transferred from PE 0101125F, Nuclear Weapons Modernization, project number 657008, to PE 0604932F, Longe Range Standoff Weapon, project number 657011, in order to support LRSO development.

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 FY2013 funding supports completion of the Analysis of Alternatives (AoA) to compare the operational effectiveness, cost, and risks of proposed materiel solutions as well as Milestone A preparation activities. LRSO FY2014 funding supports program office standup, Milestone A activities, 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.

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604932F: *Long Range Standoff Weapon*

B. Program Change Summary ($ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	0.000	2.004	5.000	-	5.000
Current President's Budget	0.000	2.004	5.000	-	5.000
Total Adjustments	0.000	0.000	0.000	-	0.000
• Congressional General Reductions	-	0.000			
• Congressional Directed Reductions	-	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	-	0.000			
• Congressional Directed Transfers	-	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	0.000	0.000	0.000	-	0.000

Change Summary Explanation

In FY13, LRSO efforts were transferred from PE 0101125F, Nuclear Weapons Modernization, project number 657008, to PE 0604932F, Longe Range Standoff Weapon, project number 657011, in order to support LRSO development.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Title: Materiel Solution Analysis (MSA) & Analysis of Alternatives (AoA)	0.000	1.694	0.000
Description: Conduct LRSO MSA/AoA activities. ***FY 2012 Accomplishments:*** In FY12, effort resided in PE 0101125F, Nuclear Weapons Modernization, project number 657008. ***FY 2013 Plans:*** Complete LRSO AoA. 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, Milestone A preparation to include development of MSA exit/Tech Development entrance documentation. ***FY 2014 Plans:*** N/A			
Title: Program Managment Administration (PMA)	0.000	0.310	5.000
Description: System engineering & business management support to distributed program office (AFNWC & AFLCMC Armament Directorate (AFLCMC/EB)) and other PMA. ***FY 2012 Accomplishments:***			

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0604932F: *Long Range Standoff Weapon*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
In FY12, effort resided in PE 0101125F, Nuclear Weapons Modernization, project number 657008. ***FY 2013 Plans:*** System engineering & business management support to distributed program office (AFNWC & AFLCMC Armament Directorate (AFLCMC/EB)) and other PMA. ***FY 2014 Plans:*** System engineering & business management support to distributed program office (AFNWC & AFLCMC Armament Directorate (AFLCMC/EB)) and other PMA.			
Accomplishments/Planned Programs Subtotals	0.000	2.004	5.000

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• RDT&E: BA05: Nuclear Weapons...: *Nuclear Weapon Modernization*	9.652	0.000	0.000		0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

Remarks

E. Acquisition Strategy

Development of the LRSO acquisition/contract strategy continues to evolve pending the completion of the AoA and the evaluation of alternative weapon system concepts. These efforts will inform the development of the initial acquisition strategy in preparation for a Milestone A Defense Acquisition Board (DAB) in FY2014.

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 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604932F: *Long Range Standoff Weapon*	PROJECT 657011: *LONG RANGE STAND-OFF*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Material Solution Analysis Support	Various	Various:,	-	0.000		1.694	Jan 2013	0.000		-		0.000	Continuing	Continuing	TBD
		Subtotal	0.000	0.000		1.694		0.000		0.000		0.000			

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Managment Administration	Various	Various:,	-	0.000		0.310	Oct 2012	5.000	Oct 2013	-		5.000	Continuing	Continuing	TBD
		Subtotal	0.000	0.000		0.310		5.000		0.000		5.000			

	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	0.000		2.004		5.000		0.000		5.000			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604932F: *Long Range Standoff Weapon*	PROJECT 657011: *LONG RANGE STAND-OFF*

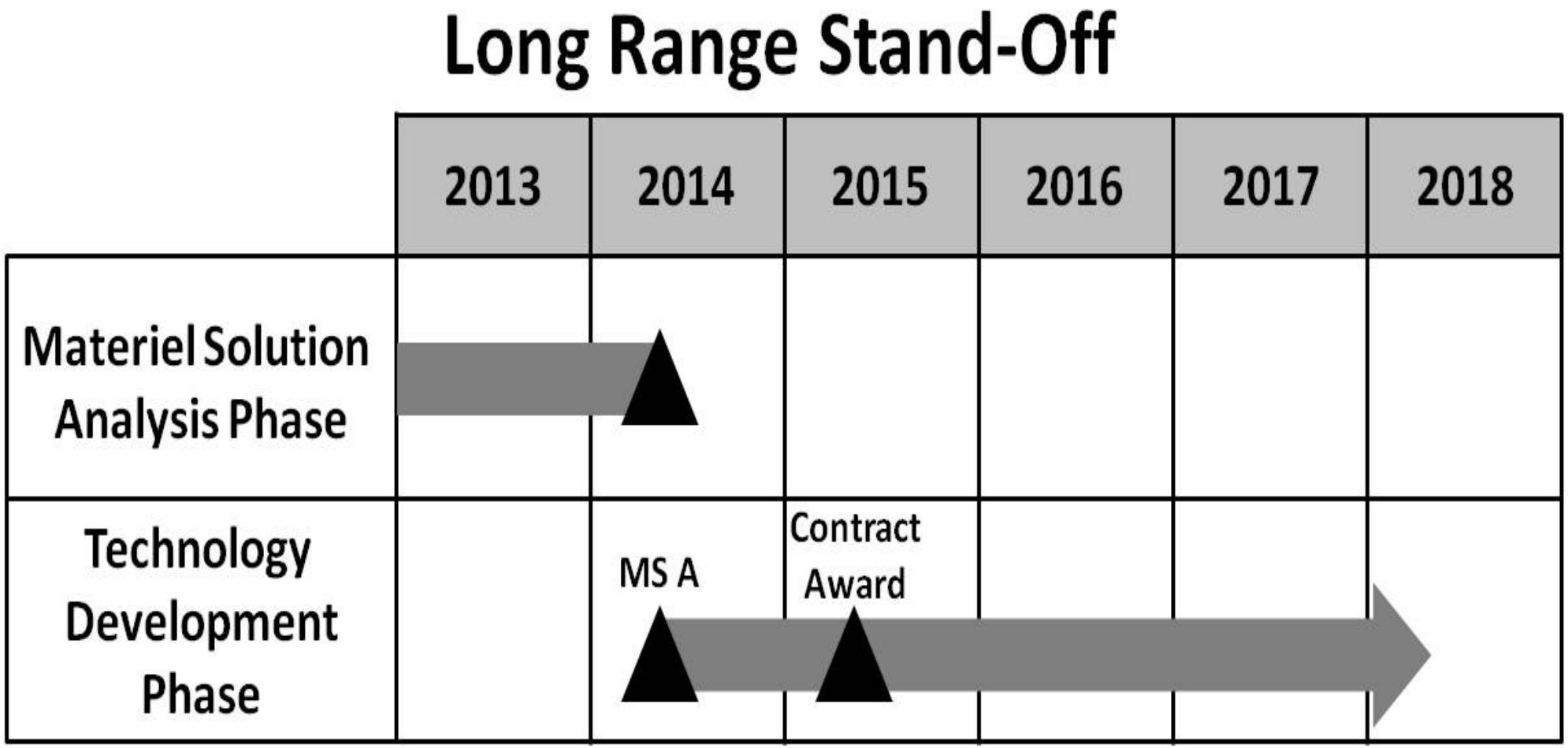


Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0604932F: *Long Range Standoff Weapon*	**PROJECT** 657011: *LONG RANGE STAND-OFF*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Materiel Solution Analysis Phase	1	2012	2	2014
Milestone A Decision	2	2014	2	2014
Technology Development Phase	2	2014	4	2018
Technology Development Contract Award	2	2015	2	2015

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force											DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*					R-1 ITEM NOMENCLATURE PE 0604933F: *ICBM Fuze Modernization*							
COST ($ in Millions)	**All Prior Years**	**FY 2012**	**FY 2013#**	**FY 2014 Base**	**FY 2014 OCO ##**	**FY 2014 Total**	**FY 2015**	**FY 2016**	**FY 2017**	**FY 2018**	**Cost To Complete**	**Total Cost**
Total Program Element	0.000	0.000	73.512	129.411	-	129.411	214.836	275.952	353.256	396.568	Continuing	Continuing
655082: *ICBM FUZE SUPPORT*	0.000	0.000	73.512	129.411	-	129.411	214.836	275.952	353.256	396.568	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 OCO Request will be submitted at a later date

Note

In FY 2013, 655082, ICBM Fuze Support, efforts were transferred from PE 0604851F ICBM - EMD, 657006, ICBM EMD: Fuze Support, in order to distinguish the effort as an pre-ACAT I program.

Under FY13 CRA, FY13 execution is occurring in PEC 0604851F and will be transferred to PEC 0640933F when Appropriation Act is passed.

Prior Years funding includes $9.740M from PE 0604222F in FY11 and $42.114M from PE 0604851F in FY12.

A. Mission Description and Budget Item Justification

ICBM Fuze Modernization will provide a replacement Mk21 fuze associated with the W87 warhead and a Mk12A fuze associated with the W78/88-1 Life Extension Program (LEP) 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 Mk12A fuze must be modified to support the W78/88-1 LEP warhead incorporating enhanced nuclear surety capabilities required by National Security Presidential Directive (NSPD) 28.

The fuze modernization schedule was rebaselined to ensure Mk12A fuze development remains sychronized with the W78/88-1 LEP warhead first production unit delivery shift from FY21 to FY25.

The US Air Force will develop Mk21 and Mk12A fuzes in cooperation with the National Nuclear Security Administration (NNSA), US Navy and United Kingdom. ICBM Fuze Modernization will leverage technologies, parts, components and development/production capabilities resulting from extensive fuze work performed by the US Navy and NNSA. Currently it is estimated the Mk21 Fuze will be 72% common with the Navy Mk5 Fuze. Mk21 and Mk12A fuzes will be similar to the US Navy D5 fuze, but W78/88-1 LEP and W87 warhead requirements dictate some unique differences. The ICBM Fuze Modernization 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.

As a cooperative USAF, USN and NNSA weapon sustainment acquisition, the USAF will implement joint DoD-DOE Nuclear Weapons Life Cycle Activities. The ICBM Fuze Modernization will be tailored to use joint DoD-DOE phase 6.X processes for routine nuclear stockpile activities to align with USN and NNSA operations.

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604933F: *ICBM Fuze Modernization*

The production phase MPAF funding is budgeted under M30MLG, Minuteman III Modifications, starting in FY18.

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. Program Change Summary ($ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	0.000	73.512	140.511	-	140.511
Current President's Budget	0.000	73.512	129.411	-	129.411
Total Adjustments	0.000	0.000	-11.100	-	-11.100
• Congressional General Reductions	-	0.000			
• Congressional Directed Reductions	-	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	-	0.000			
• Congressional Directed Transfers	-	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	0.000	0.000	-11.100	-	-11.100

Change Summary Explanation

Reduction of $11.1M in FY 2014 reflects the rephasing of Mk12A related efforts to coincide with development of W78/88-1 Life Extension Program (LEP).

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Title: Fuze Design and Development (SNL)	0.000	38.300	71.700
Description: Design and develop the Mk21 and Mk12A fuzes required to support W87 and W78/88-1 LEP warheads on the MM III weapon system. Coordinate design and development efforts with MM III weapon system integrator and support flight testing. ***FY 2012 Accomplishments:*** Reflected in PE 0604851F ICBM - EMD, 657006 Fuze Support ***FY 2013 Plans:*** Finalize conceptual design development of common parts, components, and technology for Mk21 fuze application and plan for design reuse applicable to Mk12A fuze. Analyze and assess customer requirements for the Mk12A fuze. Conduct trades of nuclear surety themes as directed by NSPD-28. Provide development components, hardware and software for assessment. Develop and produce ground test integration test beds. Support integration and flight test planning. ***FY 2014 Plans:***			

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0604933F: *ICBM Fuze Modernization*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Mature development of common parts, components, and technology for application to Mk21 and Mk12A fuzes. Finalize conceptual design development of common parts, components, and technology for Mk12A fuze application. Implement nuclear surety themes informed by trades as directed by NSPD-28. Support integration and flight test planning.			
Title: Weapon System Integration ***Description:*** Design and develop MM III weapon system modifications to support Mk21 and Mk12A fuzes and warhead designs. Integrate Mk21 and Mk12A fuzes 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 2012 Accomplishments:*** Reflected in PE 0604851F ICBM - EMD, 657006 Fuze Support ***FY 2013 Plans:*** Finalize conceptual designs for MM III weapon system hardware and software modifications to support Mk21 fuze. Assess MM III weapon system modification requirements to support the MK12A fuze and W78/88-1 LEP warhead. Coordinate 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 fuze designs. Finalize conceptual designs for MM III weapon system hardware and software modifications to support the MK12A fuze and W78/88-1 LEP warhead. Create a flight test plan for fuze related developmental hardware including extended range tests.	0.000	18.600	23.500
Title: Systems Engineering (ISC) ***Description:*** Provide Systems Engineering/Technical Assistance (SE/TA), support and training to the ICBM Fuze program in performing development, integration, sustaining engineering, and program management. ***FY 2012 Accomplishments:*** Reflected in PE 0604851F ICBM - EMD, 657006 Fuze Support ***FY 2013 Plans:*** Provide engineering analyses and support services to ICBM Fuze program working groups, including systems engineering and integration, requirements, test and evaluation, and planning and assessment support. ***FY 2014 Plans:***	0.000	4.474	6.555

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0604933F: *ICBM Fuze Modernization*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Provide engineering analyses and support services to ICBM Fuze 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 Mk12A and Mk21 fuze modernization and NNSA W78/88-1 Life Extension Program (LEP) development efforts. Synchronize USAF arming and fuzing and DOE warhead requirements. Study and assess weapon system cost/schedule/performance impacts. ***FY 2012 Accomplishments:*** Reflected in PE 0604851F ICBM - EMD, 657006 Fuze Support ***FY 2013 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. Conduct Mk21 Conceptual Design Review and Integrated Baseline Review. Prepare and conduct Phase 6.3 decision review. Conduct 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. Conduct W78/88-1 LEP Conceptual Design Review.	0.000	5.325	11.656
Title: Program Management Administration (PMA) ***Description:*** Direct unique program cost required for program management and oversight. ***FY 2012 Accomplishments:*** Reflected in PE 0604851F ICBM - EMD, 657006 Fuze Support ***FY 2013 Plans:*** Program support, travel, printing, supplies, Advisory and Assistance Service. ***FY 2014 Plans:*** Program support, travel, printing, supplies, Advisory and Assistance Service.	0.000	6.813	16.000
Accomplishments/Planned Programs Subtotals	0.000	73.512	129.411

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0604933F: *ICBM Fuze Modernization*

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• RDTE: BA05: 0604815F: *ICBM - EMD*	39.717	0.000	0.000		0.000	0.000	0.000	0.000	0.000	0.000	39.717
• MPAF: BA05: Line Item # M30MLG: *Minuteman III Modifications*	0.000	0.000	0.000		0.000	0.000	0.000	0.000	50.000	1,892.200	1,942.200

Remarks

E. Acquisition Strategy

Mk21 and Mk12A fuzes 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 and Mk12A. The US Navy Mk5 fuze entered Phase 6.3 Development Engineering in Aug 2012. USAF Mk21 fuze will enter Phase 6.3 in Mar 2013. Both Services participate in all design and development efforts to ensure use of adaptable components, subassemblies and technology. Both Services will use NNSA/SAndia National Laboratories to perform fuze design and development. The USAF will separately compete and contract for MM III unique missile modification and fuze integration efforts.

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 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604933F: *ICBM Fuze Modernization*	PROJECT 655082: *ICBM FUZE SUPPORT*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Preliminary Design Development	MIPR	Sandia National Labs:Albuquerque, NM	0.000	0.000		39.600	Nov 2012	57.400	Nov 2013	-		57.400	Continuing	Continuing	TBD
EMD	Various	Various:,	0.000	0.000		2.274	Dec 2012	23.942	Dec 2013	-		23.942	0.000	26.216	
		Subtotal	0.000	0.000		41.874		81.342		0.000		81.342			

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Cost and Financial Management	C/FFP	Tecolote:Salt Lake City, UT	0.000	0.000		0.350	Dec 2012	0.350	Dec 2013	-		0.350	Continuing	Continuing	TBD
		Subtotal	0.000	0.000		0.350		0.350		0.000		0.350			

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Lead Project Office Support	MIPR	NNSA:Albuquerque, NM	0.000	0.000		5.325	Nov 2012	6.656	Nov 2013	-		6.656	Continuing	Continuing	
ICBM Prime	C/CPFF	Northrup Grumman:Clearfield, UT	0.000	0.000		18.150	Nov 2012	24.063	Nov 2013	-		24.063	Continuing	Continuing	
Finite Element Model Validation	C/CPFF	Little Mountain:, UT	0.000	0.000		1.000	Nov 2012	1.000	Nov 2013	-		1.000	Continuing	Continuing	
		Subtotal	0.000	0.000		24.475		31.719		0.000		31.719			

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604933F: *ICBM Fuze Modernization*	PROJECT 655082: *ICBM FUZE SUPPORT*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Administration & SPO Support	Various	Various:Various, UT	0.000	0.000		6.813	Dec 2012	16.000	Nov 2013	-		16.000	Continuing	Continuing	TBD
		Subtotal	0.000	0.000		6.813		16.000		0.000		16.000			

	All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	0.000		73.512		129.411		0.000		129.411			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604933F: *ICBM Fuze Modernization*	PROJECT 655082: *ICBM FUZE SUPPORT*

ICBM Fuze Modernization

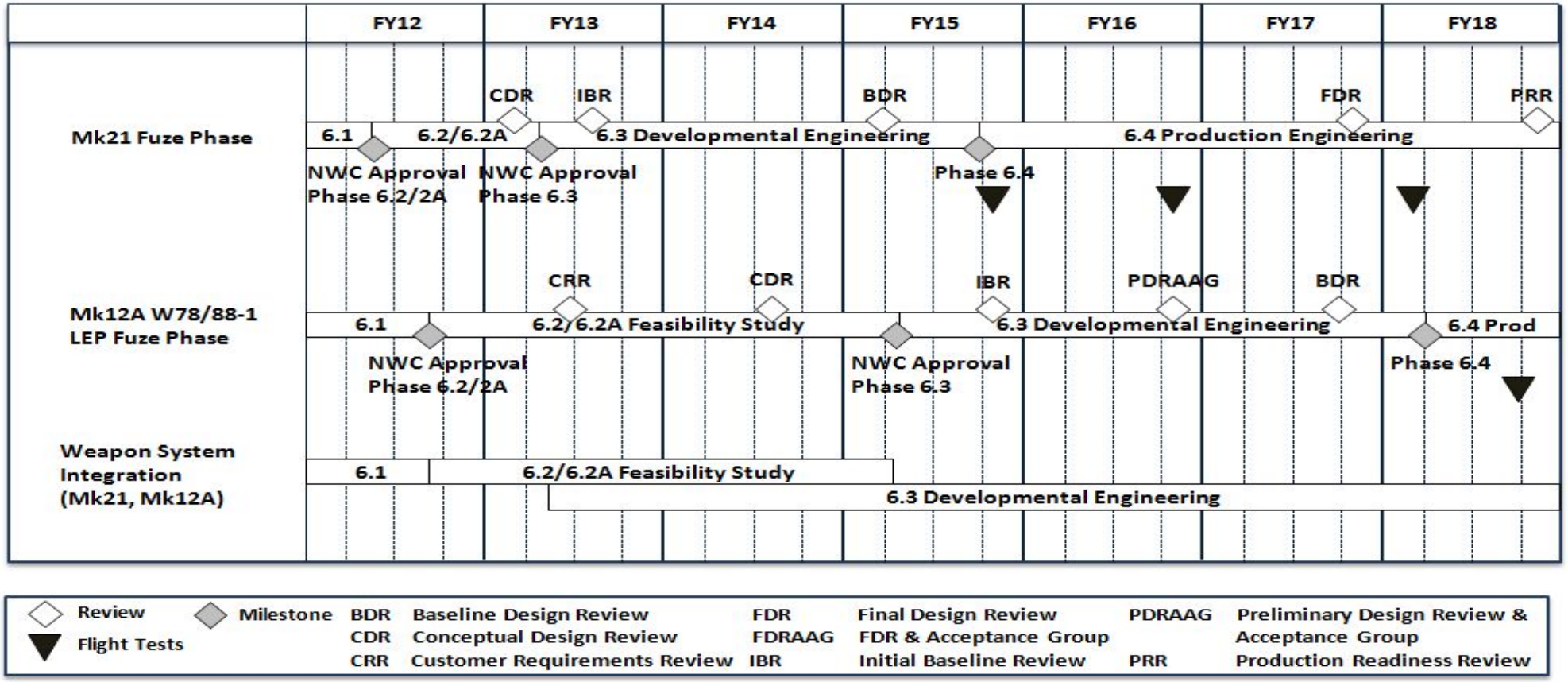


Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604933F: *ICBM Fuze Modernization*	PROJECT 655082: *ICBM FUZE SUPPORT*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Mk21 NWC Phase 6.2 Feasibility Study Approval	2	2012	2	2012
Mk21 Conceptual Design Review (CDR)	1	2013	1	2013
Mk21 NWC Phase 6.3 Development Engineering Approval	2	2013	2	2013
Mk21 Initial Baseline Review (IBR)	3	2013	3	2013
Mk21 Baseline Design Review (BDR)	1	2015	1	2015
Mk21 NWC Phase 6.4 Production Engineering	3	2015	3	2015
Mk21 Developmental Flight Tests	4	2015	4	2018
Mk21 Final Design Review (FDR)	4	2017	4	2017
Mk21 Production Readiness Review (PRR)	4	2018	4	2018
Mk12A NWC Phase 6.2 Feasibility Study Approval	3	2012	3	2012
Mk12A Customer Requirements Review (CRR)	2	2013	2	2013
Mk12A CDR	3	2014	3	2014
Mk12A NWC Phase 6.3 Development Engineering Approval	2	2015	2	2015
Mk12A IBR	4	2015	4	2015
Mk12A Preliminary Design Review & Acceptance Group (PDRAAG)	4	2016	4	2016
Mk12A BDR	3	2017	3	2017
Mk12A NWC Phase 6.4 Production Engineering	1	2018	1	2018
Mk12A Developmental Flight Tests	3	2018	4	2018

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force											DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*					R-1 ITEM NOMENCLATURE PE 0605213F: *F-22 Modernization Increment 3.2B*							
COST ($ in Millions)	**All Prior Years**	**FY 2012**	**FY 2013#**	**FY 2014 Base**	**FY 2014 OCO ##**	**FY 2014 Total**	**FY 2015**	**FY 2016**	**FY 2017**	**FY 2018**	**Cost To Complete**	**Total Cost**
Total Program Element	0.000	0.000	140.100	131.100	-	131.100	137.700	86.300	34.600	1.423	Continuing	Continuing
654785: *F-22 INCREMENT 3.2B*	0.000	0.000	140.100	131.100	-	131.100	137.700	86.300	34.600	1.423	Continuing	Continuing
Quantity of RDT&E Articles	9	0	0	0		0	0	0	0	0		
MDAP/MAIS Code(s): 474												

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 OCO Request will be submitted at a later date

Note

In FY13, a separate Program Element has been created, per direction of DoD, for Increment 3.2B in support of milestone B preparations. All Increment 3.2B efforts and funding prior to FY13 continue to be shown in the F-22 Squadrons Program documentation.

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

A. Mission Description and Budget Item Justification

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, 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 enhances the air vehicle and training system to improve/enhance F-22 weapons, communications, 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 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0605213F: *F-22 Modernization Increment 3.2B*

B. Program Change Summary ($ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	0.000	140.100	174.700	-	174.700
Current President's Budget	0.000	140.100	131.100	-	131.100
Total Adjustments	0.000	0.000	-43.600	-	-43.600
• Congressional General Reductions	-	0.000			
• Congressional Directed Reductions	-	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	-	0.000			
• Congressional Directed Transfers	-	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	0.000	0.000	-43.600	-	-43.600

Change Summary Explanation

FY 2014: $43.6M realigned to higher Air Force Priorities.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Title: Increment 3.2B	0.000	132.839	114.825

Description: The F-22 Increment 3.2B Modernization Program consists of the 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 and risk reduction program required to integrate any new weapons on the F-22 beyond Increment 3.1.

FY 2012 Accomplishments:

In FY12, $112.5M in PE 0207138F: MDD will be accomplished. Work to prepare lab and test facilities for Development, Integration, and Test continues.

Increment 3.2B will continue Design efforts;this effort will require all detailed design phase work necessary to start product development and to plan for the remaining phase efforts required to incorporate Increment 3.2 capabilities into the F-22 weapon system as described in teh Increment 3.2 Operational Capability Description Document.

FY 2013 Plans:

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0605213F: *F-22 Modernization Increment 3.2B*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
(U) In FY2013: A Preliminary Technical Review (PTR) was held February 2013, culminating the completion of the design work. Upon receiving authority to enter into Milestone B, Increment 3.2B will begin initial work in the Development, Code, and Integration and Test Phase. ***FY 2014 Plans:*** (U) In FY2014: Increment 3.2B will continue work in the Development, Code, and Integration and Test Phase.			
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 2012 Accomplishments:*** In FY2012: Combined Test Force (CTF) FY2012 Effort Description located in F-22 Squadrons Program Documentation, PE 0207138F. ***FY 2013 Plans:*** (U) In FY2013: The CTF will accomplish early Increment 3.2B test planning. CTF will begin 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 testing of AIM-9X separations will complete preparing for Increment 3.2B testing.	0.000	1.870	2.510
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). ***FY 2012 Accomplishments:*** (U) In FY2012 Lab Test & Operations (LTO) Effort Description located in F-22 Squadrons Program Documentation PE 0207138F ***FY 2013 Plans:***	0.000	1.695	9.023

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0605213F: *F-22 Modernization Increment 3.2B*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
(U) In FY2013: 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). ***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).			
Title: Mission Support ***Description:*** Mission support of the F-22 Program Office; travel, computer costs, mis contracts, etc. ***FY 2012 Accomplishments:*** In FY2012: Mission Support FY2012 Effort Description located in F22 Squadrons Program Documentation, PE 0207138F. ***FY 2013 Plans:*** (U) In FY2013: Funds provide management and oversight activities in support of the F-22 Program Office. ***FY 2014 Plans:*** (U) In FY2014: Same as Prior Year.	0.000	3.696	4.742
Accomplishments/Planned Programs Subtotals	0.000	140.100	131.100

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• APAF: BA05: F02200: *F-22A Squadrons, APAF*	386.835	332.349	463.970		463.970	397.286	407.038	465.765	467.081	Continuing	Continuing
• RDT&E: BA07: PE 020163F: *AIM-120D (AMRAAM T&E) RDT&E*	10.515	18.990	23.830		23.830	23.940	5.820	0.000	0.000	Continuing	Continuing

Remarks

NOTES:

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0605213F: *F-22 Modernization Increment 3.2B*

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost

* PE 0207138F APAF includes BP's 11 (Aircraft Modifications), 12 (Age Equipment), 16 (Initial Spares), and 19 (Depot Activation); BP11/Aircraft Modification funds support Increment 3.2B retrofits

**PE 0207163F AIM-120D RDT&E, portion of funds supports the 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 current 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 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0605213F: *F-22 Modernization Increment 3.2B*	PROJECT 654785: *F-22 INCREMENT 3.2B*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Increment 3.2B	SS/CPIF	Lockheed Martin:Fort Worth, TX	0.000	0.000		132.839	Mar 2013	114.825	Oct 2013	-		114.825	229.326	476.990	
		Subtotal	0.000	0.000		132.839		114.825		0.000		114.825	229.326	476.990	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Combined Test Force	Various	Various:Various,	0.000	0.000		1.870	Oct 2012	2.510	Oct 2013	-		2.510	78.100	82.480	
Laboratory Test Operations	SS/ Various	Lockheed Martin:Fort Worth, TX	0.000	0.000		1.695	Jan 2013	9.023	Jan 2014	-		9.023	76.450	87.168	
		Subtotal	0.000	0.000		3.565		11.533		0.000		11.533	154.550	169.648	

Remarks

FY12 and prior year costs for Increment 3.2B are shown under PE 0207138F. FY13 and later are shown under PE 0605213F.

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Mission Support	C/Various	Various:Various,	0.000	0.000		3.696	Oct 2012	4.742	Oct 2013	-		4.742	8.853	17.291	
		Subtotal	0.000	0.000		3.696		4.742		0.000		4.742	8.853	17.291	

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0605213F: *F-22 Modernization Increment 3.2B*	PROJECT 654785: *F-22 INCREMENT 3.2B*	

	All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	0.000		140.100		131.100		0.000		131.100	392.729	663.929	

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0605213F: *F-22 Modernization Increment 3.2B*	PROJECT 654785: *F-22 INCREMENT 3.2B*

F-22 Increment 3.2B Program Schedule Summary

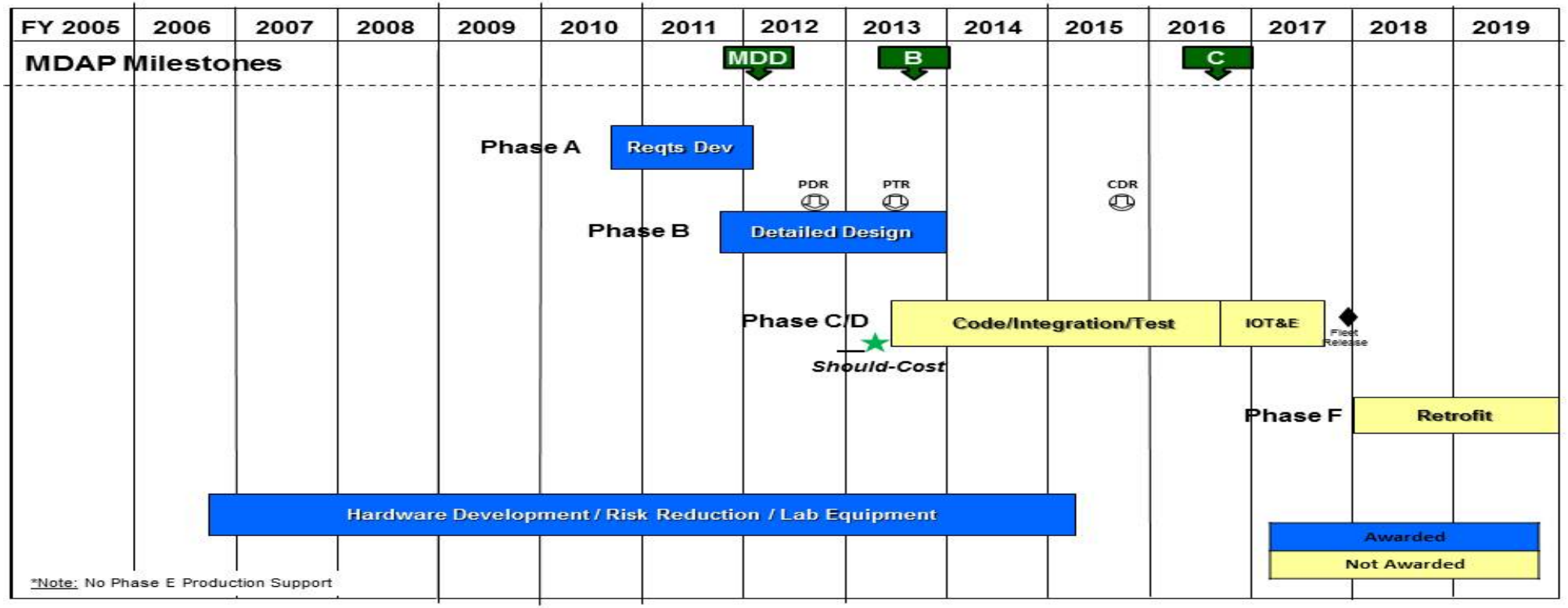


Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0605213F: *F-22 Modernization Increment 3.2B*	**PROJECT** 654785: *F-22 INCREMENT 3.2B*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Increment 3.2B System Requirements Review (SRR)*	1	2012	1	2012
Increment 3.2B System Design Review (SDR)*	1	2012	1	2012
Increment 3.2B Material Development Decision (MDD)*	1	2012	1	2012
Increment 3.2B Preliminary Design Review (PDR)*	3	2012	3	2012
Preliminary Technical Review (PTR)	2	2013	2	2013
Increment 3.2B Milestone B	3	2013	3	2013
Increment 3.2B Development, Integration, & Test	3	2013	3	2013
Increment 3.2B Critical Design Review	4	2015	4	2015
Increment 3.2B Milestone C	3	2016	3	2016

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force												DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*					R-1 ITEM NOMENCLATURE PE 0605221F: *KC-46*							
COST ($ in Millions)	**All Prior Years**	**FY 2012**	**FY 2013#**	**FY 2014 Base**	**FY 2014 OCO ##**	**FY 2014 Total**	**FY 2015**	**FY 2016**	**FY 2017**	**FY 2018**	**Cost To Complete**	**Total Cost**
Total Program Element	861.789	818.947	1,815.588	1,558.590	-	1,558.590	911.630	613.378	319.999	60.740	4.361	6,965.022
655271: *KC-46 RDT&E*	861.789	818.947	1,815.588	1,558.590	-	1,558.590	911.630	613.378	319.999	60.740	4.361	6,965.022
Quantity of RDT&E Articles	4	0	0	0		0	0	0	0	0		
MDAP/MAIS Code(s): 387												

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 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 OSD 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 fuel to 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 capability to operate in low-to-medium threat areas and near-high threat areas 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. The Maintenance Training System (MTS) is scheduled to enter source selection in FY2014. A business case analysis will also be conducted to determine if the engines for the production aircraft will be government furnished or contractor furnished. Initial training and sustainment efforts will be provided via Interim Contractor Support (ICS). KC-46 funding will also support various studies and analyses including the five-nation Future Technology for Aerial Refueling (FTAR) project, and KC-Y/KC-Z planning activities.

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** 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 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	877.084	1,815.588	1,576.063	-	1,576.063
Current President's Budget	818.947	1,815.588	1,558.590	-	1,558.590
Total Adjustments	-58.137	0.000	-17.473	-	-17.473
• Congressional General Reductions	-	0.000			
• Congressional Directed Reductions	-	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	-	0.000			
• Congressional Directed Transfers	-	0.000			
• Reprogrammings	-0.272	0.000			
• SBIR/STTR Transfer	-47.865	0.000			
• Other Adjustments	-10.000	0.000	-17.473	-	-17.473

Change Summary Explanation

FY2012: (-$57.137) adjusted for Small Business Innovation Research (-$47.865), Program Element 0605807F (-$10.000) in compliance with Public Law 112-74 Section 8074, and other higher priority Air Force requirements (-$0.272)

FY2014 Base: (-$17.473) RDT&E, AF adjusted to reflect rephasing of RDT&E funding requirements

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Title: KC-46 Aircraft Product Development	795.544	1,727.392	1,470.159
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 2012 Accomplishments: Completed aircraft preliminary design and began aircraft detailed design.			
FY 2013 Plans: Complete aircraft detailed design and begin aircraft manufacturing and certification/qualification testing.			
FY 2014 Plans:			

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0605221F: *KC-46*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Continue aircraft manufacturing and certification/qualification testing.			
Title: KC-46 Trainer Product Development ***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; Develop a Maintenance Training System. ***FY 2012 Accomplishments:*** Continued solicitation of KC-46 Aircrew & Maintenance Training System, and award KC-46 Aircrew Training System EMD contract. ***FY 2013 Plans:*** Continue solicitation of KC-46 Maintenance Training System and continue activities associated with Aircrew Training System development. ***FY 2014 Plans:*** Continue solicitation of KC-46 Maintenance Training System, award KC-46 Maintenance Training System EMD contract, and continue activities associated with Aircrew Training System development.	1.250	51.391	35.781
Title: KC-46 Direct Mission Support ***Description:*** Studies and Analysis activity associated with the development, integration, and demonstration of 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. ***FY 2012 Accomplishments:*** Continued KC-46 Studies and Analysis activities and completed business case analysis, such as Commercial Derivative Sustainment study ***FY 2013 Plans:*** Continue KC-46 Studies and Analysis activites ***FY 2014 Plans:*** Continue KC-46 Studies and Analysis activites	3.275	6.415	5.260
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; Federal Aviation Administration (FAA) support, and other test planning and organizational support.	6.833	15.183	30.939

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0605221F: *KC-46*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
FY 2012 Accomplishments: Continued KC-46 Test & Evaluation planning and began Live Fire Testing ***FY 2013 Plans:*** Continue KC-46 Test & Evaluation planning, Live Fire Testing and conduct Operational Assessment #1 ***FY 2014 Plans:*** Continue KC-46 Test & Evaluation planning, Live Fire Testing and begin aircraft Development Test & Evaluation.			
Title: KC-46 Program Management Administration ***Description:*** Program Office Support activity associated with the development, integration, and demonstration of KC-46 capability. Includes requirements such as travel, office supplies, training courses, and service contracts. ***FY 2012 Accomplishments:*** Continued KC-46 Program Office Support activity (AFLCMC) ***FY 2013 Plans:*** Continue KC-46 Program Office Support activity (AFLCMC) ***FY 2014 Plans:*** Continue KC-46 Program Office Support activity (AFLCMC)	12.045	15.207	16.451
Accomplishments/Planned Programs Subtotals	818.947	1,815.588	1,558.590

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• APAF: BA02: Line Item # KC135R: *KC-46A*	0.000	0.000	0.000		0.000	1,777.836	2,777.307	3,228.685	3,382.300	29,155.199	40,321.327

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 OSD 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 successful completion of Operational Assessments (OAs) for the LRIP decisions, and a successful completion of Initial Operational Test and Evaluation (IOT&E) for the FRP decision.

The Government plans to compete the development, deployment, and sustainment of both the aircrew and maintenance training systems 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 use a Contractor Supported Weapon System (CSWS) to provide interim support (Interim Contractor Support (ICS)), during the transition to a Government organically managed maintenance 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 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0605221F: *KC-46*	PROJECT 655271: *KC-46 RDT&E*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 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	812.710	795.544		1,727.392		1,470.159		-		1,470.159	1,515.058	6,320.863	4,393.857
Develop an Aircrew Training System; Develop a Maintenance Training System	C/FPIF	TBD:TBD,	0.000	1.250		51.391		35.781		-		35.781	266.551	354.973	TBD
		Subtotal	812.710	796.794		1,778.783		1,505.940		0.000		1,505.940	1,781.609	6,675.836	

Remarks

The KC-46 aircraft row's "Target Value on Contract" represents the $4.4B target price of the prime contract. 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, Aircrew Training System (ATS), and Maintenance Training System (MTS). ATS and MTS contract dates and information will be provided after ATS and MTS source selections are completed.

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 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,	7.811	3.275		6.415		5.260		-		5.260	19.060	41.821	
		Subtotal	7.811	3.275		6.415		5.260		0.000		5.260	19.060	41.821	

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 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0605221F: *KC-46*	PROJECT 655271: *KC-46 RDT&E*

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 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,	12.314	6.833		15.183		30.939		-		30.939	88.121	153.390	
		Subtotal	12.314	6.833		15.183		30.939		0.000		30.939	88.121	153.390	

Remarks

Testing and planning activities are performed by Government organizations, with some A&AS support.

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Administration	Various	KC-46 Program Office:Dayton, W-P AFB, OH	28.954	12.045		15.207		16.451		-		16.451	21.318	93.975	
		Subtotal	28.954	12.045		15.207		16.451		0.000		16.451	21.318	93.975	

Remarks

Multiple A&AS contracts over $1M: FY 2012 (total cost $10.256M); FY 2013 (total cost: $12.769M); FY 2014 (total cost of $13.890). All competitive, various contract types, and various locations.

	All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	861.789	818.947		1,815.588		1,558.590		0.000		1,558.590	1,910.108	6,965.022	

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0605221F: *KC-46*	PROJECT 655271: *KC-46 RDT&E*

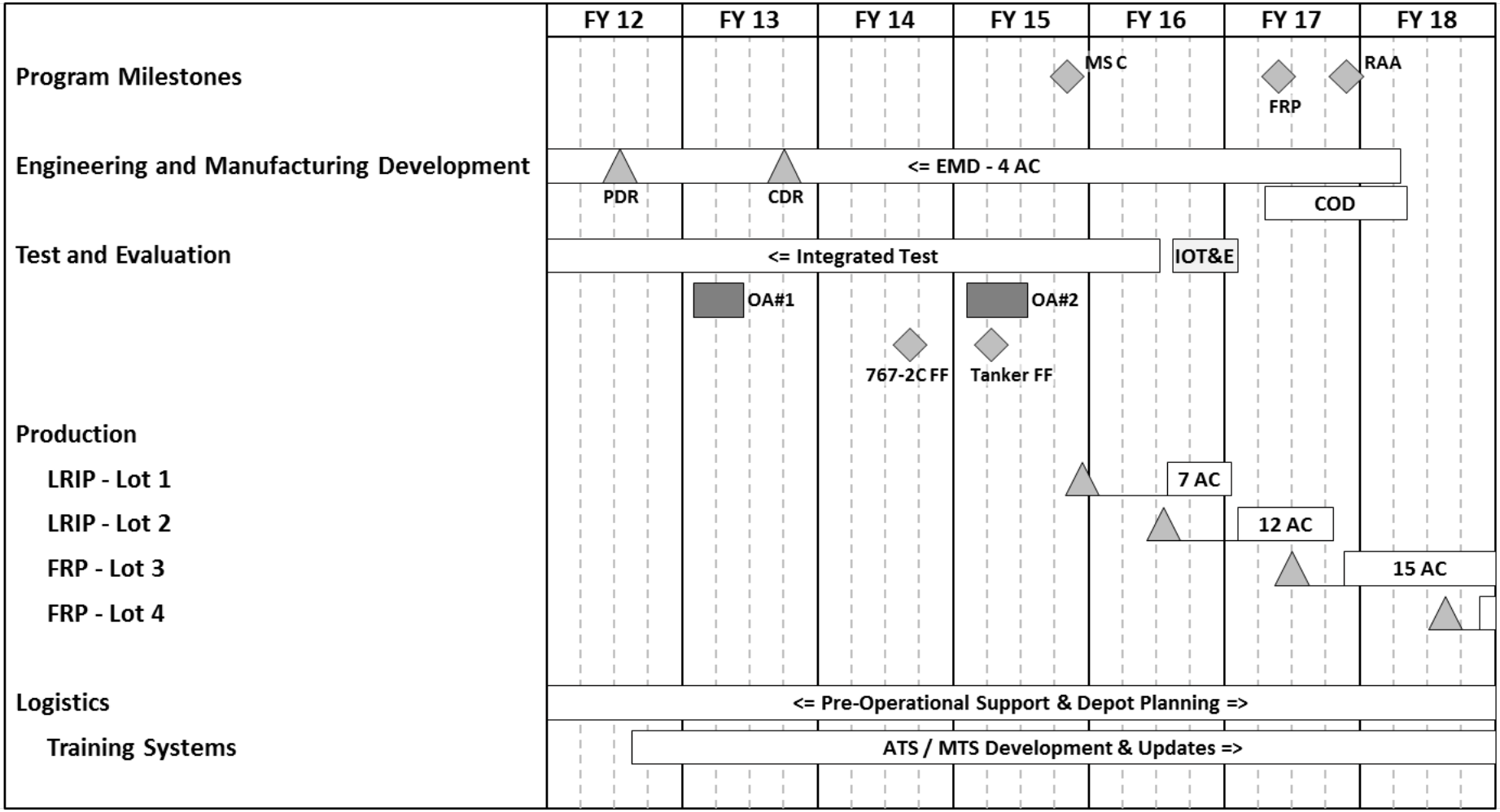


Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0605221F: *KC-46*	**PROJECT** 655271: *KC-46 RDT&E*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
EMD: KC-46 Aircraft	1	2012	2	2018
Preliminary Design Review	2	2012	3	2012
Critical Design Review	4	2013	4	2013
Test & Evaluation	1	2012	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
Integrated 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
Pre-Operational Support & Depot Planning	1	2012	4	2018
Aircrew / Maintenance Training System Development & Updates	3	2012	4	2018

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force												DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*					R-1 ITEM NOMENCLATURE PE 0605229F: *CSAR HH-60 Recapitalization*							
COST ($ in Millions)	**All Prior Years**	**FY 2012**	**FY 2013#**	**FY 2014 Base**	**FY 2014 OCO ##**	**FY 2014 Total**	**FY 2015**	**FY 2016**	**FY 2017**	**FY 2018**	**Cost To Complete**	**Total Cost**
Total Program Element	0.000	11.113	123.210	393.558	-	393.558	572.709	134.518	71.133	73.033	0.000	1,379.274
654364: *Combat Rescue Helicopter*	0.000	11.113	123.210	393.558	-	393.558	572.709	134.518	71.133	73.033	0.000	1,379.274
Quantity of RDT&E Articles		0	2	2		2	5	0	0	0		
MDAP/MAIS Code(s): 479												

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 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 will provide acquisition program activities, milestone (MS) document development and test and evaluation activities. Key activities and products include systems engineering strategy and analysis, technology and manufacturing maturity analysis, test and evaluation activities, life cycle cost estimates, sustainment and logistics analysis and configuration studies.

This program is in Budget Activity 5, System Development and Demonstration (SDD) because it is conducting Engineering Manufacturing and Development (EMD) tasks aimed at meeting validated requirements prior to full-rate production.

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0605229F: *CSAR HH-60 Recapitalization*

B. Program Change Summary ($ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	11.113	123.210	397.100	-	397.100
Current President's Budget	11.113	123.210	393.558	-	393.558
Total Adjustments	0.000	0.000	-3.542	-	-3.542
• Congressional General Reductions	-	0.000			
• Congressional Directed Reductions	-	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	-	0.000			
• Congressional Directed Transfers	-	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	0.000	0.000	-3.542	-	-3.542

Change Summary Explanation

FY14 funding decrease due to program management administration (PMA) reduction

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Title: CRH	11.113	123.210	393.558
Description: Procure a new helicopter and associated training systems and support elements that leverages fielded, non-developmental technologies to recapitalize HH-60G fleet. ***FY 2012 Accomplishments:*** Program office support; planning and initation of source selection; and development of statutory & regulatory acquisition documentation in preparation for an FY13 contract award. ***FY 2013 Plans:*** Program office support, source selection, and development of Milestone B statutory & regulatory acquisition documentation. Milestone B approval and CRH contract award expected 4Q FY13. Initiate efforts for design, integration, testing, and certification of the mission components to fulfill contract requirements. Procurement of two test aircraft. ***FY 2014 Plans:*** First full year of CRH contract execution. FY14 plans include design, integration, testing, and certification of the mission components to fulfill contract requirements. EMD activities include, but are not limited to, non-recurring engineering, test vehicle hardware, software, simulator development, and data. Procurement of two test aircraft.			
Accomplishments/Planned Programs Subtotals	11.113	123.210	393.558

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0605229F: *CSAR HH-60 Recapitalization*

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• APAF:BA 04:Line Item #10HHX0: *Combat Rescue Helicopter*	0.000	0.000	0.000		0.000	0.000	520.900	867.300	882.912	5,947.288	8,218.400

Remarks

E. Acquisition Strategy

The CRH Program will replace the USAF's aging HH-60G Pave Hawk helicopters with a new system (air vehicles, training systems, and product support). The CRH Program will leverage in-production air vehicles and training systems with an established production base, and integrate existing technologies to acquire this new system. Even though existing technologies will comprise the majority of the CRH integration effort, the acquisition strategy also supports the potential for technology maturation during 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 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0605229F: *CSAR HH-60 Recapitalization*	PROJECT 654364: *Combat Rescue Helicopter*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Studies and Analysis	C/FPIF	TBD:TBD,	0.000	1.008		0.000		0.000		-		0.000	0.000	1.008	
Integration	C/FPIF	TBD:TBD,	0.000	0.000		25.900		74.908		-		74.908	136.197	237.005	
Data	C/FPIF	TBD:TBD,	0.000	0.000		7.700		13.300		-		13.300	8.700	29.700	
JMPS (off board)	C/TBD	TBD:TBD,	0.000	0.000		3.000		20.000		-		20.000	40.000	63.000	
		Subtotal	0.000	1.008		36.600		108.208		0.000		108.208	184.897	330.713	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
System Test and Evaluation	PO	46 Test Sq:Ft Walton Beach, FL	0.000	0.421		4.900		31.824		-		31.824	135.256	172.401	
Test Aircraft and Associated Support	C/FPIF	TBD:,	0.000	0.000		72.610		244.934		-		244.934	495.360	812.904	
		Subtotal	0.000	0.421		77.510		276.758		0.000		276.758	630.616	985.305	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
SPO Support	Various	Various:Dayton, OH	0.000	4.150		0.000		0.000		-		0.000	0.000	4.150	
PMA - Contractor Services	TBD	Various:Dayton, OH	0.000	4.861		6.085		5.592		-		5.592	21.880	38.418	
PMA - Government Costs	TBD	Various:Dayton, OH	0.000	0.673		3.015		3.000		-		3.000	14.000	20.688	
		Subtotal	0.000	9.684		9.100		8.592		0.000		8.592	35.880	63.256	

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0605229F: *CSAR HH-60 Recapitalization*	PROJECT 654364: *Combat Rescue Helicopter*	

	All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	11.113		123.210		393.558		0.000		393.558	851.393	1,379.274	

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0605229F: *CSAR HH-60 Recapitalization*	PROJECT 654364: *Combat Rescue Helicopter*

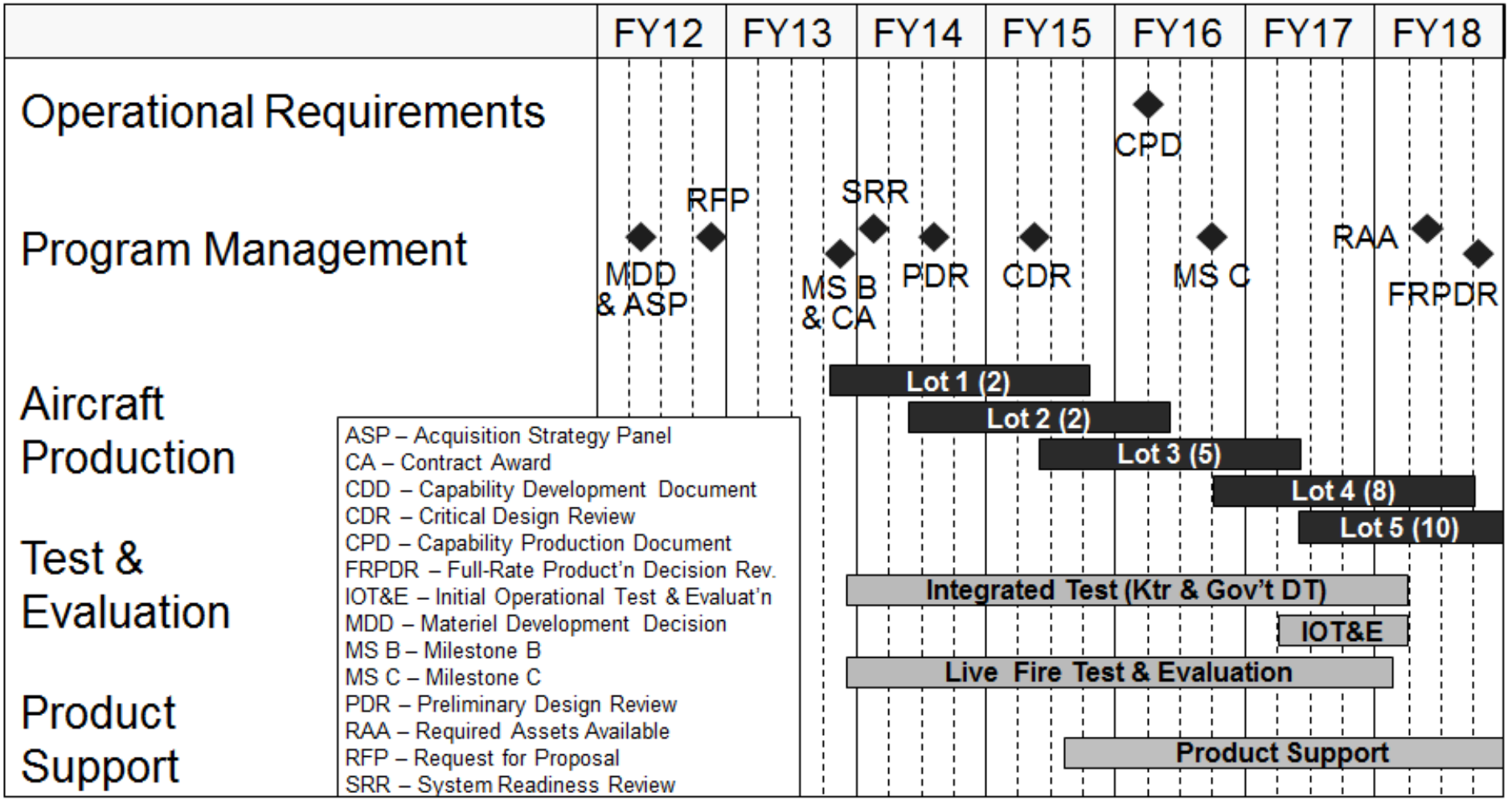


Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0605229F: *CSAR HH-60 Recapitalization*	**PROJECT** 654364: *Combat Rescue Helicopter*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Acquisition Strategy Panel	2	2012	2	2012
Request for Proposal	4	2012	4	2012
Milestone B	4	2013	4	2013
Source Selection Contract Award	4	2013	4	2013
Test Aircraft Purchased (Lots 1, 2 and 3)	4	2013	2	2017
System Readiness Review	1	2014	1	2014
Preliminary Design Review	3	2014	3	2014
Milestone C	4	2016	4	2016
Low Rate Initial Production Aircraft Purchased (Lots 4 and 5)	4	2016	4	2018
Live Fire Testing (Planning and Execution)	4	2013	1	2018
Critical Design Review	2	2015	2	2015
Operational Test	1	2017	1	2018
Integrated Test	4	2013	1	2018
Required Assets Available	2	2018	2	2018
Full Rate Production	4	2018	4	2018

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force												DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*					R-1 ITEM NOMENCLATURE PE 0605278F: *HC/MC-130 Recap RDT&E*							
COST ($ in Millions)	**All Prior Years**	**FY 2012**	**FY 2013#**	**FY 2014 Base**	**FY 2014 OCO ##**	**FY 2014 Total**	**FY 2015**	**FY 2016**	**FY 2017**	**FY 2018**	**Cost To Complete**	**Total Cost**
Total Program Element	65.961	21.554	19.039	6.242	-	6.242	20.548	18.383	10.215	10.399	0.000	172.341
655249: *HC-130Recap*	65.961	21.554	19.039	6.242	-	6.242	20.548	18.383	10.215	10.399	0.000	172.341
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		
MDAP/MAIS Code(s): 257												

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 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.

FY14 HC/MC-130J funding continues follow on systems engineering and development efforts for the basic aircraft.

FY14 HC/MC-130J program RDT&E funding provides for Trial Kit Install (TKI) of the C-130J Block 7.0/8.1 into the HC/MC-130J. The C-130J Block 7.0 program is in PE 0401132F. Block 7.0 primarily addresses mandated Communication, Navigation, and Surveillance/Air Traffic Management (CNS/ATM) requirements. Block 7.0 is an international collaboration as the common core development costs are being shared by each participating nation (United Kingdom, Australia, Italy, Canada, Denmark, Norway, and the United States). Block 7.0 requirements include: a) Communication, Navigation & Identification (CNI) upgrades; b) Dual Multi-Mode Receivers (MMR) with a Civil Global Positioning System; c) CNI special processor upgrade; d) Tactical datalink; and e) Mission computer upgrades. Block 8.1 completes all known mandated Communication, Navigation, and Surveillance/Air Traffic Management (CNS/ATM) requirements. Block 8.1 requirements include: a.) TEMPEST Compliance; b.) Identification Friend or FOE (IFF) transponder Mode-5; c.) Civil Data-link; d.) Automatic Dependent Surveillance-Broadcast (ADS-B); e.) Mission Computer (MC) Upgrades.

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 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0605278F: *HC/MC-130 Recap RDT&E*

B. Program Change Summary ($ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	22.071	19.039	16.054	-	16.054
Current President's Budget	21.554	19.039	6.242	-	6.242
Total Adjustments	-0.517	0.000	-9.812	-	-9.812
• Congressional General Reductions	-	0.000			
• Congressional Directed Reductions	-	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	-	0.000			
• Congressional Directed Transfers	-	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	-0.517	0.000			
• Other Adjustments	0.000	0.000	-9.812	-	-9.812

Change Summary Explanation

FY14 $9.812M reduction due to efficiencies gained in combining Block 7.0 and 8.1

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Title: Test and Evaluation	0.596	0.000	2.367
Description: Test and evaluation planning, conduct, and support for developmental and operational testing. ***FY 2012 Accomplishments:*** Funding provided for OT&E efforts in support of HC/MC-130J, verifying operational effectiveness and suitability. ***FY 2014 Plans:*** Funding provided to support test for Block 6.5 follow on software build.			
Title: Block 6.5 Follow On	11.311	9.896	0.000
Description: Block 6.5 Follow On: Adds capabilities such as Hi-Speed Airdrop Qualification, Mission Planning Software, additional ALE-47 buckets, Night Vision Goggle enhancements and incorporation of loadmaster scanner restraint seat design. ***FY 2012 Accomplishments:*** Block 6.5 follow on effort began. ***FY 2013 Plans:*** Block 6.5 follow on effort will conclude.			
Title: Block 7.0/8.1	4.716	0.000	1.720

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0605278F: *HC/MC-130 Recap RDT&E*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Description: Combined software/hardware upgrade for Block 7.0/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 2012 Accomplishments:*** Initial Block 7.0 Planning Effort ***FY 2014 Plans:*** Block 7.0/8.1 effort will begin.			
Title: Other ***Description:*** Funding provides for unique costs to the government such as contractor test support. ***FY 2012 Accomplishments:*** Funding provided for unique costs to the government such as contractor test support. ***FY 2013 Plans:*** Funding provides for unique costs to the government such as contractor test support. ***FY 2014 Plans:*** Funding provides for unique costs to the government such as contractor test support.	0.621	1.143	2.155
Title: Aero-Model Data Collection ***Description:*** Collection of flight generated aero data points for incorporation into weapon system trainer (WST) simulations models. ***FY 2013 Plans:*** Collection of flight generated aero data points for incorporation into weapon system trainer (WST) simulations models.	0.000	8.000	0.000
Title: Fact of Life Changes ***Description:*** Fact of life change ***FY 2012 Accomplishments:*** Dec 12 Below Threshold Reprogramming	4.310	0.000	0.000
Accomplishments/Planned Programs Subtotals	21.554	19.039	6.242

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0605278F: *HC/MC-130 Recap RDT&E*

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• APAF: BA05: Line Item # HCMC00: *HC/MC-130 Modifications*	0.000	20.400	8.300		8.300	5.918	2.280	2.070	2.137	Continuing	Continuing

Remarks

E. Acquisition Strategy

The Milestone C decision for the HC/MC-130J Recap program was approved in April 2010. 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 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0605278F: *HC/MC-130 Recap RDT&E*	PROJECT 655249: *HC-130Recap*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Systems Engineering and Integration	SS/CPAF	Lockheed Martin:Marietta, GA	56.411	0.000		0.000		0.000		-		0.000	0.000	56.411	TBD
Block 6.5 Follow-on	SS/CPAF	Lockheed Martin:Marietta, GA	0.000	11.311	Jul 2013	9.896	Jul 2013	0.000		-		0.000	0.000	21.207	TBD
Block 7.0 / 8.1	SS/CPAF	Lockheed Martin:Marietta, GA	0.000	4.716	Mar 2013	0.000		1.720	Apr 2013	-		1.720	59.545	65.981	TBD
Aero-Model Data Collection	SS/CPAF	Lockheed Martin:Marietta, GA	0.000	0.000		8.000	Apr 2013	0.000		-		0.000	0.000	8.000	TBD
		Subtotal	56.411	16.027		17.896		1.720		0.000		1.720	59.545	151.599	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Other	Various	ASC/WIS:WPAFB, OH	0.000	4.931	Apr 2012	1.143	Jan 2013	2.155	Jan 2014	-		2.155	0.000	8.229	TBD
		Subtotal	0.000	4.931		1.143		2.155		0.000		2.155	0.000	8.229	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test and Evaluation Support	C/FFP	46th Test Wing:EAFB, FL	9.550	0.596	Mar 2012	0.000		2.367	Feb 2014	-		2.367	0.000	12.513	TBD
		Subtotal	9.550	0.596		0.000		2.367		0.000		2.367	0.000	12.513	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0605278F: *HC/MC-130 Recap RDT&E*	PROJECT 655249: *HC-130Recap*	

	All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	65.961	21.554		19.039		6.242		0.000		6.242	59.545	172.341	

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0605278F: *HC/MC-130 Recap RDT&E*	PROJECT 655249: *HC-130Recap*

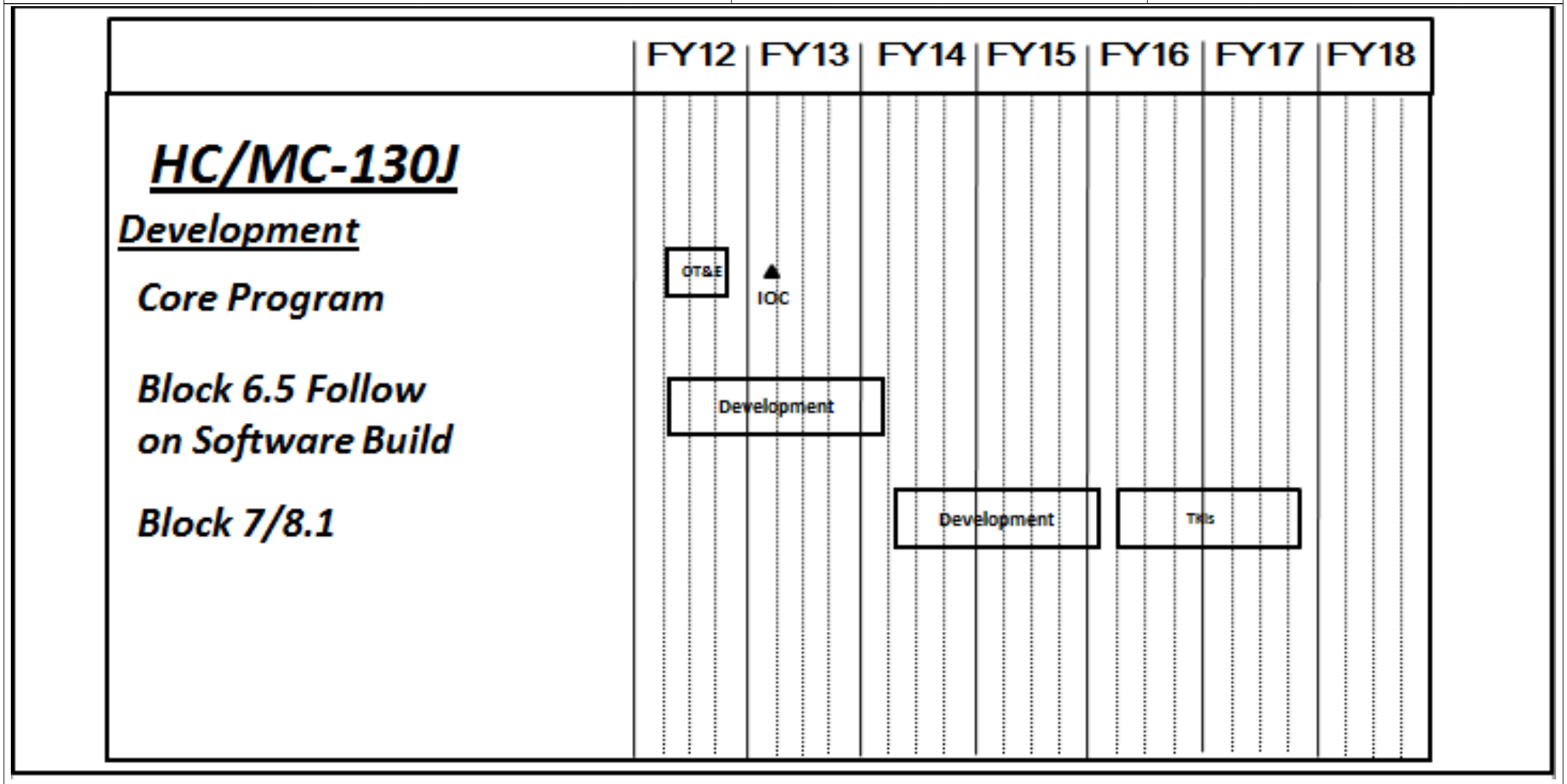


Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0605278F: *HC/MC-130 Recap RDT&E*	PROJECT 655249: *HC-130Recap*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
HC/MC-130 Core Program OT&E	2	2012	4	2012
Initial Operational Capability (IOC)	1	2013	3	2013
Block 6.5 Follow-on Software Build	2	2012	4	2013
HC/MC-130 Recap Block 7.0/8.1 Trial Kit Install (TKI) Development	2	2014	1	2016
HC/MC-130 Recap Block 7.0/8.1 TKIs	2	2016	1	2018

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force											DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*					R-1 ITEM NOMENCLATURE PE 0605431F: *Advanced EHF MILSATCOM (SPACE)*							
COST ($ in Millions)	**All Prior Years**	**FY 2012**	**FY 2013#**	**FY 2014 Base**	**FY 2014 OCO ##**	**FY 2014 Total**	**FY 2015**	**FY 2016**	**FY 2017**	**FY 2018**	**Cost To Complete**	**Total Cost**
Total Program Element	0.000	0.000	0.000	272.872	-	272.872	236.934	184.965	121.787	101.889	Continuing	Continuing
657103: *Advanced MILSATCOM*	0.000	0.000	0.000	183.372	-	183.372	136.067	64.600	21.700	0.000	0.000	405.739
657104: *Evolved AEHF MILSATCOM (EAM)*	0.000	0.000	0.000	89.500	-	89.500	100.867	120.365	100.087	101.889	Continuing	Continuing
MDAP/MAIS Code(s): 261												

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 OCO Request will be submitted at a later date

Note

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. Future AEHF satellites will be 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

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0605431F: *Advanced EHF MILSATCOM (SPACE)*

MILSATCOM capability gaps identified in the Joint Space Communications Layer (JSCL) Initial Capabilities Document (ICD) and the forthcoming "Resilient Basis for SATCOM in Joint Operations" study.

The FY14 request funds efforts such as SV-1 and SV-2 on-orbit operations support, Mission Control Segment (MCS) sustainment including ground mobile command and control, fielding and support, and studies/analyses as required. Additionally, the request funds the design/development for the transition of AEHF to the next generation crypto key management system, Key Management Infrastructure (KMI). The FY14 request also funds continued SV-6 flight crypto redevelopment, future AEHF parts obsolescence mitigation studies, and risk reduction on MILSATCOM technologies.

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 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	0.000	0.000	0.000	-	0.000
Current President's Budget	0.000	0.000	272.872	-	272.872
Total Adjustments	0.000	0.000	272.872	-	272.872
• Congressional General Reductions	-	0.000			
• Congressional Directed Reductions	-	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	-	0.000			
• Congressional Directed Transfers	-	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	0.000	0.000	272.872	-	272.872

Change Summary Explanation

FY14 Other Adjustment row: +$153.857M, due to a change in Budget Activity from 4 to 5, funds have been transferred from PE 0603430F, Projects 644050 and 64A030; +$60.215M for AEHF Interim Contractor Support; +$58.800M for transition of the AEHF crypto Key Management Architecture to the Key Management Infrastructure (KMI)

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0605431F: *Advanced EHF MILSATCOM (SPACE)*	PROJECT 657103: *Advanced MILSATCOM*	

COST ($ in Millions)	All Prior Years	FY 2012	FY 2013#	FY 2014 Base	FY 2014 OCO ##	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
657103: *Advanced MILSATCOM*	0.000	0.000	0.000	183.372	-	183.372	136.067	64.600	21.700	0.000	0.000	405.739
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 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 64A030, 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.

The FY14 request funds SV-1 and SV-2 on-orbit operations support; Mission Control Segment (MCS) sustainment including ground mobile command and control; fielding and support, and studies/analyses as required. Funds the design/development for the transition of the AEHF Key Management Architecture from the Electronic Key Management System (EKMS) to the Key Management Infrastructure (KMI).

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Title: AEHF SVs 1-2, MCS	0.000	0.000	9.494
Description: Maintain AEHF MILSATCOM satellites, mission control segment, and cryptography			
FY 2012 Accomplishments: Not applicable.			
FY 2013 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0605431F: *Advanced EHF MILSATCOM (SPACE)*	PROJECT 657103: *Advanced MILSATCOM*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Not applicable. ***FY 2014 Plans:*** In FY2014, funds the System Development and Demonstration (SDD) contract Incentive Fee and continue program office support and related activities, and conduct studies/analyses, as required.			
Title: AEHF Interim Contractor Support (ICS) ***Description:*** Funds Interim Contractor Support for AEHF satellites, Mission Control Segment (MCS), Cryptography, AEHF Calibration Facility (ACF), and Interim Command and Control (IC2) antenna until Initial Operational Capability declaration ***FY 2012 Accomplishments:*** Not applicable. ***FY 2013 Plans:*** Not applicable. ***FY 2014 Plans:*** In FY 2014, conduct ICS for SV-1 and SV-2 on-orbit support, MCS sustainment, and AEHF Key Management Architecture (KMA) sustainment. Conduct ICS for the ACF and the IC2 antenna.	0.000	0.000	115.078
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 2012 Accomplishments:*** Not applicable. ***FY 2013 Plans:*** Not applicable ***FY 2014 Plans:*** In FY 2014, 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	0.000	0.000	58.800

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0605431F: *Advanced EHF MILSATCOM (SPACE)*	PROJECT 657103: *Advanced MILSATCOM*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
PKMA integration activities with the AEHF prime contractor, Lockheed Martin, and the EPS CAPS contractor, Northrop Grumman Information Systems.			
Accomplishments/Planned Programs Subtotals	0.000	0.000	183.372

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• RDT&E: BA04: PE 0603430F: *Advanced EHF MILSATCOM (Space)*	276.675	175.578	0.000		0.000	0.000	0.000	0.000	0.000	0.000	452.253
• MPAF: BA05: Line Item # ADV555: *Advanced EHF TOA*	551.458	557.205	379.586		379.586	302.175	594.362	973.711	852.740	3,399.700	7,610.937
• RDT&E: BA05: PE 0605433F: *Wideband Global SATCOM (Space)*	0.000	0.000	13.948		13.948	16.817	17.096	18.104	18.430	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 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0605431F: *Advanced EHF MILSATCOM (SPACE)*	PROJECT 657103: *Advanced MILSATCOM*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Crypto Interim Contractor Support	MIPR	Cryptologic Sys Group:San Antonio, TX	0.000	0.000		0.000		10.200	Mar 2014	-		10.200	3.600	13.800	
AEHF Interim Contractor Support	SS/CPIF	Lockheed Martin:Sunnyvale, CA	0.000	0.000		0.000		94.260	Dec 2013	-		94.260	51.609	145.869	
GFP - AEHF Calibration Facility (ACF)	Various	Lincoln Labs:Lexington, MA	0.000	0.000		0.000		10.618	Dec 2013	-		10.618	7.200	17.818	
KMI- National Security Agency (NSA)	MIPR	NSA:Ft Meade, MD	0.000	0.000		0.000		46.300	Dec 2013	-		46.300	115.700	162.000	
KMI--Lockheed Martin (LM)	SS/FP	Lockheed Martin:Sunnyvale, CA	0.000	0.000		0.000		4.700	Dec 2013	-		4.700	12.800	17.500	
KMI - Northrop Grumman Information Systems	SS/CPAF	Northrop Grumman Information Systems:Redondo Beach, CA	0.000	0.000		0.000		3.800	Dec 2013	-		3.800	9.900	13.700	
KMI-Cryptologic Systems Division (CPSD)	MIPR	AFLCMC:San Antonio, TX	0.000	0.000		0.000		3.500	Dec 2013	-		3.500	14.100	17.600	
		Subtotal	0.000	0.000		0.000		173.378		0.000		173.378	214.909	388.287	

Remarks

FY14 funds transferred from PE 0603430F, Project 644050.

Updated to add KMI Design Development Transition.

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0605431F: *Advanced EHF MILSATCOM (SPACE)*	PROJECT 657103: *Advanced MILSATCOM*

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Development Test and Evaluation support	Various	Various:Various,	0.000	0.000		0.000		0.250	Dec 2013	-		0.250	0.000	0.250	
		Subtotal	0.000	0.000		0.000		0.250		0.000		0.250	0.000	0.250	

Remarks

FY14 funds transferred from PE 0603430F, Project 644050.

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
AEHF FFRDC (PMA)	RO	The Aerospace Corporation:El Segundo, CA	0.000	0.000		0.000		5.257	Dec 2013	-		5.257	4.799	10.056	
Business Operating Support Services & Acquisition Mission Support (PMA)	Various	Various:Various,	0.000	0.000		0.000		4.487	Dec 2013	-		4.487	2.659	7.146	
		Subtotal	0.000	0.000		0.000		9.744		0.000		9.744	7.458	17.202	

Remarks

FY14 funds transferred from PE 0603430F, Project 644050.

	All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	0.000		0.000		183.372		0.000		183.372	222.367	405.739	

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0605431F: *Advanced EHF MILSATCOM (SPACE)*	PROJECT 657103: *Advanced MILSATCOM*

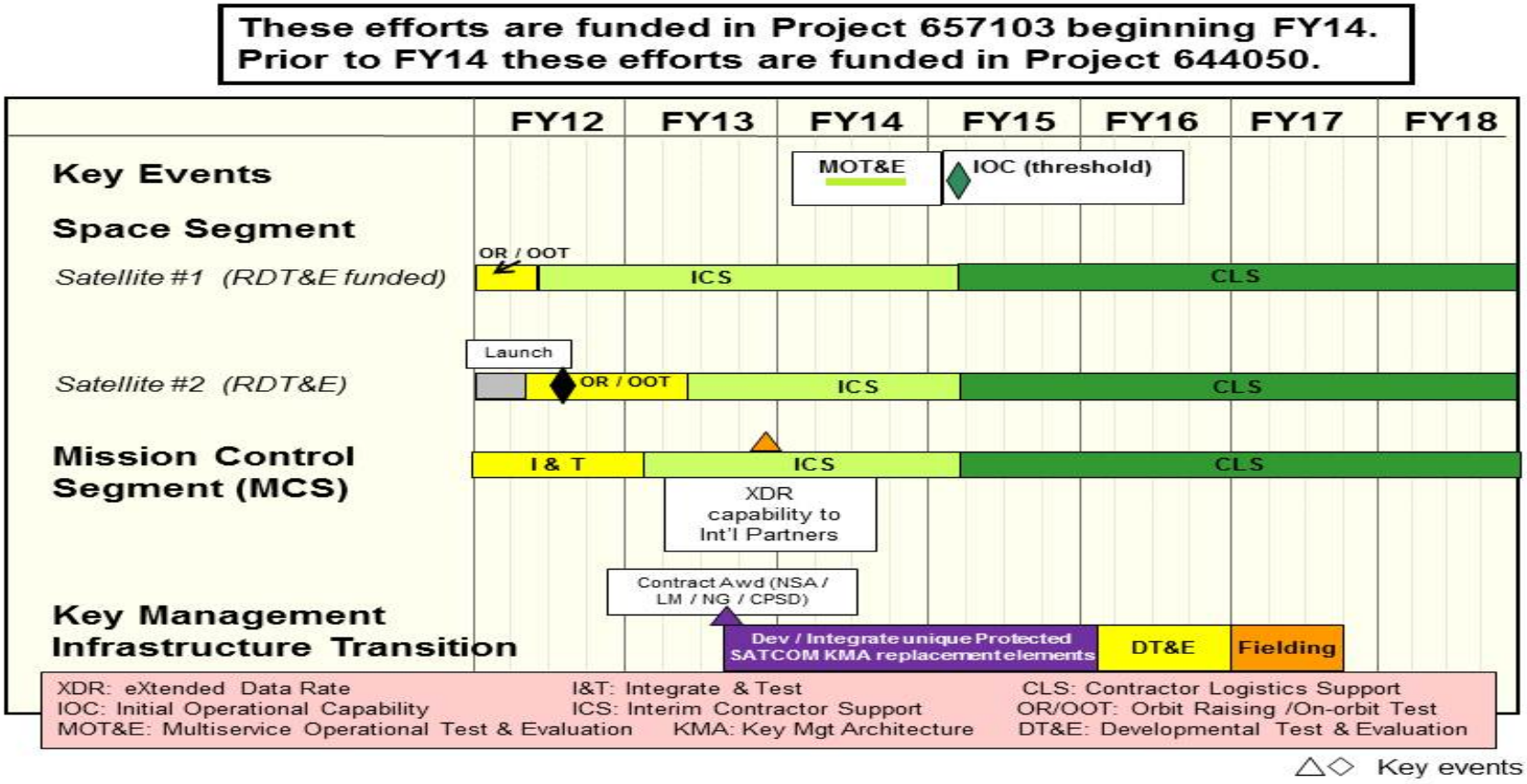


Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0605431F: *Advanced EHF MILSATCOM (SPACE)*	PROJECT 657103: *Advanced MILSATCOM*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Multiservice Operational Test and Evaluation (MOT&E)	2	2014	4	2014
Initial Operational Capability (IOC) threshold	1	2015	1	2015

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0605431F: *Advanced EHF MILSATCOM (SPACE)*	PROJECT 657104: *Evolved AEHF MILSATCOM (EAM)*	

COST ($ in Millions)	All Prior Years	FY 2012	FY 2013#	FY 2014 Base	FY 2014 OCO ##	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
657104: *Evolved AEHF MILSATCOM (EAM)*	0.000	0.000	0.000	89.500	-	89.500	100.867	120.365	100.087	101.889	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 OCO Request will be submitted at a later date

Note

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 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 architecture. In addition, SMI begins acquisition capabilities supporting concept definitions and demos for protected tactical communication services, anti-jam enhanced theater antennas, and increased wideband coverage and capacity.

FY14 funds efforts such as SV-6 flight crypto redevelopment, parts obsolescence mitigation studies for future AEHFs, AEHF capacity improvement development, and risk reduction on MILSATCOM technologies. Additionally, FY14 funds Systems Engineering and Program Management to include Program Office Support such as Federally Funded Research and Development Center (FFRDC) analyses, Systems Engineering Technical Assistance (SETA) and Systems Engineering and Integration (SE&I) to support risk reduction on MILSATCOM technologies.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Title: AEHF SV-6 Flight Crypto & Future AEHF Parts Obsolescence Mitigation	0.000	0.000	25.000
Description: AEHF SV-6 flight cryptographic equipment redesign effort and future AEHF parts obsolescence mitigation effort			
FY 2012 Accomplishments: Not applicable.			
FY 2013 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0605431F: *Advanced EHF MILSATCOM (SPACE)*	PROJECT 657104: *Evolved AEHF MILSATCOM (EAM)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
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.			
Title: AEHF Capabilities Insertion Program (CIP) 1a ***Description:*** AEHF capacity improvement: Software development/implementation increases capacity by 10% and operational flexibility to constellation ***FY 2012 Accomplishments:*** Not applicable. ***FY 2013 Plans:*** Not applicable. ***FY 2014 Plans:*** Conduct AEHF CIP 1a software initial design to include System Design Review (SDR) and Preliminary Design Review (PDR).	0.000	0.000	23.684
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, small protected tactical hosted payloads, and anti-jam enhanced theater antennas to significantly reduce the cost of protected SATCOM. ***FY 2012 Accomplishments:*** Not applicable. ***FY 2013 Plans:*** Not applicable. ***FY 2014 Plans:*** Four of the 17 contracts awarded late 2012 have Phase 3 options. These options will be awarded to further efforts from FY13 that will include capability demonstrations to lower the risk on next generation protected MILSATCOM systems.	0.000	0.000	17.750
Title: Hosted Payload Concept Definition ***Description:*** Validate affordable business approaches and reduce risk for commercial/hosted payload alternatives such as commercial-based free flyer satellites, increased military wideband coverage and capacity, and other candidate system designs	0.000	0.000	2.000

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0605431F: *Advanced EHF MILSATCOM (SPACE)*	PROJECT 657104: *Evolved AEHF MILSATCOM (EAM)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
for hosted payloads on commercial satellites. Conduct risk reduction efforts to provide DoD operating locations for future bandwidth in the V (71-76 GHz) and W (81-86 GHz) range leading towards a commercial or hosted payload demonstration. ***FY 2012 Accomplishments:*** Not applicable. ***FY 2013 Plans:*** Not applicable. ***FY 2014 Plans:*** Release RFP for risk reduction study leading to integration and launch of an Air Force Research Laboratory (AFRL)-developed V- and W-band communications payload on a host satellite.			
Title: MILSATCOM Architecture and support ***Description:*** Conduct Systems Engineering and Program Management to include Program Office support such as Federally Funded Research and Development Center (FFRDC) analyses, Systems Engineering Technical Assistance (SETA), Systems Engineering and Integration (SE&I) and other related activities ***FY 2012 Accomplishments:*** Not applicable. ***FY 2013 Plans:*** Not applicable. ***FY 2014 Plans:*** Funds efforts such as refining the ongoing MILSATCOM architectures including affordable Information Assurance approaches, Protected MILSATCOM analysis of alternatives (AoA), commercial pathfinder demonstrations, supportive terminal payload concepts, university research, and commercial product contributions. Continues the Government Protected MILSATCOM testbed for Design for Affordability (DFA) Phase 3 tests of the protected tactical waveform (PTW). The demonstrations will establish a benchmark for industry in PTW development maturity and reduce risk in future protected tactical systems. MIT/LL will report on the Phase 3 compatibility demonstrations results from each contractor demonstration and assess qualitative features. Additionally, MIT/LL will conduct the Critical Design Review 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 NMT and the Army's SMART-T terminals to increase terminal data rates by up to 800%. Funds Program Management to include program office support, FFRDC analyses,	0.000	0.000	21.066

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0605431F: *Advanced EHF MILSATCOM (SPACE)*	PROJECT 657104: *Evolved AEHF MILSATCOM (EAM)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
SETA, and SE&I to support and execute the MILSATCOM SMI efforts (i.e., CIP 1a capacity improvement, Protected DFA Phase 3 risk reduction, and hosted payload risk reduction).			
Accomplishments/Planned Programs Subtotals	0.000	0.000	89.500

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• RDT&E: BA04: PE 0603430F: *Advanced EHF MILSATCOM (Space)*	108.338	53.593	0.000		0.000	0.000	0.000	0.000	0.000	0.000	174.364
• MPAF: BA05: Line Item # ADV555: *Advanced EHF*	551.458	557.205	379.586		379.586	302.175	594.362	973.711	852.740	3,399.700	7,610.937

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.

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 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0605431F: *Advanced EHF MILSATCOM (SPACE)*	PROJECT 657104: *Evolved AEHF MILSATCOM (EAM)*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 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	0.000		0.000		25.000	Dec 2013	-		25.000	Continuing	Continuing	
AEHF Capabilities Insertion Program (CIP) 1a	SS/ Various	Lockheed Martin:Sunnyvale, CA	0.000	0.000		0.000		23.684	Dec 2013	-		23.684	Continuing	Continuing	
Protected MILSATCOM "Design for Affordability" Phase 3 BAA #1	C/FFP	The Boeing Company:El Segundo, CA	0.000	0.000		0.000		5.995	Feb 2014	-		5.995	0.000	5.995	
Protected MILSATCOM "Design for Affordability" Phase 3 BAA #2	C/FFP	Loral:Palo Alto, CA	0.000	0.000		0.000		4.400	Feb 2014	-		4.400	0.000	4.400	
Protected MILSATCOM "Design for Affordability" Phase 3 BAA #3	C/FFP	Raytheon:Marlborough, MA	0.000	0.000		0.000		3.981	Feb 2014	-		3.981	0.000	3.981	
Protected MILSATCOM "Design for Affordability" Phase 3 BAA #4	C/FFP	L3 COM - West:Salt Lake City, UT	0.000	0.000		0.000		3.374	Feb 2014	-		3.374	0.000	3.374	
Hosted Payload Concept Definition	Various	TBD:TBD,	0.000	0.000		0.000		2.000	Dec 2013	-		2.000	Continuing	Continuing	
		Subtotal	0.000	0.000		0.000		68.434		0.000		68.434			

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Systems Engineering and Integration	C/TBD	TBD:TBD,	0.000	0.000		0.000		3.536	Dec 2013	-		3.536	Continuing	Continuing	
		Subtotal	0.000	0.000		0.000		3.536		0.000		3.536			

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0605431F: *Advanced EHF MILSATCOM (SPACE)*	PROJECT 657104: *Evolved AEHF MILSATCOM (EAM)*

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 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,	0.000	0.000		0.000		12.317	Dec 2013	-		12.317	Continuing	Continuing	
Program Office Support & Other Related Activities (PMA)	Various	Various:Various,	0.000	0.000		0.000		0.106	Dec 2013	-		0.106	Continuing	Continuing	
Business Operating Support Services & Acquisition Mission Support (PMA)	Various	Various:Various,	0.000	0.000		0.000		5.107	Dec 2013	-		5.107	Continuing	Continuing	
Subtotal			0.000	0.000		0.000		17.530		0.000		17.530			

	All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	0.000		0.000		89.500		0.000		89.500			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0605431F: *Advanced EHF MILSATCOM (SPACE)*	PROJECT 657104: *Evolved AEHF MILSATCOM (EAM)*

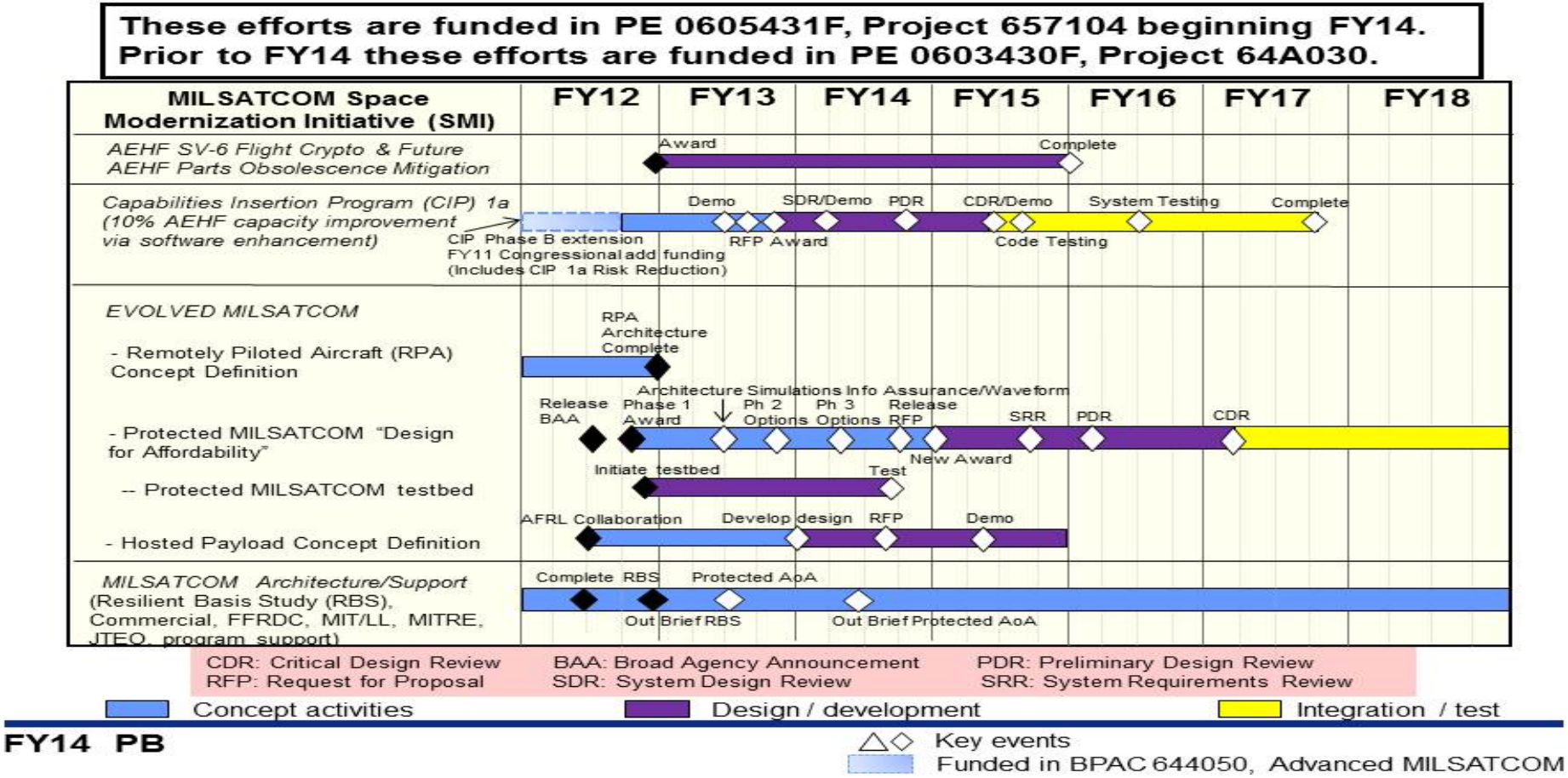


Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0605431F: *Advanced EHF MILSATCOM (SPACE)*	**PROJECT** 657104: *Evolved AEHF MILSATCOM (EAM)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Conduct AEHF CIP 1a System Design Review (SDR)	1	2014	1	2014
Award Phase 3 options for Protected MILSATCOM "Design for Affordability"	2	2014	2	2014
Outbrief Protected AoA	2	2014	2	2014
Conduct AEHF CIP 1a Preliminary Design Review (PDR)	4	2014	4	2014
Release Design For Affordability Request for Proposal (RFP)	4	2014	4	2014

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force												DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*					R-1 ITEM NOMENCLATURE PE 0605432F: *Polar MILSATCOM (SPACE)*							
COST ($ in Millions)	**All Prior Years**	**FY 2012**	**FY 2013#**	**FY 2014 Base**	**FY 2014 OCO ##**	**FY 2014 Total**	**FY 2015**	**FY 2016**	**FY 2017**	**FY 2018**	**Cost To Complete**	**Total Cost**
Total Program Element	0.000	0.000	0.000	124.805	-	124.805	96.782	73.402	52.244	25.140	0.000	372.373
657105: *Polar Satellite Communications*	0.000	0.000	0.000	124.805	-	124.805	96.782	73.402	52.244	25.140	0.000	372.373
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		
MDAP/MAIS Code(s): 121												

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 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).

FY14 funds will continue integration of the two EPS packages (payloads) onto the host satellites. The program office will hold a Milestone B review in 2QFY14 and will conduct a Critical Design Review (CDR) of the Control and Planning Segment (CAPS) in 3QFY14. The program office will fund Navy SPAWAR to conduct integration and test of the Gateway. An EPS system-level CDR will be held 4QFY2014.

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0605432F: *Polar MILSATCOM (SPACE)*

The Polar MILSATCOM program is in Budget Activity 5, System Development and Demonstration (SDD) because the payloads have successfully completed Critical Design Review and the ground system is conducting engineering and manufacturing development tasks aimed at meeting validated requirements prior to production.

B. Program Change Summary ($ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	0.000	0.000	0.000	-	0.000
Current President's Budget	0.000	0.000	124.805	-	124.805
Total Adjustments	0.000	0.000	124.805	-	124.805
• Congressional General Reductions	-	0.000			
• Congressional Directed Reductions	-	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	-	0.000			
• Congressional Directed Transfers	-	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	0.000	0.000	124.805	-	124.805

Change Summary Explanation

FY14: Other Adjustment row: +$124.805M, due to a change in Budget Activity from 4 to 5, funds have been transferred from PE 0603432F, Project 644052.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Title: EPS	0.000	0.000	124.805

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 2012 Accomplishments:
Not applicable.

FY 2013 Plans:
Not applicable.

FY 2014 Plans:
In FY2014, will 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

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0605432F: *Polar MILSATCOM (SPACE)*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
of the ground Gateway segment and conduct site preparation planning. Will hold an EPS Milestone B review and conduct an EPS system-level CDR.			
Accomplishments/Planned Programs Subtotals	0.000	0.000	124.805

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• RDT&E: BA04: PE 0603432F: *Polar MILSATCOM (Space)*	99.598	120.676	0.000		0.000	0.000	0.000	0.000	0.000	0.000	222.024

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 EPS Program 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 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 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0605432F: *Polar MILSATCOM (SPACE)*	PROJECT 657105: *Polar Satellite Communications*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 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	0.000		0.000		65.725	Dec 2013	-		65.725	123.056	188.781	
Gateway architecture development	MIPR	Space and Naval Warfare Systems Command (SPAWAR) Systems Center - Pacific:San Diego, CA	0.000	0.000		0.000		16.880	Dec 2013	-		16.880	31.048	47.928	
EPS Design/Development Contract	SS/CPAF	NGAS:Redondo Beach, CA	0.000	0.000		0.000		17.192	Dec 2013	-		17.192	29.823	47.015	
		Subtotal	0.000	0.000		0.000		99.797		0.000		99.797	183.927	283.724	

Remarks

FY14 funds transferred from PE 0603432F, Project 644052.

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Systems Engineering & Integration	Various	Linquest:Los Angeles, CA	0.000	0.000		0.000		6.884	Dec 2013	-		6.884	15.269	22.153	
		Subtotal	0.000	0.000		0.000		6.884		0.000		6.884	15.269	22.153	

Remarks

FY14 funds transferred from PE 0603432F, Project 644052.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0605432F: *Polar MILSATCOM (SPACE)*	PROJECT 657105: *Polar Satellite Communications*

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 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	0.000		0.000		0.239	Dec 2013	-		0.239	0.000	0.239	
		Subtotal	0.000	0.000		0.000		0.239		0.000		0.239	0.000	0.239	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Office FFRDC engineering (PMA)	Various	Various:Various,	0.000	0.000		0.000		9.745	Dec 2013	-		9.745	29.216	38.961	
Program Office Support	Various	Various:Various,	0.000	0.000		0.000		1.814	Dec 2013	-		1.814	6.559	8.373	
Travel/Business Ops Support Services/ Acquisition Mission Support (PMA)	Various	Various:Various,	0.000	0.000		0.000		6.326	Dec 2013	-		6.326	12.597	18.923	
		Subtotal	0.000	0.000		0.000		17.885		0.000		17.885	48.372	66.257	

Remarks

FY14 funds transferred from PE 0603432F, Project 644052.

	All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	0.000		0.000		124.805		0.000		124.805	247.568	372.373	

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0605432F: *Polar MILSATCOM (SPACE)*	PROJECT 657105: *Polar Satellite Communications*

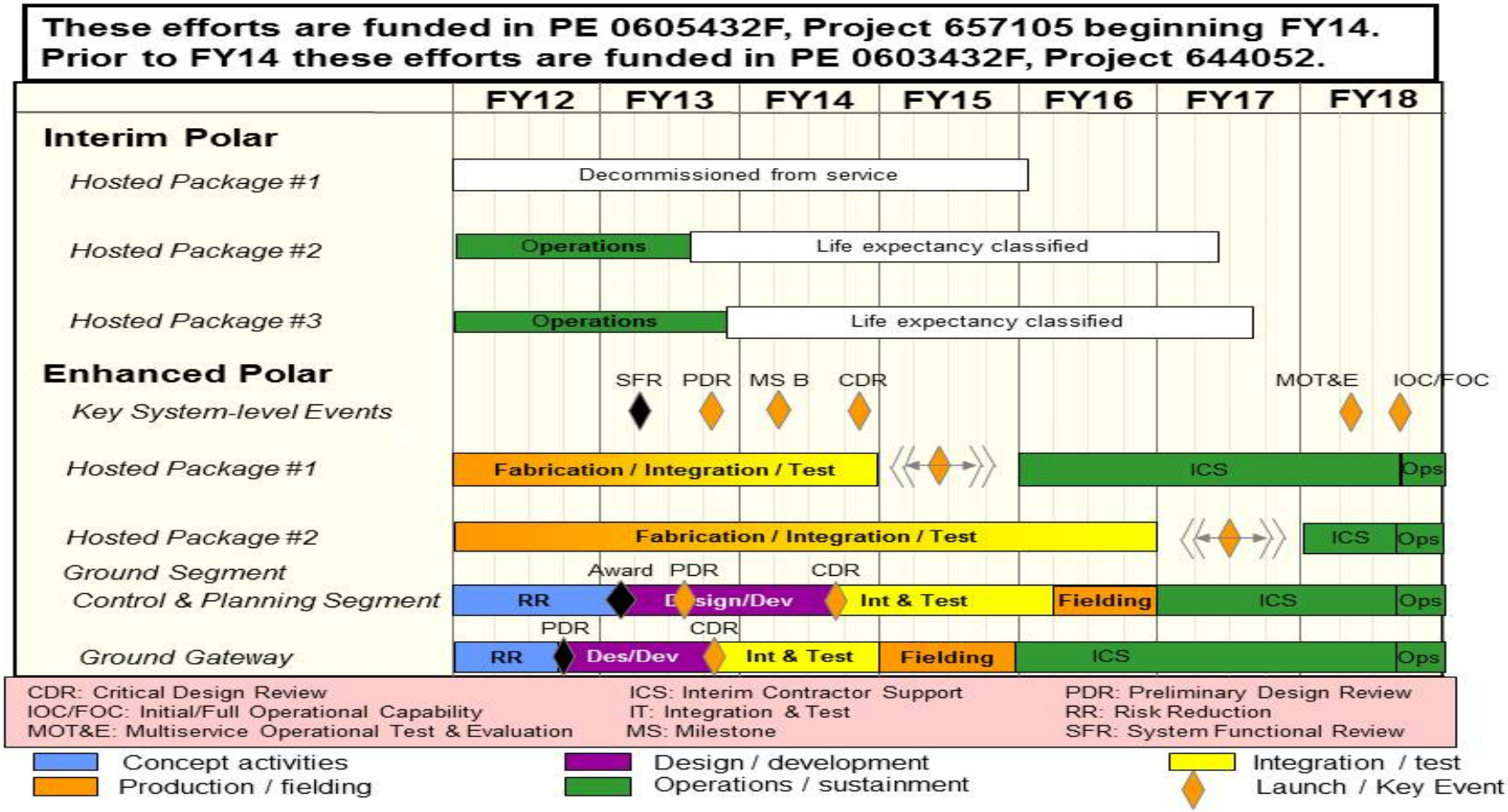


Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0605432F: *Polar MILSATCOM (SPACE)*	PROJECT 657105: *Polar Satellite Communications*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Enhanced Polar System (EPS) Milestone B Review	2	2014	2	2014
Control and Planning Segment (CAPS) Critical Design Review	3	2014	3	2014
EPS system-level Critical Design Review	4	2014	4	2014

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force											DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*					R-1 ITEM NOMENCLATURE PE 0605433F: *WIDEBAND GLOBAL SATCOM (SPACE)*							
COST ($ in Millions)	**All Prior Years**	**FY 2012**	**FY 2013#**	**FY 2014 Base**	**FY 2014 OCO ##**	**FY 2014 Total**	**FY 2015**	**FY 2016**	**FY 2017**	**FY 2018**	**Cost To Complete**	**Total Cost**
Total Program Element	-	0.000	0.000	13.948	-	13.948	16.817	17.096	18.104	18.430	Continuing	Continuing
657102: *Command and Control Sys-Consolidated (CCS-C)*	-	0.000	0.000	13.948	-	13.948	16.817	17.096	18.104	18.430	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 OCO Request will be submitted at a later date

Note

In FY2014, Project 657102, CCS-C, efforts were transferred from PE 0603430F, Wideband Global SATCOM (Space), Project 644870, 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 657102 funds system architecture evolution 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 systems capabilities. 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.

FY14 funds completion of architecture evolution studies, 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.

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.

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0605433F: *WIDEBAND GLOBAL SATCOM (SPACE)*

B. Program Change Summary ($ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	0.000	0.000	0.000	-	0.000
Current President's Budget	0.000	0.000	13.948	-	13.948
Total Adjustments	0.000	0.000	13.948	-	13.948
• Congressional General Reductions	-	0.000			
• Congressional Directed Reductions	-	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	-	0.000			
• Congressional Directed Transfers	-	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	0.000	0.000	13.948	-	13.948

Change Summary Explanation

FY14: Other Adjustment row: $13.948M, due to a change in Budget Activity from 4 to 5, funds have been transferred from PE 0603854F, Project 644870.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Title: CCS-C development	0.000	0.000	13.948
Description: Develop system architecture to provide enhanced C2 of MILSATCOM satellites and to add Space Situational Awareness and new C2 training systems capabilities. ***FY 2012 Accomplishments:*** Not applicable. ***FY 2013 Plans:*** Not applicable. ***FY 2014 Plans:*** Funds the completion of architecture evolution studies; 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.			
Accomplishments/Planned Programs Subtotals	0.000	0.000	13.948

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0605433F: *WIDEBAND GLOBAL SATCOM (SPACE)*

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• OPAF: BA03: Line Item # 836780: *Milsatcom Space*	0.252	0.259	0.261		0.261	0.267	0.272	0.277	0.282	Continuing	Continuing
• MPAF: BA05: Line Item # ADV555: *Advanced EHF*	0.000	0.000	8.600		8.600	9.400	15.110	14.860	10.500	4.000	62.470
• MPAF: BA05: Line Item # GAP000: *Wideband Global System Procurement*	0.000	0.000	10.361		10.361	11.134	7.883	10.136	2.755	0.000	42.269
• RDT&E: BA04: PE 0603854F: *Wideband Global SATCOM RDT&E (Space)*	12.077	12.027	0.000		0.000	0.000	0.000	0.000	0.000	0.000	24.719

Remarks

E. 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.

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 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0605433F: *WIDEBAND GLOBAL SATCOM (SPACE)*	PROJECT 657102: *Command and Control Sys-Consolidated (CCS-C)*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Production and Sustainment Contract	C/FPIF	Kratos:San Diego, CA	-	0.000		0.000		11.302	Oct 2013	-		11.302	Continuing	Continuing	TBD
		Subtotal	0.000	0.000		0.000		11.302		0.000		11.302			

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
CCS-C Systems Engineering and Integration	C/CPIF	TBD:TBD,	-	0.000		0.000		0.258	Oct 2013	-		0.258	Continuing	Continuing	TBD
		Subtotal	0.000	0.000		0.000		0.258		0.000		0.258			

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
CCS-C Program Support Cost (PMA)	Various	Various:Various,	-	0.000		0.000		2.388	Oct 2013	-		2.388	Continuing	Continuing	TBD
		Subtotal	0.000	0.000		0.000		2.388		0.000		2.388			

	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	0.000		0.000		13.948		0.000		13.948			

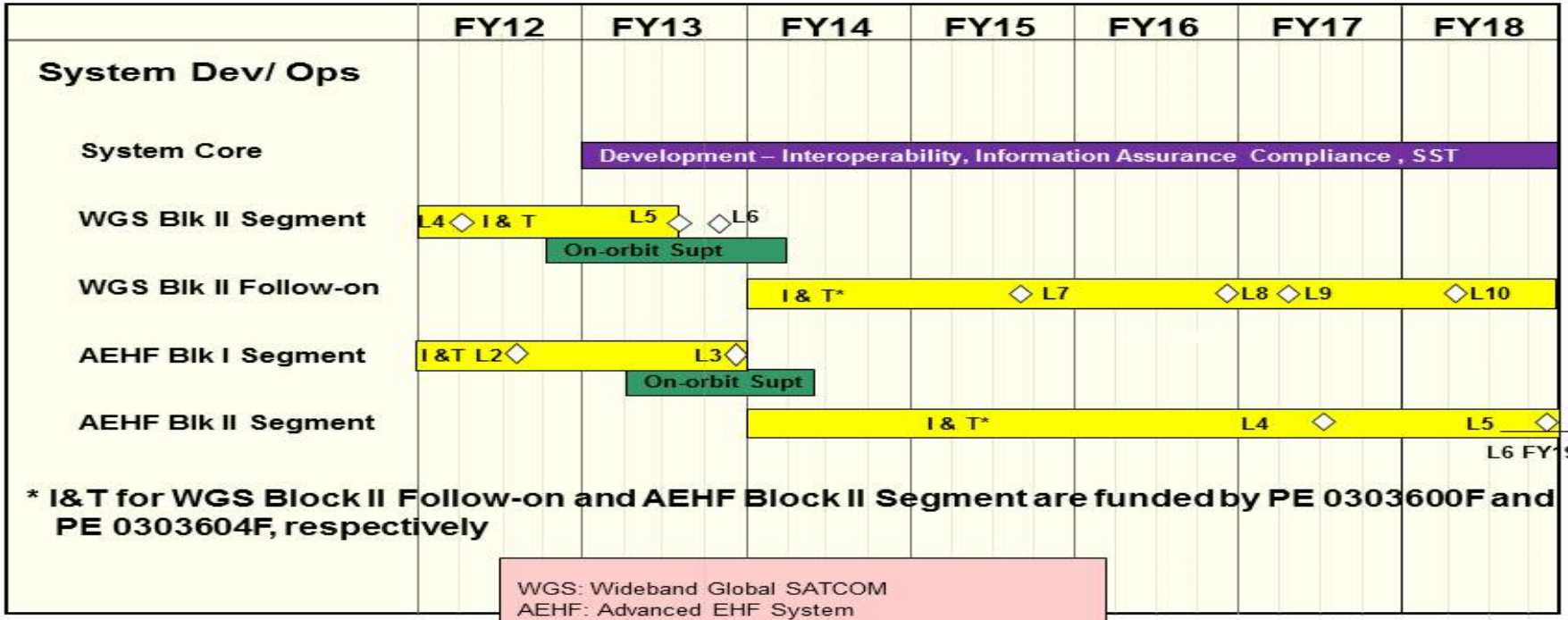
Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0605433F: *WIDEBAND GLOBAL SATCOM (SPACE)*	PROJECT 657102: *Command and Control Sys-Consolidated (CCS-C)*	

	All Prior Years	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0605433F: *WIDEBAND GLOBAL SATCOM (SPACE)*	PROJECT 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-4A, RDT&E Schedule Details: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0605433F: *WIDEBAND GLOBAL SATCOM (SPACE)*	**PROJECT** 657102: *Command and Control Sys-Consolidated (CCS-C)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
KS-252 Upgrade (KI-17 Replacement) [System Core Dev - Cryptologic equipment]	2	2014	2	2016
CCS-C 8500.2 Compliance [System Core Dev - Information Assurance Compliance]	1	2014	4	2018
Approved Cross-Domain Solution (CDS) [System Core Dev - Interoperability]	4	2014	4	2016
CCS-C Capacity and Archive Upgrades [System Core Dev - Architecture evolution]]	1	2014	4	2015
AFSCN Upgrade: TCP/IP, Unified S-Band [System Core Dev - Interoperability]	1	2016	4	2017

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force											DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*					R-1 ITEM NOMENCLATURE PE 0605931F: *B-2 Defensive Management System*							
COST ($ in Millions)	**All Prior Years**	**FY 2012**	**FY 2013#**	**FY 2014 Base**	**FY 2014 OCO ##**	**FY 2014 Total**	**FY 2015**	**FY 2016**	**FY 2017**	**FY 2018**	**Cost To Complete**	**Total Cost**
Total Program Element	0.000	0.000	281.056	303.500	-	303.500	259.400	168.300	115.000	89.700	Continuing	Continuing
653844: *B-2 DMS*	0.000	0.000	281.056	303.500	-	303.500	259.400	168.300	115.000	89.700	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		
MDAP/MAIS Code(s): 431												

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 OCO Request will be submitted at a later date

Note

In FY12, this effort was funded under PE 0101127F, project 676023.

A. Mission Description and Budget Item Justification

DMS-M is the #1 priority modification program in the B-2 program office. The B-2 Defensive Management System Modernization (DMS-M) program maintains the B-2 direct attack capability while addressing emerging 21st century threats. DMS-M will upgrade the Electronic Support Measures, antennas, and display processing units. Modernization of this system will resolve the #1 obsolescence issue in the B-2 fleet.

The B-2 DMS-M will provide the Joint Force Commander and the B-2 fleet with advanced situational awareness, improved supportability, enhanced lethality, increased platform survivability, and networked battlespace awareness. The DMS-M upgrade will provide the following core capabilities for the B-2 and joint warfighting force:

1) Ability to provide indication, type, and position of airborne and ground-based radio frequency (RF) threats with the situational awareness needed to avoid, engage, or negate threats,

2) Improved RF threat information that can be reported to control agencies or inter-flight for improved situation/battlespace awareness,

3) Ability to adequately control, process, and display incoming threat information to the aircrew and provide updated battle-space awareness,

4) Improved supportability and reduced operations and maintenance costs.

BA5 - This program is in Budget Activity 5, Engineering and Manufacturing Development (EMD, formerly known as System Development and Demonstration (SDD).) It is expected to pass Milestone B and begin conducting Engineering and Manufacturing Development tasks in FY14 aimed at meeting validated requirements prior to Full Rate Production.

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0605931F: *B-2 Defensive Management System*

B. Program Change Summary ($ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	0.000	281.056	318.150	-	318.150
Current President's Budget	0.000	281.056	303.500	-	303.500
Total Adjustments	0.000	0.000	-14.650	-	-14.650
• Congressional General Reductions	-	0.000			
• Congressional Directed Reductions	-	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	-	0.000			
• Congressional Directed Transfers	-	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	0.000	0.000	-14.650	-	-14.650

Change Summary Explanation

FY14 adjusted to match the approved Service Cost Position (SCP).

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Title: B-2 Defensive Management System Modernization (DMS-M) Tech Development Ph 1	0.000	12.429	0.000
Description: Refine DMS-M system concept. Begin avionics and Electronic Support Measures (ESM) hardware/software development. Conduct display processor and antenna competitions. Initiate rapid acquisition risk reduction efforts to accelerate program schedule. ***FY 2012 Accomplishments:*** In FY12, this effort was funded under PE 0101127F, project 676023. ***FY 2013 Plans:*** Complete 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	0.000	259.853	189.251
Description: Continue hardware and software development from Phase 1. Conduct Preliminary Design Review (PDR) and Milestone B review in FY14. Initiate required upgrades for Mission Planning System (MPS) software and Trainers (hardware & software). ***FY 2012 Accomplishments:*** In FY12, this effort was funded under PE 0101127F, project 676023. ***FY 2013 Plans:***			

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0605931F: *B-2 Defensive Management System*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Continue software development and hardware integration. Conduct supplier PDRs. Initiate purchase of long-lead hardware to support early flight testing in EMD phase. Initiate contracts for MPS (software) and Trainer (hardware/software) upgrade development. ***FY 2014 Plans:*** Complete technology development. Conduct system PDR and Milestone B. Monitor long-lead hardware purchases to support EMD. Continue MPS and Trainer development activities.			
Title: B-2 Defensive Management System Modernization (DMS-M) Engineering and Manufacturing Development (EMD) ***Description:*** Conduct Critical Design Review (CDR). Complete hardware/software development, final hardware/software integration, and test activities. Complete development and provide MPS software upgrade and initial Training System upgrades to support flight test. ***FY 2014 Plans:*** Conduct array-level demonstration of antennas. Continue hardware/software development/integration. Prepare for CDR in 1QFY15. Continue MPS software and Training System software/hardware development.	0.000	0.000	106.621
Title: DMS PMA ***Description:*** DMS PMA ***FY 2013 Plans:*** DMS PMA ***FY 2014 Plans:*** DMS PMA	0.000	8.774	7.628
Accomplishments/Planned Programs Subtotals	0.000	281.056	303.500

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• APAF: BA05: B00200: *B-2A*	0.000	0.000	0.000		0.000	0.000	0.000	74.264	250.044	345.000	745.614
• RDT&E: BA05: PE 0101127F: *B-2 DMS-M Development*	46.427	0.000	0.000		0.000	0.000	0.000	0.000	0.000	0.000	46.427
• APAF: BA06: 000999: *Initial Spares/Repair Parts*	0.000	0.000	0.000		0.000	0.000	0.000	3.087	14.651	32.400	49.938

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0605931F: *B-2 Defensive Management System*

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost

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.

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 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0605931F: *B-2 Defensive Management System*	PROJECT 653844: *B-2 DMS*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Air Vehicle - Technology Development Ph1	SS/CPIF	Various:,	0.000	0.000		12.429	Nov 2012	0.000		-		0.000	0.000	12.429	
Air Vehicle - Technology Development Ph 2	SS/CPIF	Various:,	0.000	0.000		258.633	Oct 2012	189.251	Dec 2013	-		189.251	3.943	451.827	TBD
Air Vehicle - Engineering and Manufacturing Development (EMD)	SS/CPIF	Various:,	0.000	0.000		0.000		105.401	May 2014	-		105.401	612.808	718.209	
		Subtotal	0.000	0.000		271.062		294.652		0.000		294.652	616.751	1,182.465	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Government Test	PO	AFFTC:,	0.000	0.000		1.220	Oct 2012	1.220	Oct 2013	-		1.220	41.801	44.241	TBD
		Subtotal	0.000	0.000		1.220		1.220		0.000		1.220	41.801	44.241	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
PMA	Various	Various:,	0.000	0.000		8.774	Oct 2012	7.628	Oct 2013	-		7.628	24.519	40.921	TBD
		Subtotal	0.000	0.000		8.774		7.628		0.000		7.628	24.519	40.921	

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0605931F: *B-2 Defensive Management System*	PROJECT 653844: *B-2 DMS*	

	All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	0.000		281.056		303.500		0.000		303.500	683.071	1,267.627	

Remarks

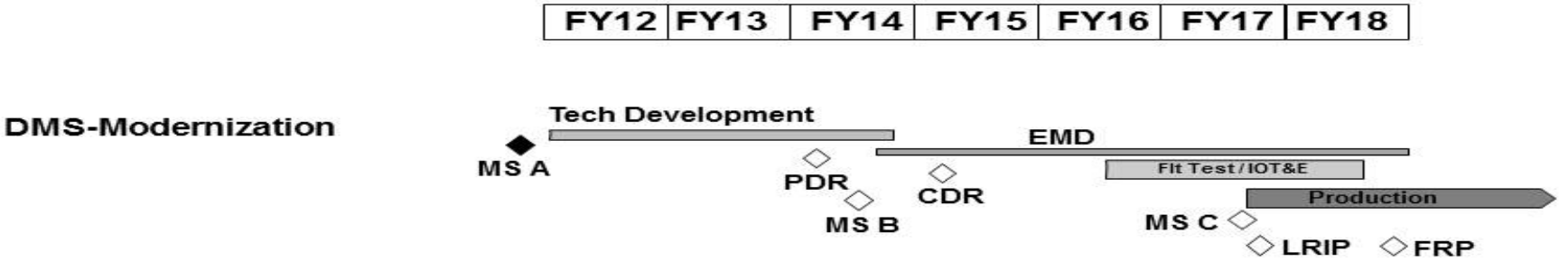
In FY12, this effort was funded under PE 0101127F, project 676023.

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 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0605931F: *B-2 Defensive Management System*	PROJECT 653844: *B-2 DMS*

U.S. AIR FORCE

B-2 FY14 PB DMS-M Detailed Schedule



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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0605931F: *B-2 Defensive Management System*	**PROJECT** 653844: *B-2 DMS*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
DMS-M Technology Development Ph 1 Contract Award	1	2012	1	2012
DMS-M Preliminary Design Review	1	2014	1	2014
DMS-M Technology Development Ph 2 Contract Award	1	2013	1	2013
DMS-M Milestone B Decision	3	2014	3	2014
DMS-M EMD Contract Award	3	2014	3	2014
DMS-M EMD Contract Period of Performance	3	2014	4	2018
DMS-M Critical Design Review	1	2015	1	2015
DMS-M Flight Test Program	3	2016	3	2018
DMS-M Milestone C	3	2017	3	2017
DMS-M Low Rate Initial Production Contract Award	4	2017	4	2017
DMS-M Full Rate Production Contract Award	4	2018	4	2018

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force											DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*					R-1 ITEM NOMENCLATURE PE 0101125F: *Nuclear Weapons Modernization*							
COST ($ in Millions)	**All Prior Years**	**FY 2012**	**FY 2013#**	**FY 2014 Base**	**FY 2014 OCO ##**	**FY 2014 Total**	**FY 2015**	**FY 2016**	**FY 2017**	**FY 2018**	**Cost To Complete**	**Total Cost**
Total Program Element	0.000	91.269	80.200	67.874	-	67.874	200.634	215.976	210.200	155.121	Continuing	Continuing
657007: *B61 LIFE EXTENSION PROGRAM*	0.000	81.617	80.200	67.874	-	67.874	200.634	215.976	210.200	155.121	79.094	1,090.716
657008: *LONG RANGE STAND-OFF*	0.000	9.652	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
MDAP/MAIS Code(s): 468												

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 OCO Request will be submitted at a later date

Note

In FY12, B61 Life Extension Program (LEP) efforts were transferred from PE 0604222F, Nuclear Weapons Support, to PE 0101125F, Nuclear Weapon Modernization, in order to support B61 LEP development.

In FY12, LRSO efforts were transferred from PE 0101122F, Air Launched Cruise Missile, to PE 0101125F, Nuclear Weapon Modernization, in order to support LRSO development.

In FY13, LRSO efforts were transferred from PE 0101125F, Nuclear Weapon Modernization, project number 657008, to PE 0604932F, Long Range Standoff Weapon, project number 657011.

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.

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0101125F: *Nuclear Weapons Modernization*

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.

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 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	93.867	80.200	110.223	-	110.223
Current President's Budget	91.269	80.200	67.874	-	67.874
Total Adjustments	-2.598	0.000	-42.349	-	-42.349
• Congressional General Reductions	-	0.000			
• Congressional Directed Reductions	-	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	-	0.000			
• Congressional Directed Transfers	-	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	-2.598	0.000			
• Other Adjustments	0.000	0.000	-42.349	-	-42.349

Change Summary Explanation

FY14: -$42.349M Adjustment to remain synchronized with the DOE schedule (two-year First Production Unit delay directed by Nuclear Weapons Council).

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0101125F: *Nuclear Weapons Modernization*	PROJECT 657007: *B61 LIFE EXTENSION PROGRAM*	

COST ($ in Millions)	All Prior Years	FY 2012	FY 2013#	FY 2014 Base	FY 2014 OCO ##	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
657007: *B61 LIFE EXTENSION PROGRAM*	0.000	81.617	80.200	67.874	-	67.874	200.634	215.976	210.200	155.121	79.094	1,090.716
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 OCO Request will be submitted at a later date

Note

In FY12, B61 Life Extension Program (LEP) efforts were transferred from PE 0604222F, Nuclear Weapons Support, to PE 0101125F, Nuclear Weapon Modernization.

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 2012	FY 2013	FY 2014
Title: Engineering & Manufacturing Development Contract	71.212	43.283	18.113
Description: Prime contract to develop, test, integrate and nuclear certify a guided TKA in support of the B61-12 LEP.			
FY 2012 Accomplishments: Provided 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 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 2013 Plans: Provides B61-12 TKA development, design, test, integration, qualification and nuclear certification activities in support of the B61-12 LEP. Supports design, integration and testing of the B61-12 system and verification of requirements and validation of			

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0101125F: *Nuclear Weapons Modernization*	PROJECT 657007: *B61 LIFE EXTENSION PROGRAM*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
TKA performance. Establishes and implements B61-12 TKA 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 B61-12 TKA 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.			
Title: AUR Technical Integration	2.255	11.463	12.981
Description: Covers all system engineering tasks in support of AUR technical integration, qualification & fielding, including program support to the B61 LEP POG. ***FY 2012 Accomplishments:*** Development of 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 Compatibility Test Unit (CTUs) to support early integration efforts at the aircraft system integration laboratories. Included B61-12 AUR technical and programmatic reviews, including design reviews, systems reviews, technical interchanges meetings, and test reviews. Also included 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. ***FY 2013 Plans:*** Development of B61-12 system qualification plan, warhead component qualification, TKA qualifications, and B61-12 AUR integration activities. Provides support to maintain technical and programmatic schedules and program documents that support the AUR technical integration. Develops warhead-to-TKA interface requirements and design. Provides technical expertise to maintain B61-12 aircraft compatibility with all 5 delivery platforms through completion of a test and evaluation program. Develops 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			

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0101125F: *Nuclear Weapons Modernization*	PROJECT 657007: *B61 LIFE EXTENSION PROGRAM*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
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. 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.			
Title: Aircraft Integration ***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 2012 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 (PACs) Operational Flight Program (OFP). Also provided fit check and design compatibility with objective aircraft. Included development of Mission Planning upgrades to Air Vehicle System (APS), Joint Mission Planning System (JMPS), and Combat Weapon Delivery Software (CWDS). ***FY 2013 Plans:*** Acquisition planning, meeting participation and fit checks for threshold aircraft. Also provides F-15E Suite 8 test tape development and demonstration/validation of the PACs OFP. Also provides fit check and design compatibility with objective aircraft. Includes development of Mission Planning upgrades to APS, JMPS, and 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.	1.111	12.532	12.122
Title: Test Support ***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).	0.100	6.552	18.468

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0101125F: *Nuclear Weapons Modernization*	PROJECT 657007: *B61 LIFE EXTENSION PROGRAM*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
FY 2012 Accomplishments: 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 Plans:*** Test planning and execution activities to support B61-12 weapon development, AUR technical integration and aircraft integration. Provides ground test activities to verify warhead to tailkit integration to include wind tunnel testing. Provides aircraft and support equipment fit check activities. Provides flight testing to verify aircraft flight environments in support of weapon development. Also provides 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 bomb assemblies (BAs) to accomplish TKA test and trainer activities.			
Title: Program Office Support ***Description:*** System engineering & business management support to distributed program office (AFNWC & AFLCMC Armament Directorate (AFLCMC/EB)) and other PMA. ***FY 2012 Accomplishments:*** System engineering & business management support to distributed program office (AFNWC & AFLCMC Armament Directorate (AFLCMC/EB)) and other PMA. ***FY 2013 Plans:*** System engineering & business management support to distributed program office (AFNWC & AFLCMC Armament Directorate (AFLCMC/EB)) and other PMA. ***FY 2014 Plans:*** System engineering & business management support to distributed program office (AFNWC & AFLCMC Armament Directorate (AFLCMC/EB)) and other PMA.	6.939	6.370	6.190
Accomplishments/Planned Programs Subtotals	81.617	80.200	67.874

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0101125F: *Nuclear Weapons Modernization*	PROJECT 657007: *B61 LIFE EXTENSION PROGRAM*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• RDT&E: BA 05: 0604222F: *Funding prior to FY12 was contained in PE0604222F. Prior Year funding was $31.328M.*	0.000	0.000	0.000		0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

Remarks

Funding prior to FY12 was contained in PE0604222F. Prior Year funding was $31.328M.

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 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0101125F: *Nuclear Weapons Modernization*	PROJECT 657007: *B61 LIFE EXTENSION PROGRAM*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
B61 LEP EMD Contract	C/CPIF	Boeing:,	0.000	71.212	Nov 2012	43.283	Jun 2013	18.113	Nov 2013	-		18.113	350.147	482.755	TBD
		Subtotal	0.000	71.212		43.283		18.113		0.000		18.113	350.147	482.755	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
AUR Technical Integration	MIPR	Various:,	0.000	2.255	Apr 2012	11.463	Apr 2013	12.981	Apr 2014	-		12.981	57.522	84.221	
Aircraft Integration	MIPR	Various:,	0.000	1.111	Jun 2012	12.532	Mar 2013	12.122	Oct 2014	-		12.122	226.529	252.294	
		Subtotal	0.000	3.366		23.995		25.103		0.000		25.103	284.051	336.515	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test Support for B61 LEP Development	MIPR	RTO:,	0.000	0.100	Oct 2012	6.552	Jun 2013	18.468	Jun 2014	-		18.468	210.675	235.795	
		Subtotal	0.000	0.100		6.552		18.468		0.000		18.468	210.675	235.795	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
PMA	Various	Not specified.:,	0.000	6.939	Oct 2011	6.370	Oct 2012	6.190	Oct 2013	-		6.190	16.152	35.651	TBD
		Subtotal	0.000	6.939		6.370		6.190		0.000		6.190	16.152	35.651	

	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	81.617		80.200		67.874		0.000		67.874	861.025	1,090.716	

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0101125F: *Nuclear Weapons Modernization*	PROJECT 657007: *B61 LIFE EXTENSION PROGRAM*	

	All Prior Years	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0101125F: *Nuclear Weapons Modernization*	PROJECT 657007: *B61 LIFE EXTENSION PROGRAM*

B61-12 Tailkit Assembly (TKA) Schedule

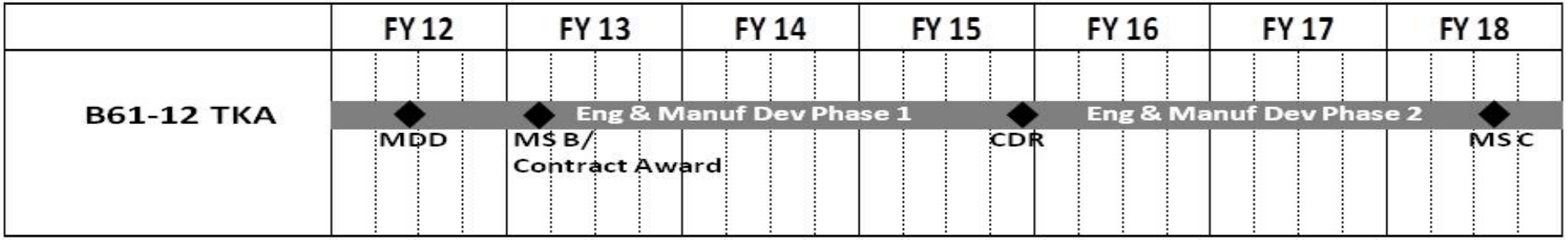


Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0101125F: *Nuclear Weapons Modernization*	PROJECT 657007: *B61 LIFE EXTENSION PROGRAM*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Milestone B Decision	1	2013	1	2013
Engineering & Manufacturing Development Contract	1	2013	4	2018
Milestone C Decision	3	2018	3	2018

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0101125F: *Nuclear Weapons Modernization*	PROJECT 657008: *LONG RANGE STAND-OFF*	

COST ($ in Millions)	All Prior Years	FY 2012	FY 2013#	FY 2014 Base	FY 2014 OCO ##	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
657008: *LONG RANGE STAND-OFF*	0.000	9.652	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 OCO Request will be submitted at a later date

Note

In FY2012 LRSO efforts were transferred from PE 0101122F, Air Launched Cruise Missile, project number 674797, to PE 0101125F, Nuclear Weapon Modernization, project number 657008 in order to support LRSO development.

In FY2013 LRSO efforts were transferred from PE 0101125F, Nuclear Weapon Modernization, project number 657008, to PE 0604932F, Long Range Stand Off, project number 657011, in order to support LRSO development.

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.

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 2012	FY 2013	FY 2014
Title: Materiel Solution Analysis (MSA) & AoA	9.652	0.000	0.000
Description: Conduct LRSO MSA/AoA activities.			
FY 2012 Accomplishments: Conducted LRSO AoA analysis. Activities included: 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 MSA exit/Technology Development (TD) entrance documentation.			
FY 2013 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0101125F: *Nuclear Weapons Modernization*	PROJECT 657008: *LONG RANGE STAND-OFF*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Effort moved to PE 64932F - Long Range Standoff Weapon			
Accomplishments/Planned Programs Subtotals	9.652	0.000	0.000

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• RDT&E: BA05: PE 0604932F: *Long Range Standoff Weapon*	0.000	2.004	5.000		5.000	40.500	203.600	349.300	440.300	Continuing	Continuing

Remarks

D. Acquisition Strategy

Development of the LRSO acquisition/contract strategy continues to evolve pending the completion of the AoA and the evaluation of alternative weapon system concepts.

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 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0101125F: *Nuclear Weapons Modernization*	PROJECT 657008: *LONG RANGE STAND-OFF*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Materiel Solution Analysis Phase Activities	Various	Various:Various,	0.000	9.652	Dec 2011	0.000		0.000		-		0.000	Continuing	Continuing	TBD
		Subtotal	0.000	9.652		0.000		0.000		0.000		0.000			

Remarks

In FY11, LRSO efforts were funded in PE 0101122F, Air Launched Cruise Missile, project number 674797.

In FY13, LRSO efforts were transferred from PE 0101125F, Nuclear Weapon Modernization, project number 657008, to PE 0604932F, Long Range Stand Off, project number 657011.

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

	All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	9.652		0.000		0.000		0.000		0.000			

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0101125F: *Nuclear Weapons Modernization*	PROJECT 657008: *LONG RANGE STAND-OFF*	

	All Prior Years	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0101125F: *Nuclear Weapons Modernization*	PROJECT 657008: *LONG RANGE STAND-OFF*

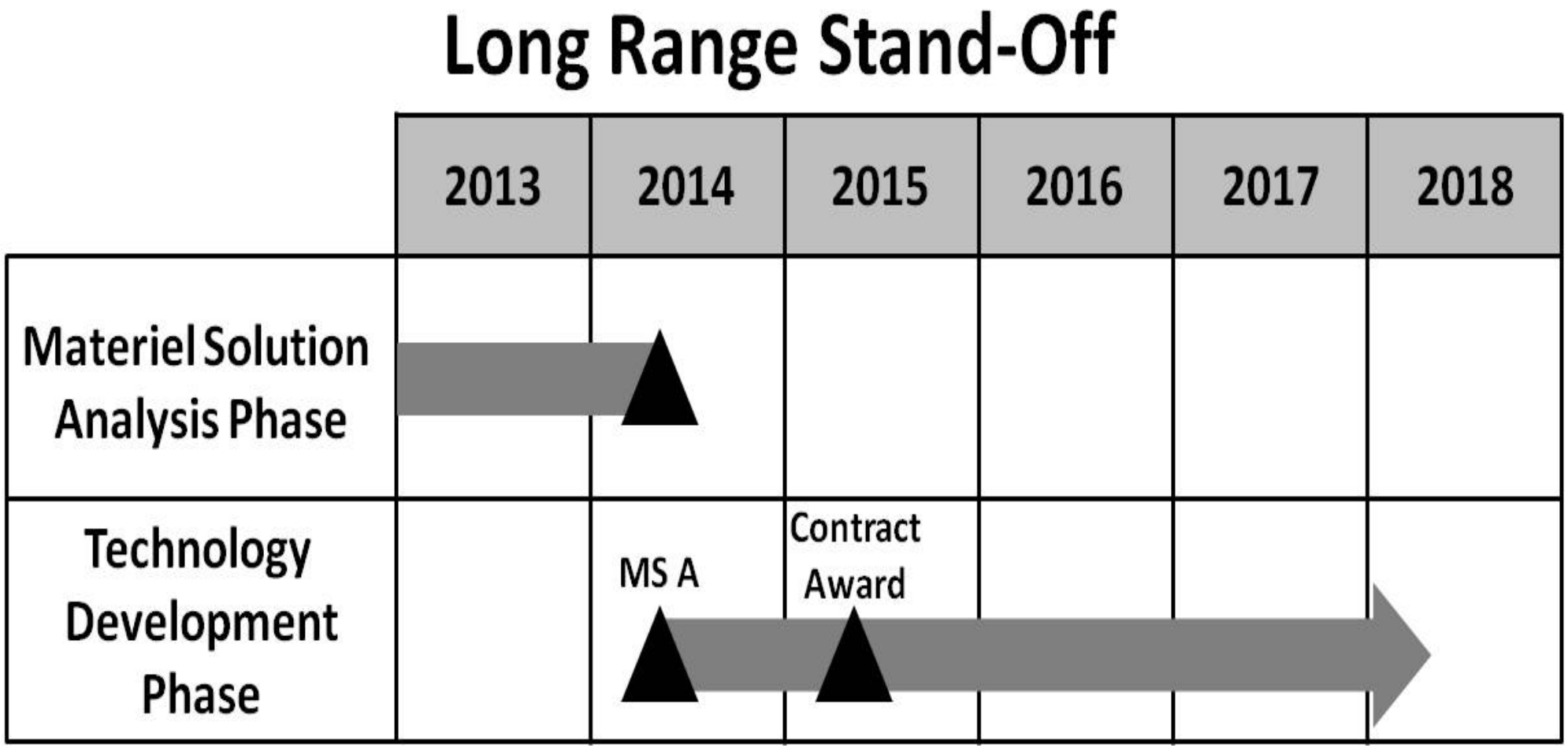


Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0101125F: *Nuclear Weapons Modernization*	**PROJECT** 657008: *LONG RANGE STAND-OFF*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Materiel Solution Analysis Phase	1	2012	2	2014
Milestone A Decision	2	2014	2	2014
Technology Development Phase	2	2014	4	2018
Contract Award	2	2015	2	2015

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force											DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*					R-1 ITEM NOMENCLATURE PE 0207100F: *Light Attack Armed Reconnaissance (LAAR) Squadrons*							
COST ($ in Millions)	**All Prior Years**	**FY 2012**	**FY 2013#**	**FY 2014 Base**	**FY 2014 OCO ##**	**FY 2014 Total**	**FY 2015**	**FY 2016**	**FY 2017**	**FY 2018**	**Cost To Complete**	**Total Cost**
Total Program Element	-	11.021	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
657005: *Light Attack*	-	11.021	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 OCO Request will be submitted at a later date

A. Mission Description and Budget Item Justification

Light Attack Armed Reconnaissance (LAAR) program provides the USAF with a non-developmental training aircraft suitable for training USAF Air Advisors in conducting strike and armed reconnaissance operations under Irregular Warfare (IW) conditions. The USAF Air Advisors will deploy and train pilots from partner nations (PN) in support of Building Partnership Capacity (BPC) for lesser developed PN. LAAR provides the USAF with a CONUS based capability to prepare PN to conduct indigenous aerial operations. US Air Force provided training better enables PN to employ a light attack and reconnaissance capability using a representative platform consistent with the partner nation's sustainment and operational needs.

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 LAAR program is terminated. Light attack air advisors will train in theater using methods similar to those already proven in other light aircraft. The Air Force has the ability to improve the capabilities of Partner Nation Air Forces using the foundational programs without procuring a niche aircraft to accomplish the training.

B. Program Change Summary ($ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	13.721	0.000	0.000	-	0.000
Current President's Budget	11.021	0.000	0.000	-	0.000
Total Adjustments	-2.700	0.000	0.000	-	0.000
• Congressional General Reductions	-	0.000			
• Congressional Directed Reductions	-	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	-	0.000			
• Congressional Directed Transfers	-	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	-2.700	0.000			
• Other Adjustments	0.000	0.000	0.000	-	0.000

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0207100F: *Light Attack Armed Reconnaissance (LAAR) Squadrons*

Change Summary Explanation

The LAAR program is terminated. Light attack air advisors will train in theater using methods similar to those already proven in other light aircraft. The Air Force has the ability to improve the capabilities of Partner Nation Air forces using the foundational programs without procuring a niche aircraft to accomplish the training.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Title: Light Attack	11.021	0.000	0.000
Description: Effort will acquire an aircraft and modify it to satisfy the requirement to conduct training (strike and armed reconnaissance) for Irregular Warfare (IW) operations in support of Building Partnership Capacity (BPC) for lesser developed partner nations (PN). Funding supports system engineering, prime mission equipment (PME) integration, and test planning and execution, development and operational testing. ***FY 2012 Accomplishments:*** No funds wills be utilized for LAAR in FY12. The LAAR program is terminated. Light attack air advisors will train in theater using methods similar to those already proven in other light aircraft. The Air Force has the ability to improve the capabilities of Partner Nation Air Forces using the foundational programs without procuring a niche aircraft to accomplish the training.			
Accomplishments/Planned Programs Subtotals	11.021	0.000	0.000

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• APAF: BA05: Line Item # LAAR00: *Light Attack Armed Recon Acft*	115.049	0.000	0.000		0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

Remarks

E. Acquisition Strategy

The LAAR program is terminated. Light attack air advisors will train in theater using methods similar to those already proven in other light aircraft. The Air Force has the ability to improve the capabilities of Partner Nation Air Forces using the foundational programs without procuring a niche aircraft to accomplish the training.

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 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0207100F: *Light Attack Armed Reconnaissance (LAAR) Squadrons*	PROJECT 657005: *Light Attack*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Weapon Integration	TBD	TBD:TBD,	-	11.021	Feb 2012	0.000		0.000		-		0.000	Continuing	Continuing	
		Subtotal	0.000	11.021		0.000		0.000		0.000		0.000			

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

	All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	11.021		0.000		0.000		0.000		0.000			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0207100F: *Light Attack Armed Reconnaissance (LAAR) Squadrons*	PROJECT 657005: *Light Attack*

Light Attack/Armed Reconnaissance (LAAR) DP Schedule

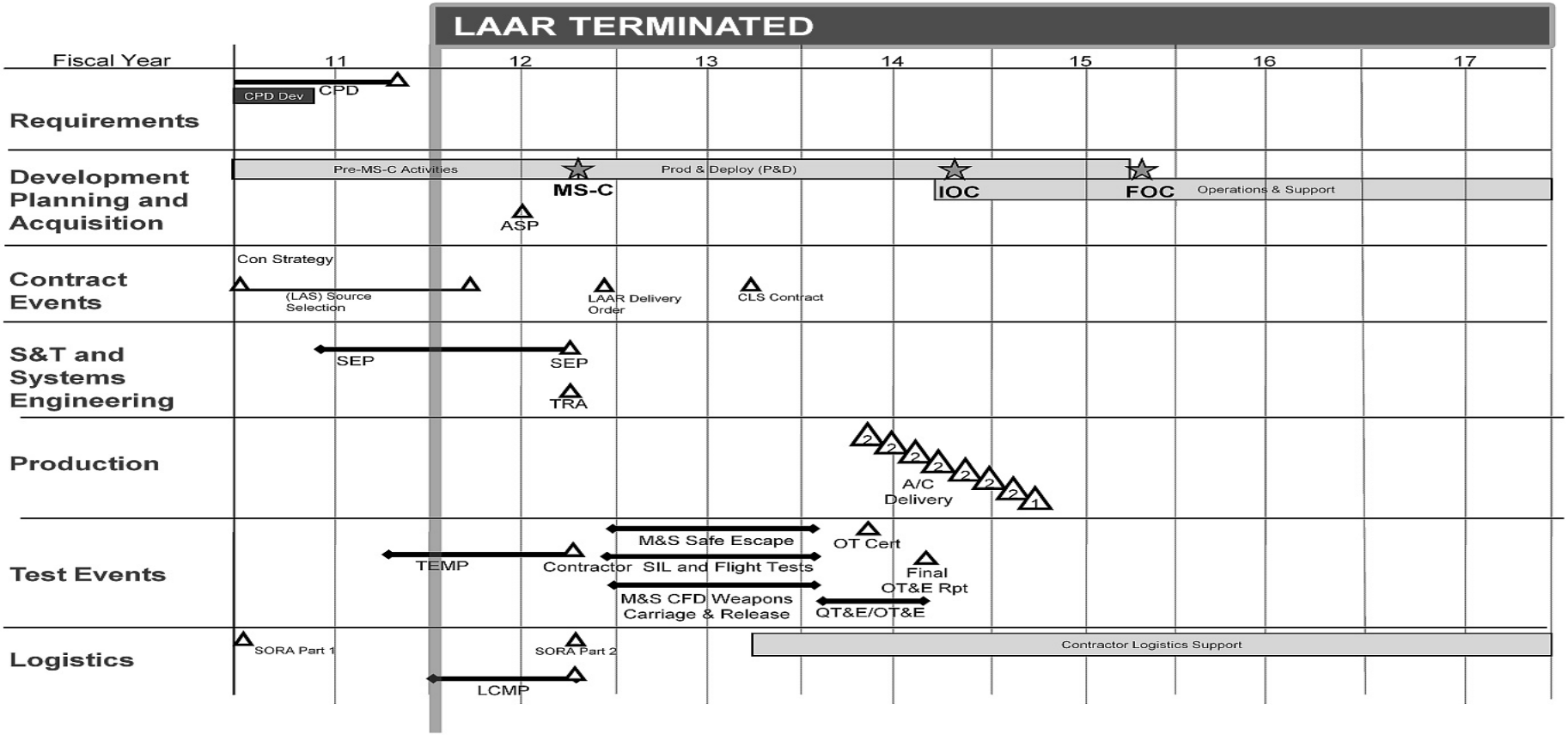


Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force											DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*					R-1 ITEM NOMENCLATURE PE 0207604F: *Readiness Training Ranges, Operations and Maintenance*							
COST ($ in Millions)	**All Prior Years**	**FY 2012**	**FY 2013#**	**FY 2014 Base**	**FY 2014 OCO ##**	**FY 2014 Total**	**FY 2015**	**FY 2016**	**FY 2017**	**FY 2018**	**Cost To Complete**	**Total Cost**
Total Program Element	-	0.000	0.310	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
652286: *Combat Training Range Equipment*	-	0.000	0.310	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 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 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	0.000	0.310	0.000	-	0.000
Current President's Budget	0.000	0.310	0.000	-	0.000
Total Adjustments	0.000	0.000	0.000	-	0.000
• Congressional General Reductions	-	0.000			
• Congressional Directed Reductions	-	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	-	0.000			
• Congressional Directed Transfers	-	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	0.000	0.000	0.000	-	0.000

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Title: Center Scheduling Enterprise (CSE)	0.000	0.310	0.000
Description: Develop AF wide tool to schedule, manage, and report utilization of all ranges and airspace			

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0207604F: *Readiness Training Ranges, Operations and Maintenance*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
FY 2013 Plans: Develop and implement CSE tool			
Accomplishments/Planned Programs Subtotals	0.000	0.310	0.000

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-3, RDT&E Project Cost Analysis: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0207604F: *Readiness Training Ranges, Operations and Maintenance*	PROJECT 652286: *Combat Training Range Equipment*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
CSE Development	TBD	Not specified.:Location not provided.	-	0.000		0.310	Jan 2013	0.000		-		0.000	Continuing	Continuing	
		Subtotal	0.000	0.000		0.310		0.000		0.000		0.000			

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

	All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	0.000		0.310		0.000		0.000		0.000			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0207604F: *Readiness Training Ranges, Operations and Maintenance*	PROJECT 652286: *Combat Training Range Equipment*

Center Schedule Enterprise (CSE) Schedule

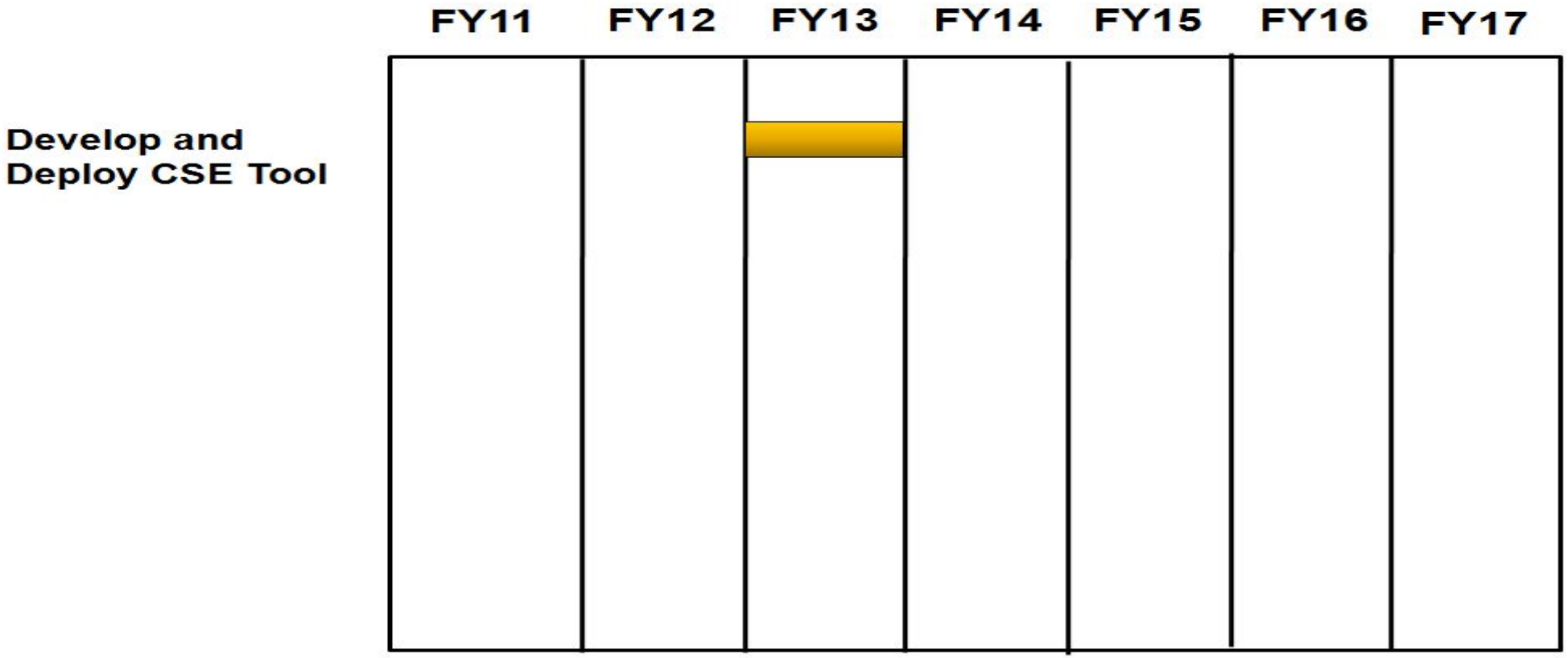


Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0207604F: *Readiness Training Ranges, Operations and Maintenance*	**PROJECT** 652286: *Combat Training Range Equipment*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Develop and deploy CSE tool	1	2013	4	2013

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force											DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*					R-1 ITEM NOMENCLATURE PE 0207701F: *Full Combat Mission Training*							
COST ($ in Millions)	**All Prior Years**	**FY 2012**	**FY 2013#**	**FY 2014 Base**	**FY 2014 OCO ##**	**FY 2014 Total**	**FY 2015**	**FY 2016**	**FY 2017**	**FY 2018**	**Cost To Complete**	**Total Cost**
Total Program Element	-	28.917	14.861	4.663	-	4.663	13.571	15.636	11.672	11.881	Continuing	Continuing
655012: *Full Combat Mission Training*	-	15.631	5.804	0.000	-	0.000	2.645	2.714	2.854	2.905	Continuing	Continuing
655354: *F-16 Block 40/50 MTC*	-	13.286	9.057	4.663	-	4.663	10.926	12.922	8.818	8.976	Continuing	Continuing

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 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 5012, FCMT, efforts are focused on development, demonstration, and transitioning of critical functions associated with the DMO/LVC network and linked simulators. Project 5354, 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 funded 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 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	29.826	14.861	15.183	-	15.183
Current President's Budget	28.917	14.861	4.663	-	4.663
Total Adjustments	-0.909	0.000	-10.520	-	-10.520
• Congressional General Reductions	-	0.000			
• Congressional Directed Reductions	-	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	-	0.000			
• Congressional Directed Transfers	-	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	-0.909	0.000			
• Other Adjustments	0.000	0.000	-10.520	-	-10.520

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0207701F: *Full Combat Mission Training*

Change Summary Explanation

FY14: Reduction of 10.520M due to higher DoD priorities

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0207701F: *Full Combat Mission Training*	PROJECT 655012: *Full Combat Mission Training*	

COST ($ in Millions)	All Prior Years	FY 2012	FY 2013#	FY 2014 Base	FY 2014 OCO ##	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
655012: *Full Combat Mission Training*	-	15.631	5.804	0.000	-	0.000	2.645	2.714	2.854	2.905	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 OCO Request will be submitted at a later date

Note

The program has been funded to latest cost estimate.

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.

No FY14 funding is requested.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Title: Cross Domain Solutions (CDS)	4.631	2.590	0.000
Description: Development, demonstration and insertion of multi-level security capability. ***FY 2012 Accomplishments:*** Cross Domain Solution as required for operational systems on the DMO Network including B-2 and F-35. Development, demonstration and insertion of multi-level security solutions. ***FY 2013 Plans:*** Develop Core Mission Enclave (CME) multilevel security approach to include, but not limited to, F-35 and B-2. ***FY 2014 Plans:***			

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0207701F: *Full Combat Mission Training*	PROJECT 655012: *Full Combat Mission Training*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
N/A			
Title: Develop DMO Capabilities ***Description:*** Continue development, demonstration, studies and insertion of DMO/LVC related technologies and proficiency based continuation training strategies. ***FY 2012 Accomplishments:*** Enhanced visual fidelity of F-22 simulators to support DMO capability. Developed network architecture initiatives for technology refresh and cost reductions; side by side feasiblity testing of DMO and Global Information Grid (GIG) network. ***FY 2013 Plans:*** 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:*** N/A	7.852	3.040	0.000
Title: Validation of warfighter seasoning ***Description:*** Studies to assess and validate warfighter seasoning required in continuation training and accreditation of portions of this process. ***FY 2012 Accomplishments:*** Evaluated training impact of Live, Virtual, and Constructive (LVC) integration with 4th generation systems; Completed evaluation of different mixes of live and virtual training in support of initial and refresher mission proficiency; Validated methodology for quantifying knowledge and skill proficiency for air to air and air to ground mission areas; Developed methods to integrate competency-based data into existing USAF sortie and experience tracking systems; Demonstrated proficiency tracking tools in two identified mission areas; Demonstrated integration of schoolhouse initial competency set data with recurring MEC requirements data for comprehensive LVC training development and management. ***FY 2013 Plans:*** N/A ***FY 2014 Plans:*** N/A	1.022	0.000	0.000
Title: Develop objective performance enhancement	1.022	0.000	0.000

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0207701F: *Full Combat Mission Training*	PROJECT 655012: *Full Combat Mission Training*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Description: Studies to develop objective performance enhancement and measurement tools, for use in the DMO/LVC environment. ***FY 2012 Accomplishments:*** Completed integrated data summaries of LVC performance measures for 4th gen systems; Designed and validated performance based tools for mission planning and after action review; Developed common metrics and data specifications to permit measures collected in live and virtual contexts to be shared, integrated, and displayed in a common debriefing technology; Demonstrated LVC performance measurement across mission areas and platforms; Demonstrated integration of Remotely Piloted Aircraft (RPA), Air to Air (A/A), and Air to Ground (A/G) measures and metrics for at least two common LVC scenarios. ***FY 2013 Plans:*** N/A ***FY 2014 Plans:*** N/A			
Title: Identify training and rehearsal gaps ***Description:*** Studies to identify training and rehearsal gaps in DMO/LVC architecture based on current weapons system and operational Tactics, Training, Procedures (TTPs). ***FY 2012 Accomplishments:*** Refined LVC architecture and instrumentation to permit training effectiveness evaluations of 4th and 5th gen systems interoperating in LVC; Completed initial training effectiveness evaluation of Remotely Piloted Aircraft (RPA) competency-based training with Combat Air Force units; Completed training effectiveness evaluations of JTAC training and rehearsal integrated with Air Support Operations and with RPA virtual and constructive environments; Completed field evaluation of deployable tactical trainers as part of United Stated Air Forces Europe (USAFE) LVC Construct; Completed assessment of the integration of JTAC training within the context of coalition mission training research and ops support with the British Royal Air Force (RAF). ***FY 2013 Plans:*** N/A ***FY 2014 Plans:*** N/A	1.022	0.000	0.000
Title: Other Network Studies	0.000	0.000	0.000

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0207701F: *Full Combat Mission Training*	PROJECT 655012: *Full Combat Mission Training*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Description: Research and development to provide for the integration of fielded and newly introduced, Air Force high-fidelity flight and mission trainers. ***FY 2012 Accomplishments:*** N/A ***FY 2013 Plans:*** N/A ***FY 2014 Plans:*** N/A			
Title: Program Management Admisistration ***Description:*** Program Office Support, Contract Service and Government Costs ***FY 2012 Accomplishments:*** Program Office Support, Contract Service and Government Costs ***FY 2013 Plans:*** Program Office Support, Contract Service and Government Costs ***FY 2014 Plans:*** N/A	0.082	0.174	0.000
Accomplishments/Planned Programs Subtotals	15.631	5.804	0.000

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• O&M: BA01: AFPE 0207701F: *Full Combat Mission Training*	173.305	215.773	270.885		270.885	273.842	262.008	266.166	270.954	Continuing	Continuing

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, Business Case Analysis (BCA) 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 had to

be 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. The FY07 National Defense Authorization Act (NDAA) specifically limited the Air Force's ability to acquire military flight simulators with service contracts. As a result, training capability currently provided on the F-16 Mission Training Center (MTC) is being replaced under a separate program with training provided with procured flight simulators. (Acquisition of the F-16 Block 40/50 MTCs is detailed under the Project 655354 in this document.) The FY08 NDAA language allows continued use of the service contract approach on systems where it was already in use. 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-3, RDT&E Project Cost Analysis: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0207701F: *Full Combat Mission Training*	PROJECT 655012: *Full Combat Mission Training*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Cross Domain Solutions, DMO Capabilities	C/Various	AFLCMC/WNS AFMC:Dayton, OH	-	5.643	Jan 2012	2.390	Jan 2013	0.000		-		0.000	Continuing	Continuing	
Enhanced DMO capabilities for F-22	SS/CPIF	AFLCMC/WWUS AFMC - F-22:Dayton, OH	-	4.693	Aug 2012	3.040	Aug 2013	0.000		-		0.000	Continuing	Continuing	
Enhanced DMO Capabilities for B-1, B-2 & Joint Terminal Control Training and Rehearsal System [JTC TRS])	SS/ Various	AFLCMC/WNS AFMC:Dayton, OH	-	2.148	Dec 2011	0.200	Dec 2012	0.000		-		0.000	Continuing	Continuing	
		Subtotal	0.000	12.484		5.630		0.000		0.000		0.000			

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Studies to Validate Warfighter Seasoning, Develop Objective Performance Enhansment, Identify Training and Rehearshal Gaps	C/CPFF	Air Force Research Lab, 711 Human Performance Wing, Human:Dayton, OH	-	3.065	Jan 2012	0.000		0.000		-		0.000	0.000	3.065	25.058
		Subtotal	0.000	3.065		0.000		0.000		0.000		0.000	0.000	3.065	25.058

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0207701F: *Full Combat Mission Training*	PROJECT 655012: *Full Combat Mission Training*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Administration	C/Various	AFLCMC/WNS AFMC:Dayton, OH	-	0.082	Dec 2011	0.174	Dec 2012	0.000		-		0.000	Continuing	Continuing	
		Subtotal	0.000	0.082		0.174		0.000		0.000		0.000			

	All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	15.631		5.804		0.000		0.000		0.000			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0207701F: *Full Combat Mission Training*	PROJECT 655012: *Full Combat Mission Training*

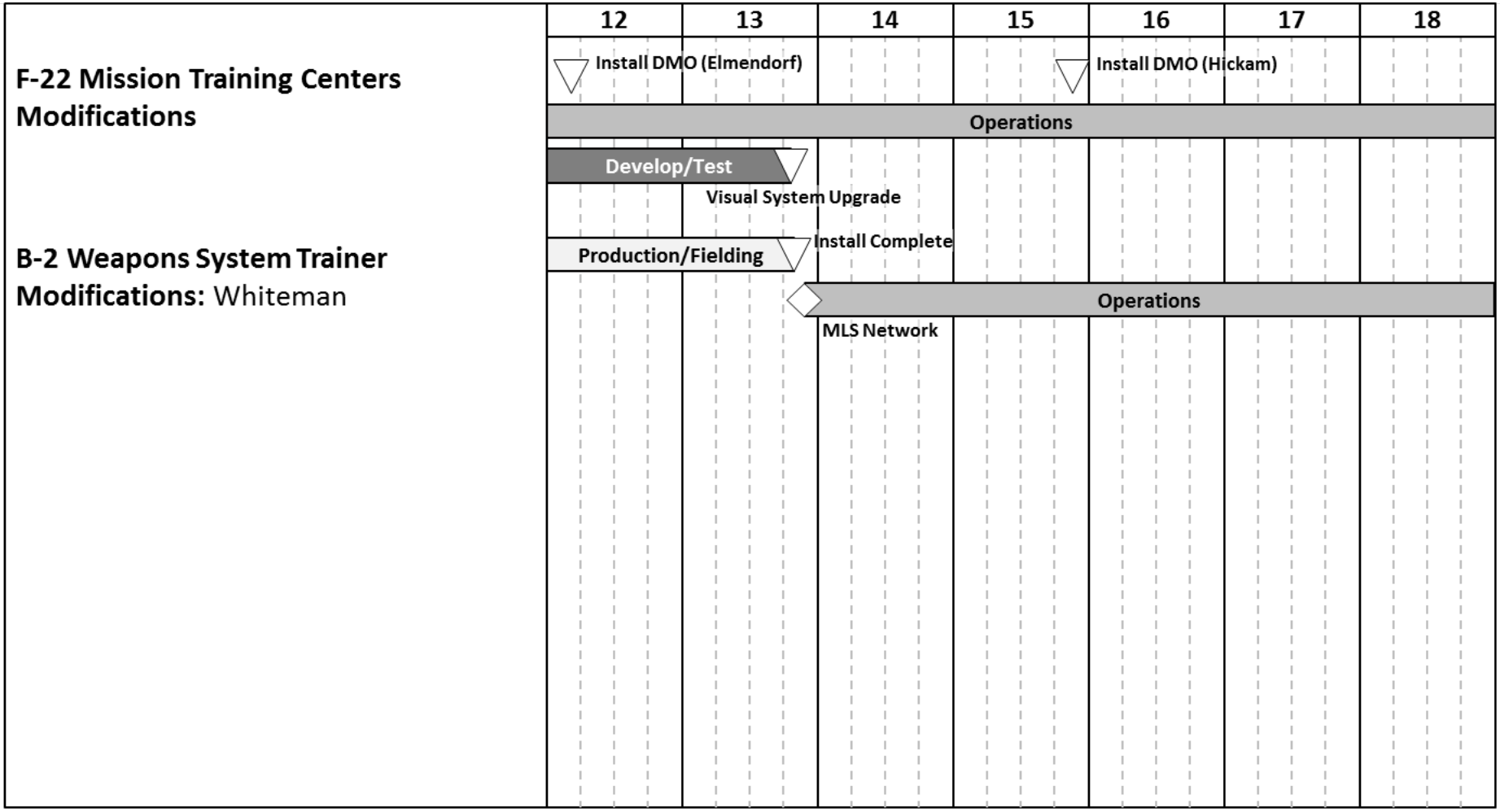


Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0207701F: *Full Combat Mission Training*	PROJECT 655012: *Full Combat Mission Training*

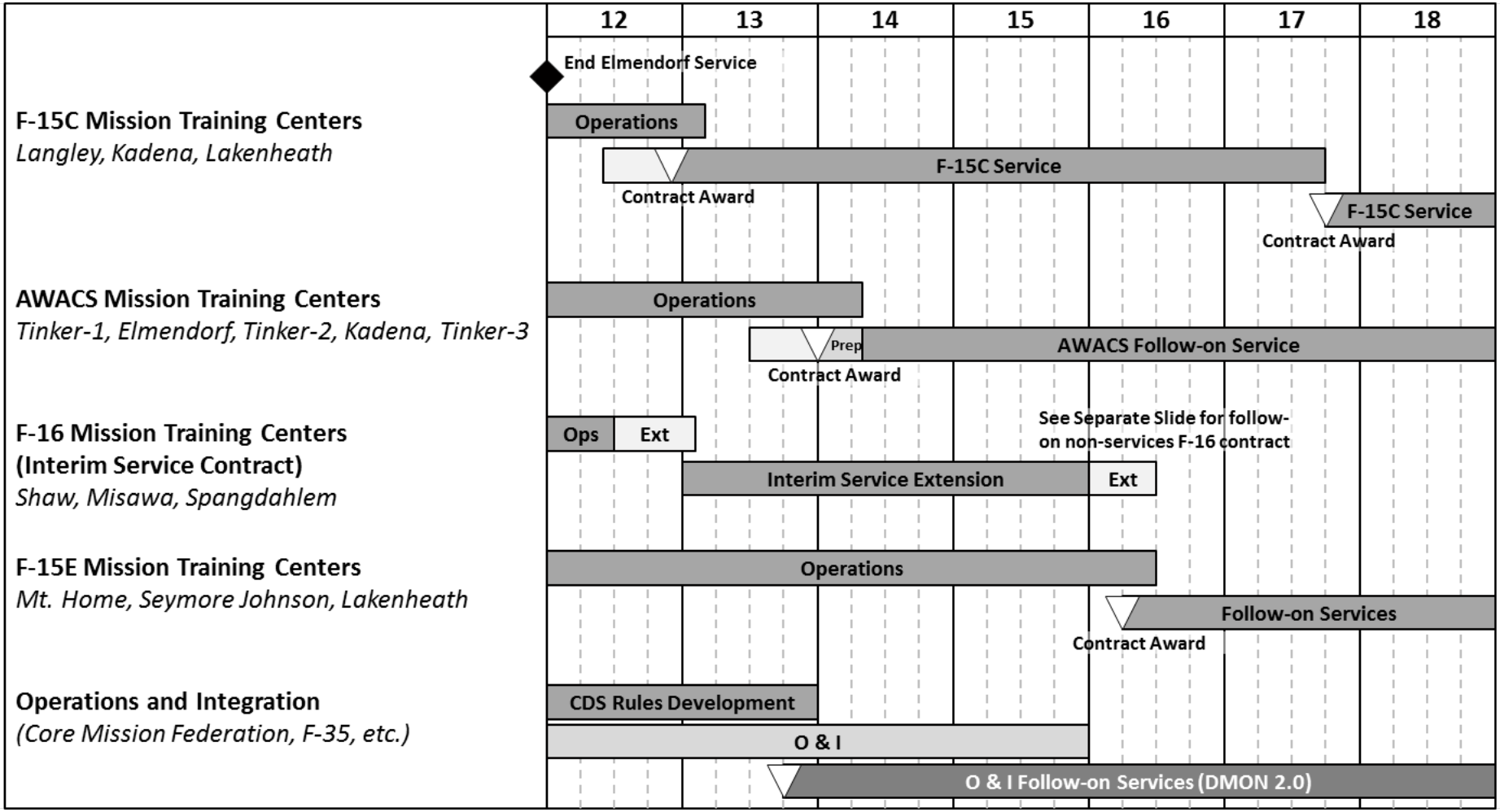


Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0207701F: *Full Combat Mission Training*	PROJECT 655012: *Full Combat Mission Training*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
F-22 DMO Development Complete	1	2012	4	2013
F-22 Install Hickam	4	2015	4	2015
B-2 Mod kits installed	4	2013	4	2013
DMO Operations and Integration Cross Domain Solutions (Core Mission Federation, F-35,etc)	2	2012	4	2018
F-15E MTC Sole Source Contract Award (O&M)	2	2016	2	2016
AWACS MTC Sole Source Contract Award (O&M)	4	2013	4	2013

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0207701F: *Full Combat Mission Training*	PROJECT 655354: *F-16 Block 40/50 MTC*	

COST ($ in Millions)	All Prior Years	FY 2012	FY 2013#	FY 2014 Base	FY 2014 OCO ##	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
655354: *F-16 Block 40/50 MTC*	-	13.286	9.057	4.663	-	4.663	10.926	12.922	8.818	8.976	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 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 2012	FY 2013	FY 2014
Title: F-16 MTC R&D	13.045	8.930	4.312
Description: Research and development of DMO capable flight simulators to replace training capability which has been provided by training simulation service contracts. Research, development and testing of modifications to the F-16 MTC to maintain concurrency with F-16 aircraft ***FY 2012 Accomplishments:*** F-16 MTC development, test and fielding ***FY 2013 Plans:*** Development, test and fielding F-16 MTC concurrency modifications ***FY 2014 Plans:*** Development, test and fielding F-16 MTC concurrency modifications			
Title: Program Office Support, Contract Service and Government Costs	0.241	0.127	0.351
Description: Program Office Support, Contract Service and Government Costs ***FY 2012 Accomplishments:*** Program Office Support, Contract Service and Government Costs ***FY 2013 Plans:***			

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0207701F: *Full Combat Mission Training*	PROJECT 655354: *F-16 Block 40/50 MTC*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Program Office Support, Contract Service and Government Costs			
FY 2014 Plans: Program Office Support, Contract Service and Government Costs			
Accomplishments/Planned Programs Subtotals	13.286	9.057	4.663

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• APAF: BA05: Line Item # OTHACF: *Other Aircraft*	1.098	1.566	0.918		0.918	2.778	2.502	1.919	1.954	Continuing	Continuing
• APAF: B06: Line item # 000999: *Initial Spares/Repair Parts*	3.238	1.400	0.206		0.206	0.288	0.231	0.209	0.213	Continuing	Continuing
• APAF: BA07: Line Item # OTHACF: *Other Aircraft*	23.255	9.522	0.000		0.000	0.027	0.000	0.000	0.000	Continuing	Continuing

Remarks

D. Acquisition Strategy

F-16 Block 40/50 MTCs are being developed and fielded under a competitively awarded Federal Acquisition Regulations (FAR) Part 15 Supply contract with RDT&E and APAF funds. The MTCs will be sustained by a 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-3, RDT&E Project Cost Analysis: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0207701F: *Full Combat Mission Training*	PROJECT 655354: *F-16 Block 40/50 MTC*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Trainer Development	C/Various	L3 Comm, Link Simulation & Training:Arlington, TX	-	13.045	Dec 2011	8.930	Dec 2012	4.312	Dec 2013	-		4.312	Continuing	Continuing	
		Subtotal	0.000	13.045		8.930		4.312		0.000		4.312			

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Administration	C/FFP	AFLCMC/WNS AFMC:Dayton, OH	-	0.241	Dec 2011	0.127	Dec 2012	0.351	Dec 2013	-		0.351	Continuing	Continuing	
		Subtotal	0.000	0.241		0.127		0.351		0.000		0.351			

	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	13.286		9.057		4.663		0.000		4.663			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0207701F: *Full Combat Mission Training*	PROJECT 655354: *F-16 Block 40/50 MTC*

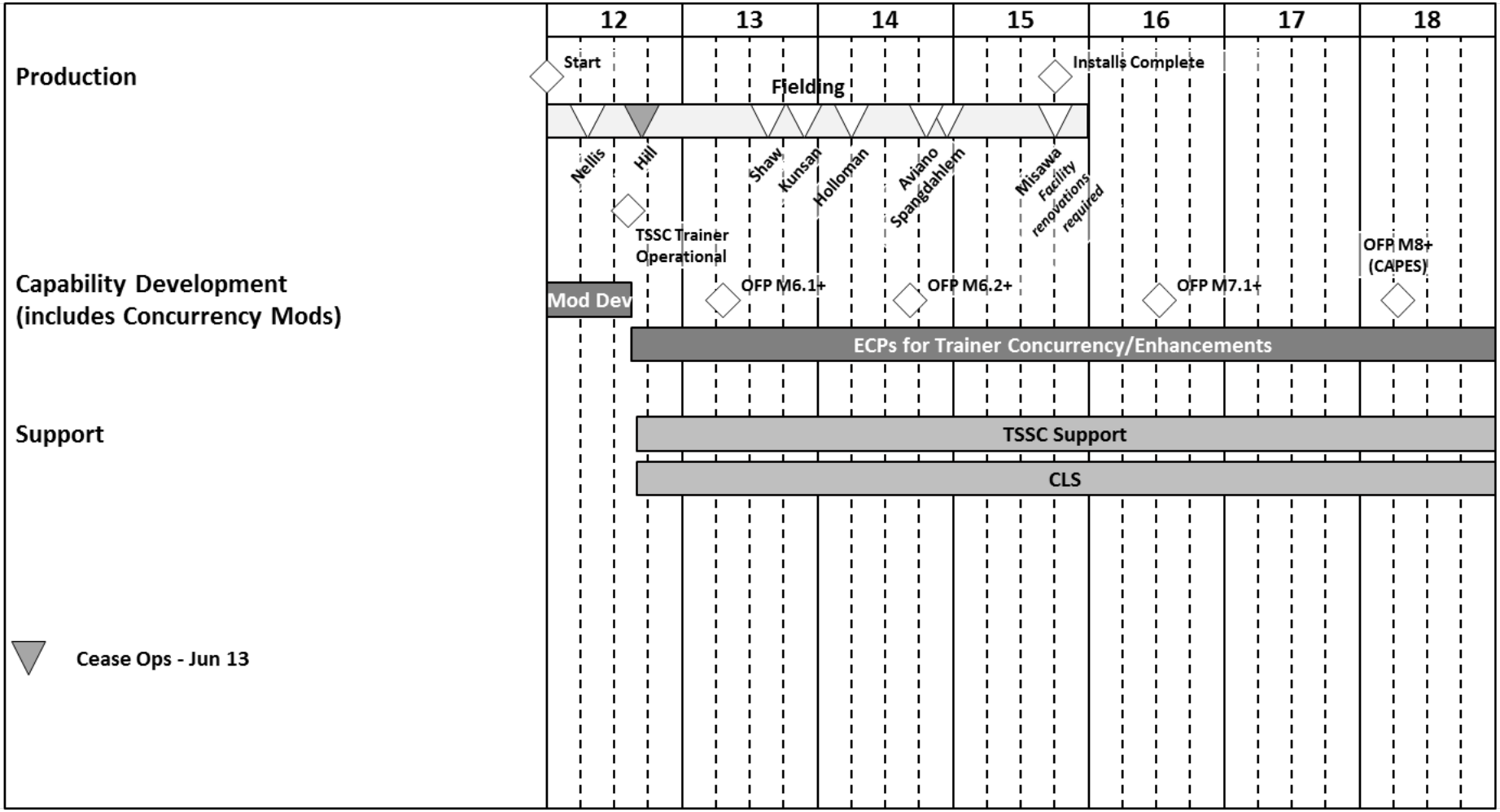


Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0207701F: *Full Combat Mission Training*	PROJECT 655354: *F-16 Block 40/50 MTC*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Design/Develop/Test F-16 MTC, including concurrency mods	1	2012	4	2018
MTC Nellis AFB NV Fielded	2	2012	2	2012
MTC Hill AFB UT Fielded	3	2012	3	2012
MTC Shaw AFB SC Fielded	3	2013	3	2013
MTC Kunsan AB ROK Fielded	4	2013	4	2013
MTC Holloman AFB NM Fielded	2	2014	2	2014
MTC Aviano AB IT Fielded	4	2014	4	2014
MTC Spangdahlem AB GE Fielded	4	2014	4	2014
MTC Misawa AB JP Fielded	3	2015	3	2015

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force											DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*					R-1 ITEM NOMENCLATURE PE 0305230F: *MC-12*							
COST ($ in Millions)	**All Prior Years**	**FY 2012**	**FY 2013#**	**FY 2014 Base**	**FY 2014 OCO ##**	**FY 2014 Total**	**FY 2015**	**FY 2016**	**FY 2017**	**FY 2018**	**Cost To Complete**	**Total Cost**
Total Program Element	-	0.000	19.949	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
654673: *Distributed Mission Training (DMT)*	-	0.000	19.949	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 OCO Request will be submitted at a later date

A. Mission Description and Budget Item Justification

The Air Force uses Aircrew Training Devices (ATD) to provide realistic, cost effective flight training to aircrews. Some of the training, such as emergency procedure familiarity cannot be fully conducted in the aircraft because of safety, airspace, equipment, and security restrictions. The MC-12W Mission Training Center (MTC) Program will provide simulation for pilots and mission system operators.

The MC-12W MTC will consist of a cockpit simulator and an aircrew systems simulator, instructor/operator stations, and control equipment work stations. The MTC will be capable of integrating with the Air Force Distributed Mission Operations network that integrates the Air Force's vast array of weapon system simulators. Additionally, the MTC will be able to replicate theater-specific environments and combat situations, overcoming constraints that may limit combat preparation.

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 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0305230F: *MC-12*	

B. Program Change Summary ($ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	0.000	19.949	0.000	-	0.000
Current President's Budget	0.000	19.949	0.000	-	0.000
Total Adjustments	0.000	0.000	0.000	-	0.000
• Congressional General Reductions	-	0.000			
• Congressional Directed Reductions	-	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	-	0.000			
• Congressional Directed Transfers	-	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	0.000	0.000	0.000	-	0.000

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Title: Simulator Development ***Description:*** Planned efforts include development and fielding of the MC-12 Mission Training Center ***FY 2013 Plans:*** Conducting engineering and development of an operational Mission Training Center (MTC) system to include software and hardware integration and testing. Complete the development and deliver a fielded operational MTC system.	0.000	18.749	0.000
Title: PMA ***Description:*** Accomplishes the System Program Office (SPO) management services and related activities associated with the development of the MC-12 simulator ***FY 2013 Plans:*** Accomplishing SPO management services in support of the MC-12 Simulator development	0.000	1.200	0.000
Accomplishments/Planned Programs Subtotals	0.000	19.949	0.000

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• APAF: BA05: Line Item # C012WM: *MC-12W LPA*	33.843	17.054	5.000		5.000	23.223	12.456	12.689	12.917	Continuing	Continuing

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0305230F: *MC-12*

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost

Remarks

MC-12W APAF funding totals are projected to remain intact and the Program Manager will execute the funding from the PE as required to meet mission objectives.

E. Acquisition Strategy

The MC-12W Mission Training Center will be developed and maintained through the 645th Aeronautical Systems Group (BIG SAFARI). The procured supplies and services are supported across the full spectrum of system life-cycle management. Due to the rapidly changing threat environment, the acquisition program manager has the authority to redirect funding as necessary to meet current stated and emerging Combatant Commander requirements.

F. Performance Metrics

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

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0305230F: *MC-12*	PROJECT 654673: *Distributed Mission Training (DMT)*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Simulator Development	Various	TBD:,	-	0.000		18.749		0.000		-		0.000	Continuing	Continuing	
		Subtotal	0.000	0.000		18.749		0.000		0.000		0.000			

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
PMA	Various	TBD:,	-	0.000		1.200		0.000		-		0.000	0.000	1.200	
		Subtotal	0.000	0.000		1.200		0.000		0.000		0.000	0.000	1.200	

Remarks

FY13 contract actions are new start efforts and on hold pending resolution of FY13 CR.

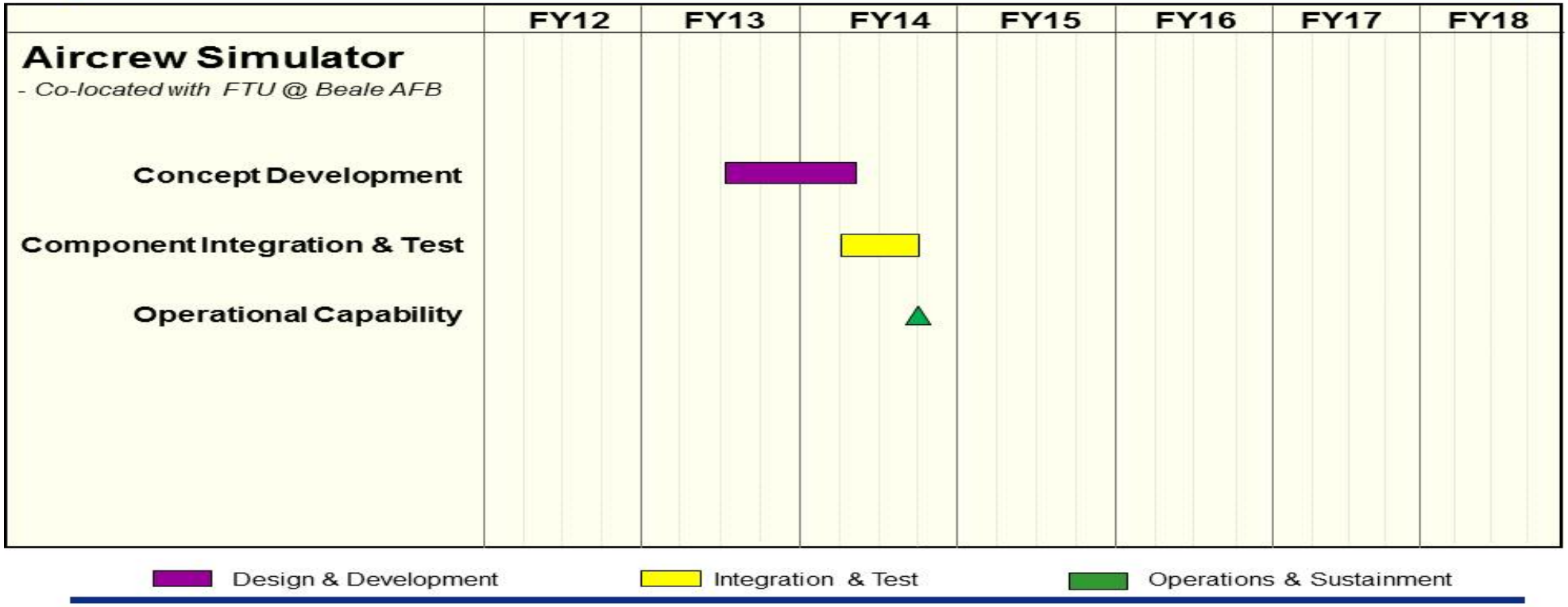
	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	0.000		19.949		0.000		0.000		0.000			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0305230F: *MC-12*	PROJECT 654673: *Distributed Mission Training (DMT)*

U.S. AIR FORCE

MC-12W LPA Simulator Schedule



1

Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0305230F: *MC-12*	PROJECT 654673: *Distributed Mission Training (DMT)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Concept Development, Engineering, Integration & Testing	3	2013	2	2014
Component Integration & Test	2	2014	3	2014
Operational Capability	4	2014	4	2014

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force												DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*					R-1 ITEM NOMENCLATURE PE 0401138F: *C-27J Airlift Squadrons*							
COST ($ in Millions)	**All Prior Years**	**FY 2012**	**FY 2013#**	**FY 2014 Base**	**FY 2014 OCO ##**	**FY 2014 Total**	**FY 2015**	**FY 2016**	**FY 2017**	**FY 2018**	**Cost To Complete**	**Total Cost**
Total Program Element	77.062	24.491	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
655259: *C-27J*	77.062	24.491	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		
MDAP/MAIS Code(s): 183												

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 OCO Request will be submitted at a later date

A. Mission Description and Budget Item Justification

The C-27J is a medium-size airlift aircraft that provides flexible and responsive delivery of time sensitive and mission critical (TS/MC) equipment, supplies, and personnel to austere operating locations during contingency operations abroad, and in support of domestic homeland security and disaster response operations.

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 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	27.089	0.000	0.000	-	0.000
Current President's Budget	24.491	0.000	0.000	-	0.000
Total Adjustments	-2.598	0.000	0.000	-	0.000
• Congressional General Reductions	-	0.000			
• Congressional Directed Reductions	-	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	-	0.000			
• Congressional Directed Transfers	-	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	-2.598	0.000			
• Other Adjustments	0.000	0.000	0.000	-	0.000

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Title: Training System Development	22.223	0.000	0.000
Description: Develop first article aircrew and maintenance personnel training systems/devices.			

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0401138F: *C-27J Airlift Squadrons*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
FY 2012 Accomplishments: Initiate development of aircrew and maintenance training systems/devices. ***FY 2013 Plans:*** N/A ***FY 2014 Plans:*** N/A			
Title: Test & Evaluation ***Description:*** Conduct follow-on qualification test and evaluation (QT&E) and operational test and evaluation (OT&E) of the C-27J weapon system. ***FY 2012 Accomplishments:*** Conduct follow-on test and evaluation of C-27J deficiency report corrective actions and other product improvements identified during initial QT&E and OT&E. ***FY 2013 Plans:*** N/A ***FY 2014 Plans:*** N/A	1.082	0.000	0.000
Title: Studies, Analysis, & Support ***Description:*** Conduct studies, analysis, and evaluation of C-27J deficiencies and emerging operational capability requirements. Maintain aircraft type and airworthiness certifications. Provide for program office support of RDT&E activities. ***FY 2012 Accomplishments:*** Investigate and develop recommendations to correct weapon system deficiencies identified during initial testing and operational use. Continue efforts to finalize the Air Force supplemental military type certificate for the C-27J aircraft. ***FY 2013 Plans:*** N/A ***FY 2014 Plans:*** N/A	1.186	0.000	0.000
Accomplishments/Planned Programs Subtotals	24.491	0.000	0.000

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0401138F: *C-27J Airlift Squadrons*

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• APAF: BA 02: Line Item # LCA000: *C-27J*	479.896	0.000	0.000		0.000	0.000	0.000	0.000	0.000	0.000	1,147.222

Remarks

E. Acquisition Strategy

No RDT&E funding is requested in FY14.

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 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0401138F: *C-27J Airlift Squadrons*	PROJECT 655259: *C-27J*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Training System Development	TBD	TBD:,	25.304	22.223	Sep 2013	0.000		0.000		-		0.000	0.000	47.527	
Mission Planning System Development	Various	Various:,	1.704	0.000		0.000		0.000		-		0.000	0.000	1.704	
Aircraft Type & Airworthiness Certification	Various	Various:,	4.383	0.078		0.000		0.000		-		0.000	0.000	4.461	
		Subtotal	31.391	22.301		0.000		0.000		0.000		0.000	0.000	53.692	

Remarks

Training system development activities are on hold pending Congressional review of the FY13 PB proposal to divest the C-27J program.

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Contractor Engineering Support Services/Data	C/FFP	L3 Com:Waco, TX	8.504	0.707	Jul 2012	0.000		0.000		-		0.000	0.000	9.211	
Government Studies & Analyses	Various	Various:,	6.463	0.043		0.000		0.000		-		0.000	0.000	6.506	
		Subtotal	14.967	0.750		0.000		0.000		0.000		0.000	0.000	15.717	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Qualification and Operational Test & Evaluation	MIPR	Various:,	23.651	1.082	Jul 2013	0.000		0.000		-		0.000	0.000	24.733	
		Subtotal	23.651	1.082		0.000		0.000		0.000		0.000	0.000	24.733	

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0401138F: *C-27J Airlift Squadrons*	PROJECT 655259: *C-27J*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Mgmt Administration	Various	Various:,	7.053	0.358	Nov 2011	0.000		0.000		-		0.000	0.000	7.411	
		Subtotal	7.053	0.358		0.000		0.000		0.000		0.000	0.000	7.411	

	All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	77.062	24.491		0.000		0.000		0.000		0.000	0.000	101.553	

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0401138F: *C-27J Airlift Squadrons*	PROJECT 655259: *C-27J*

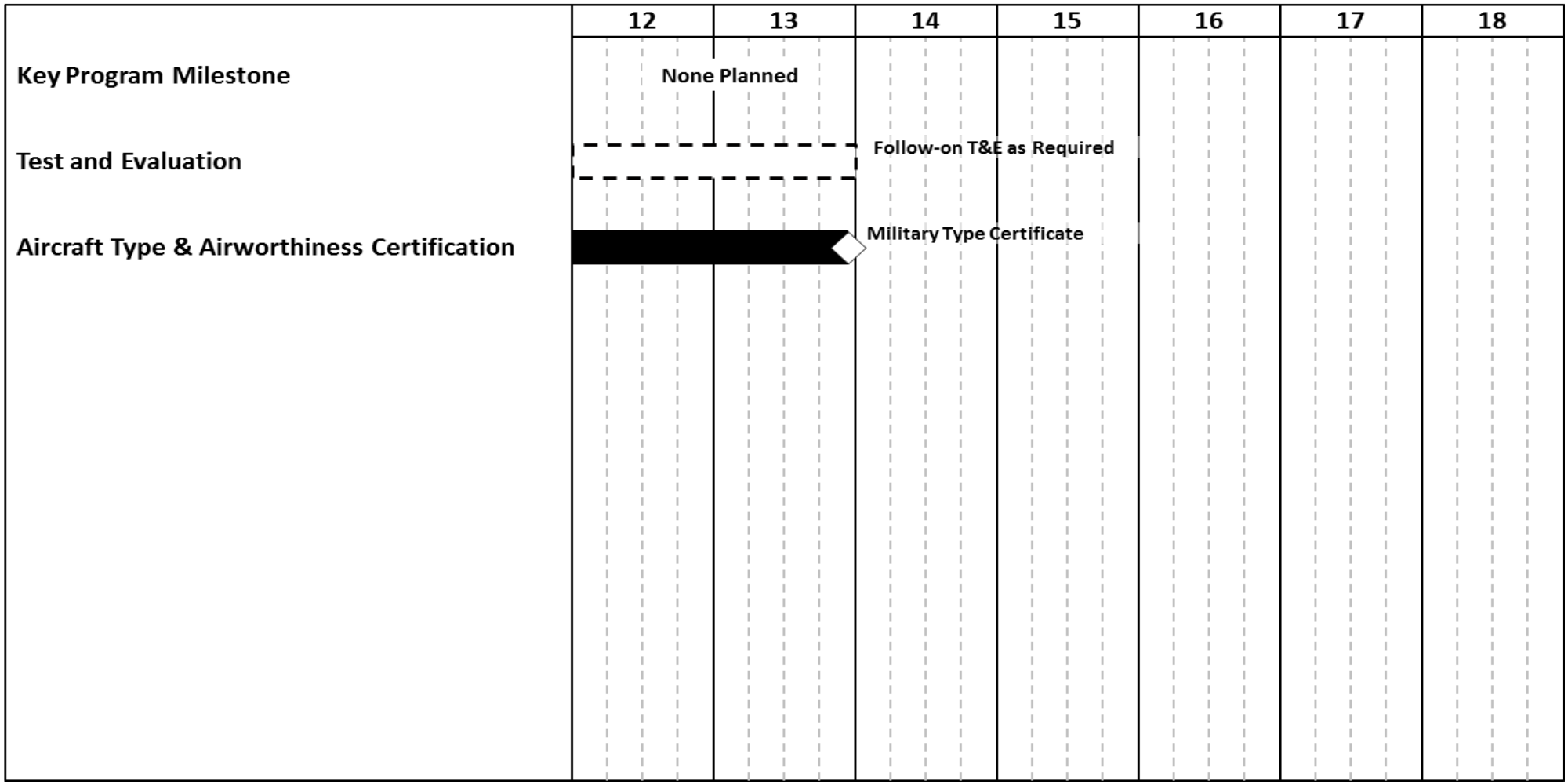


Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0401138F: *C-27J Airlift Squadrons*	**PROJECT** 655259: *C-27J*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Follow-on Test & Evaluation (T&E)	1	2012	4	2013
Air Force Supplemental Military Type Certificate	1	2012	4	2013

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force												DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*					R-1 ITEM NOMENCLATURE PE 0401318F: *CV-22*							
COST ($ in Millions)	**All Prior Years**	**FY 2012**	**FY 2013#**	**FY 2014 Base**	**FY 2014 OCO ##**	**FY 2014 Total**	**FY 2015**	**FY 2016**	**FY 2017**	**FY 2018**	**Cost To Complete**	**Total Cost**
Total Program Element	338.984	12.836	28.027	46.705	-	46.705	41.588	26.728	16.073	14.566	90.852	616.359
654103: *CV-22*	338.984	12.836	28.027	46.705	-	46.705	41.588	26.728	16.073	14.566	90.852	616.359
Quantity of RDT&E Articles	2	0	0	0		0	0	0	0	0		
MDAP/MAIS Code(s): 212												

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 OCO Request will be submitted at a later date

Note

In FY2014, Enhanced Self Deployment Capabilities has been expanded to include new start efforts for Area Navigation (Global Positioning System) [RNAV (GPS)].

In FY2014, the Improved Inlet Solution project includes new start efforts.

A. Mission Description and Budget Item Justification

The CV-22 is a Special Operations Forces (SOF) variant of the 1st generation V-22 tilt-rotor, multi-mission aircraft. CV-22 RDT&E provides development, integration, testing and enhancement of critical capability to insert, extract, and re-supply special operation forces into politically or militarily denied areas. The CV-22 Block 10 configuration added terrain following radar, additional fuel tanks, additional radios, flare/chaff dispensers, radio frequency/infrared and defensive countermeasures, weapons, situational awareness improvements, and Communications, Navigation, Surveillance/Air Traffic Management (CNS/ATM) to the V-22 Block B aircraft. Block 20 development includes, but is not limited to, improved communications, situational awareness, software, and other requirements specified in the V-22 Block C/20 Capabilities Production Document. A future capabilities increment is anticipated following Block 20 to enhance defensive systems and self-deployment capabilities such as Distributed Ice Protection, Engine Time-On-Wing, and RNAV (GPS) (Area Navigation Global Positioning System). 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 through 2018. The V-22 Joint Program Office is developing improved operational safety, suitability, and effectiveness capabilities in block increments. Ongoing planning and associated activities will take place to prevent diminishing manufacturing resources and obsolescence issues, as required.

USSOCOM and USAF jointly fund development projects to meet operational safety, suitability, and effectiveness mission needs. This includes designing, prototyping, integrating, testing and fielding proposed solutions to emerging warfighter issues. USSOCOM funds the development, integration and testing of SOF unique mission capability, while USAF funds interoperability, basic air vehicle enhancements, integration of Air Force and Navy maintenance and information systems used with the V-22, support for operational testing, and CV-22 implementation and testing of MV-22 Block B and Block C changes. USSOCOM and USAF jointly fund correction of deficiencies and Block 20 development. Block 20 increments 1 and 3 are developed with USAF funds and increment 2 is developed with USSOCOM funds.

This program is in Budget Activity 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 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0401318F: *CV-22*

B. Program Change Summary ($ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	13.223	28.027	25.438	-	25.438
Current President's Budget	12.836	28.027	46.705	-	46.705
Total Adjustments	-0.387	0.000	21.267	-	21.267
• Congressional General Reductions	-	0.000			
• Congressional Directed Reductions	-	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	-	0.000			
• Congressional Directed Transfers	-	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	-0.387	0.000			
• Other Adjustments	0.000	0.000	21.267	-	21.267

Change Summary Explanation

Funding was increased $19.288M in FY14 for the USAF share to initiate development of a joint V-22 Improved Inlet Solution to improve engine time-on-wing performance.

FY14 funding was also increased $1.979 million for Enhanced Self-deployment Capabilities.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Title: CV-22 Block 20 RDT&E	12.836	23.027	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 2012 Accomplishments:

RDT&E activities continued on Block 20 increments 1, 2, and 3. Completed line-of-sight communications developmental testing and kit proofing. Completed long-range communications System Requirements Review (SRR).

FY 2013 Plans:

RDT&E activities will continue on Block 20 increments 1, 2, and 3. Conduct Line-of-Sight Communications Functional Configuration Audit (FCA) and operational testing. Conduct Beyond-Line-of-Sight (BLOS) Communications risk reduction, electromagnetic infterference testing and Preliminary Design Review (PDR). Complete Block 20 Increment 1 RDT&E effort.

FY 2014 Plans:

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0401318F: *CV-22*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
RDT&E activities will continue on Block 20 increments 2 and 3. Conduct long-range communications Critical Design Review (CDR). Initiate long-range communications developmental testing (DT).			
Title: Enhanced Self-deployment Capabilities ***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 2012 Accomplishments:*** N/A ***FY 2013 Plans:*** Initiate Future Capabilities increment to enhance self-deployment capabilities such as Distributed Ice Protection and Engine Time-On-Wing Improvement. Conduct risk reduction analysis and assess 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 will continue 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 SRR for RNAV(GPS).	0.000	5.000	10.000
Title: Improved Inlet Solution ***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 2012 Accomplishments:*** N/A ***FY 2013 Plans:*** N/A ***FY 2014 Plans:***	0.000	0.000	19.288

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0401318F: *CV-22*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Conduct 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.			
Accomplishments/Planned Programs Subtotals	12.836	28.027	46.705

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• RDT&E,DW: BA07: PE 1160421BB: *Special Operations, CV-22 Development*	10.497	1.822	0.000		0.000	0.000	0.000	0.000	0.000	0.000	519.807
• RDT&E, DW: BA07: PE 1160403BB: *Special Operations, Aviation Systems*	0.000	0.000	2.911		2.911	0.182	0.000	0.000	0.000	0.000	3.093
• Proc,DW: BA02: Line Item #1000CV...: *CV-22 Modification*	118.002	139.147	98.927		98.927	19.828	14.203	7.783	6.726	0.000	1,713.207
• APAF: BA04: Line Item #V022A0: *CV-22 (MYP)*	359.865	309.220	230.798		230.798	0.000	0.000	0.000	0.000	0.000	4,275.614
• APAF: BA05: Line Item #V02200: *CV-22 Mods*	17.657	23.881	23.310		23.310	101.355	70.959	73.241	74.522	279.918	788.929
• RDT&E,Navy: BA05: PE 0604262N: *V-22A*	71.938	54.412	43.084		43.084	69.816	60.659	53.319	53.002	68.500	9,399.461

Remarks

E. Acquisition Strategy

The V-22 Joint Program Office (NAVAIRSYSCOM PMA-275) ensures that CV-22 changes are incorporated into the ongoing V-22 production line with minimal impact. The JPO is developing new capabilities for the V-22 in blocks. Block 0 and Block 10 have completed development, and Block 20 is currently underway. NAVAIRSYSCOM awarded a cost plus fixed fee contract with the prime contractor in Dec 2007 for Block 20 development and test. After Block 20 development and test, future development efforts beyond Block 20 will be conducted as pre-planned product improvements. 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 7-24-2012.

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** 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 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0401318F: *CV-22*	PROJECT 654103: *CV-22*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
2 Production Representative Test Vehicles	SS/CPAF	Bell Boeing:Amarillo, TX	161.859	0.000		0.000		0.000		-		0.000	0.000	161.859	
Block 10 Development	SS/CPAF	Bell Boeing:Amarillo, TX	44.025	0.000		0.000		0.000		-		0.000	0.000	44.025	
Block 10 Development Tech Support	Various	Various:Various,	11.886	0.000		0.000		0.000		-		0.000	0.000	11.886	
Situational Awareness Hazard Avoidance Federated Terminal	C/CPAF	Manufacturing Technology Inc:Fort Walton Beach, FL	5.000	0.000		0.000		0.000		-		0.000	0.000	5.000	
Block 20 Development	SS/CPFF	Bell Boeing:Amarillo, TX	45.719	6.319	Mar 2012	14.132	Dec 2012	6.031	Dec 2013	-		6.031	4.715	76.916	198.150
Enhanced Self-deployment Capability	Various	Various:Various,	0.000	0.000		5.000	Aug 2013	10.000	Mar 2014	-		10.000	0.000	15.000	0.000
Improved Inlet Solution	SS/CPFF	Bell Boeing:Various,	0.000	0.000		0.000		19.288	Dec 2013	-		19.288	24.940	44.228	
Future Capabilities	TBD	TBD:TBD,	0.000	0.000		0.000		0.000		-		0.000	94.902	94.902	
		Subtotal	268.489	6.319		19.132		35.319		0.000		35.319	124.557	453.816	

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	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Interim Contractor Support	SS/CPAF	Bell Boeing:Amarillo, TX	26.889	0.000		0.000		0.000		-		0.000	0.000	26.889	
Contractor Logistics Support for Test Aircraft	Various	Various:Various,	9.795	0.567	Mar 2012	3.345	Dec 2012	3.420	Dec 2013	-		3.420	0.000	17.127	0.000
		Subtotal	36.684	0.567		3.345		3.420		0.000		3.420	0.000	44.016	

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0401318F: *CV-22*	PROJECT 654103: *CV-22*

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test & Evaluation	SS/CPFF	Bell Boeing:Amarillo, TX	26.119	4.000	Mar 2012	4.387	Apr 2013	5.593	Feb 2014	-		5.593	45.985	86.084	0.000
Test & Evaluation Technical Support	MIPR	Various:Various,	5.573	1.950	Mar 2012	1.163	Dec 2012	2.373	Dec 2013	-		2.373	19.265	30.324	0.000
		Subtotal	31.692	5.950		5.550		7.966		0.000		7.966	65.250	116.408	0.000

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Management Services (Support)	MIPR	Various:Various,	2.119	0.000		0.000		0.000		-		0.000	0.000	2.119	
		Subtotal	2.119	0.000		0.000		0.000		0.000		0.000	0.000	2.119	

	All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	338.984	12.836		28.027		46.705		0.000		46.705	189.807	616.359	

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0401318F: *CV-22*	PROJECT 654103: *CV-22*

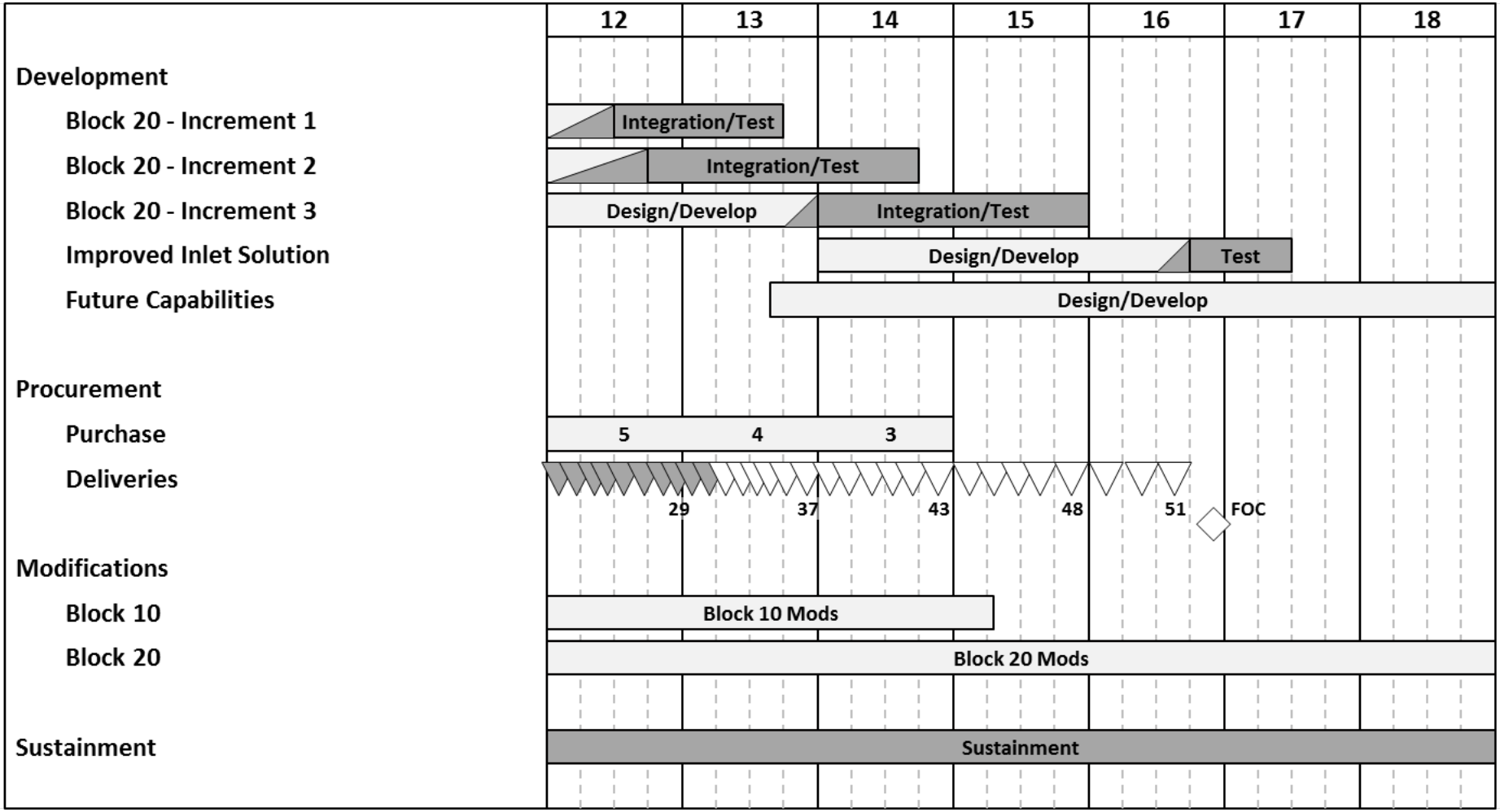


Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0401318F: *CV-22*	**PROJECT** 654103: *CV-22*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Block 20 Increment 1 Development, Testing and Evaluation	1	2012	3	2013
-- Line-of-site Comm development and design reviews	1	2012	2	2012
-- Line-of-site Comm ground and flight tests	1	2012	3	2013
Block 20 Increment 2 Development, Testing and Evaluation	1	2012	3	2014
-- Situational awareness and avionics upgrades design reviews	1	2012	3	2012
-- Situational awareness/avionics upgrades ground & flight tests	1	2012	3	2014
Block 20 Increment 3 Development, Testing and Evaluation	1	2012	4	2015
-- Long range comm upgrades development and design reviews	1	2012	4	2013
-- Long range comm upgrades ground and flight tests	3	2013	4	2015
Future Capabilities Development	3	2013	4	2018
Improved Inlet Solution (IIS)	1	2014	2	2017
-- IIS development and design reviews	1	2014	3	2016
-- IIS ground and flight tests	2	2016	2	2017

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force											DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*					R-1 ITEM NOMENCLATURE PE 0401845F: *Airborne Senior Leader C3 (SLC3S)*							
COST ($ in Millions)	**All Prior Years**	**FY 2012**	**FY 2013#**	**FY 2014 Base**	**FY 2014 OCO ##**	**FY 2014 Total**	**FY 2015**	**FY 2016**	**FY 2017**	**FY 2018**	**Cost To Complete**	**Total Cost**
Total Program Element	-	0.000	1.960	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
655273: *SLC3S-A Communications Program*	-	0.000	1.960	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 OCO Request will be submitted at a later date

Note

In FY2012, the SLC3S-A Communications Program (SCP) was terminated for convenience.

A. Mission Description and Budget Item Justification

The Air Force Senior Leader Command, Control, and Communications System - Airborne (SLC3S-A) Communications Program (SCP) was intended to provide executive airborne communications supporting world-wide command and control capabilities to US government Senior Leaders (i.e., the President of the United States (POTUS); Vice President of the United States (VPOTUS); Secretary of Defense (SECDEF); Secretary of State (SECSTATE); Chairman, Joint Chiefs of Staff (CJCS); Unified Combatant Commanders (COCOMs); and their staffs as well as other government senior leaders). The SCP capabilities would have included secure and non-secure voice, data, and video connectivity into Defense Information System Network/Global Information Grid, Defense Switched Network, Defense Red Switch Network, Voice Over Secure Internet Protocol Networks, National Security Council's Crisis Management System, and commercial networks up to the Top Secret/ Sensitive Compartmented Information security classification level. These capabilities are used daily by the Senior Leaders to carry out their duties and responsibilities. Currently, each Air Force Operational Support Aircraft and Very Important Person Special Airlift Mission (OSA/VIPSAM) aircraft is configured with its own unique communications suite. National Senior Leaders require 100% secure voice, data, and video capability for all activities from general planning and strategy discussions to directing command decisions. The security, reliability, and availability of the AF SLC3S-A services determine America's victories or setbacks on the battlefield. The SCP Program would have standardized the back-end communications architecture, off-board transmission systems, ground support networks, and Roll-on/Roll-off assets. The SCP Program funding for FY12 was eliminated by Congress in the FY12 PB and the Air Force eliminated all FY13 to FY17 funds except $1.96M of FY13 RDT&E funds were requested to cover program office actions necessary to cover government responsibilities for contract closure with the primary developer during program termination.

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 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0401845F: *Airborne Senior Leader C3 (SLC3S)*

B. Program Change Summary ($ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	0.000	1.960	0.000	-	0.000
Current President's Budget	0.000	1.960	0.000	-	0.000
Total Adjustments	0.000	0.000	0.000	-	0.000
• Congressional General Reductions	-	0.000			
• Congressional Directed Reductions	-	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	-	0.000			
• Congressional Directed Transfers	-	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	0.000	0.000	0.000	-	0.000

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Title: SLC3S-A Communications Program (SCP)	0.000	1.960	0.000
Description: Program was terminated in FY12. Some FY13 funds were requested to cover program office actions necessary to cover government responsibilities for contract closure with the primary developer during program termination. ***FY 2013 Plans:*** FY 13 funds were requested to cover program office actions necessary to cover government responsibilities for contract closure with the primary developer during program termination.			
Accomplishments/Planned Programs Subtotals	0.000	1.960	0.000

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• 0401845F: *SLC3S-A Aircraft Procurement Initial Spares & Repairs*	0.421	0.000	0.000		0.000	0.000	0.000	0.000	0.000	0.000	0.421

Remarks

E. Acquisition Strategy

Planned strategy was for a competitive award of an Indefinite Delivery/Indefinite Quantity (ID/IQ) contract vehicle to a single source. Emphasize off-the-shelf technology and maximize use of non-developmental items (NDIs). However, the program was terminated in FY12.

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0401845F: *Airborne Senior Leader C3 (SLC3S)*

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 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0401845F: *Airborne Senior Leader C3 (SLC3S)*	PROJECT 655273: *SLC3S-A Communications Program*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
System Engineering, Software Development, Data Items, Training, Test, and Certification.	C/FFP	Rockwell Collins, Inc.:Richardson, TX	-	0.000		1.960		0.000		-		0.000	0.000	1.960	26.766
Development of Program Specifications and Acquisition Documentation and Risk Reduction Efforts	Various	Various:Various,	-	0.000		0.000		0.000		-		0.000	0.000	0.000	7.893
		Subtotal	0.000	0.000		1.960		0.000		0.000		0.000	0.000	1.960	34.659

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Government Test and Eval	Various	Various:Various,	-	0.000		0.000		0.000		-		0.000	0.000	0.000	1.624
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	1.624

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
SCP Program Management	Various	Various:Various,	-	0.000		0.000		0.000		-		0.000	0.000	0.000	7.261
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	7.261

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0401845F: *Airborne Senior Leader C3 (SLC3S)*	PROJECT 655273: *SLC3S-A Communications Program*	

	All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	0.000		1.960		0.000		0.000		0.000	0.000	1.960	43.544

Remarks

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force											DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 6: *RDT&E Management Support*					R-1 ITEM NOMENCLATURE PE 0604256F: *Threat Simulator Development*							
COST ($ in Millions)	**All Prior Years**	**FY 2012**	**FY 2013#**	**FY 2014 Base**	**FY 2014 OCO ##**	**FY 2014 Total**	**FY 2015**	**FY 2016**	**FY 2017**	**FY 2018**	**Cost To Complete**	**Total Cost**
Total Program Element	-	26.473	22.812	17.690	-	17.690	22.213	22.542	20.523	20.892	Continuing	Continuing
662907: *Electronic Combat Intel Support*	-	2.243	2.278	1.558	-	1.558	2.664	3.256	3.102	3.158	Continuing	Continuing
663321: *Electronic Warfare Ground Test Resources*	-	12.143	13.260	12.355	-	12.355	10.842	11.168	10.758	10.951	Continuing	Continuing
667500: *Foreign Materiel Acquisition/Analysis*	-	12.087	7.274	3.777	-	3.777	8.707	8.118	6.663	6.783	Continuing	Continuing

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 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 I&M. Products include studies, analyses, improved 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 PE is in Budget Activity 6, RDT&E Management Support, because it is a Research and Development (R&D) effort for I&M of T&E capabilities at AF Test Centers.

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force					DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 6: *RDT&E Management Support*			R-1 ITEM NOMENCLATURE PE 0604256F: *Threat Simulator Development*		
B. Program Change Summary ($ in Millions)	**FY 2012**	**FY 2013**	**FY 2014 Base**	**FY 2014 OCO**	**FY 2014 Total**
Previous President's Budget	22.420	22.812	20.081	-	20.081
Current President's Budget	26.473	22.812	17.690	-	17.690
Total Adjustments	4.053	0.000	-2.391	-	-2.391
• Congressional General Reductions	-	0.000			
• Congressional Directed Reductions	-	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	-	0.000			
• Congressional Directed Transfers	-	0.000			
• Reprogrammings	4.412	0.000			
• SBIR/STTR Transfer	-0.359	0.000			
• Other Adjustments	0.000	0.000	-2.391	-	-2.391

Change Summary Explanation

FY12: $4.412M reprogrammed for AF foreign materiel requirements.

FY14: -$2.391M decrease reflects realignment for higher DoD priorities.

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0604256F: *Threat Simulator Development*	PROJECT 662907: *Electronic Combat Intel Support*	

COST ($ in Millions)	All Prior Years	FY 2012	FY 2013#	FY 2014 Base	FY 2014 OCO ##	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
662907: *Electronic Combat Intel Support*	-	2.243	2.278	1.558	-	1.558	2.664	3.256	3.102	3.158	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 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 2012	FY 2013	FY 2014
Title: FMOT&E	2.243	2.278	1.558
Description: Supports Foreign Materiel Operational Test and Evaluation (FMOT&E) ***FY 2012 Accomplishments:*** Conducted 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 2013 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 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.			
Accomplishments/Planned Programs Subtotals	2.243	2.278	1.558

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0604256F: *Threat Simulator Development*	PROJECT 662907: *Electronic Combat Intel Support*	

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• RDTE: BA 06: PE 0605807F: *Test and Evaluation Support*	737.697	722.071	742.658		742.658	698.869	704.063	708.671	714.639	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 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0604256F: *Threat Simulator Development*	PROJECT 663321: *Electronic Warfare Ground Test Resources*	

COST ($ in Millions)	All Prior Years	FY 2012	FY 2013#	FY 2014 Base	FY 2014 OCO ##	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
663321: *Electronic Warfare Ground Test Resources*	-	12.143	13.260	12.355	-	12.355	10.842	11.168	10.758	10.951	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 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 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 2012	FY 2013	FY 2014
Title: I&M	11.139	11.941	10.811
Description: Provides for planning and improvement & modernization (I&M) of test capabilities to conduct and support the AF EW test process, including DE.			
FY 2012 Accomplishments: Per the Air Force Electronic Warfare Evaluation Simulator (AFEWES) transition plan, IR threat simulator hardware and RF threat simulator hardware was moved from the AFEWES facility to the GWEF and 412 EWG/OL-HN and capability reconstitution			

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0604256F: *Threat Simulator Development*	PROJECT 663321: *Electronic Warfare Ground Test Resources*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
planning was initiated. DIADS developed and validated upgrades to simulate evolving threats in support of acquisition programs such as F-22 and MALD-J. AWTEC continued Benefield Anechoic Chamber (BAF) upgrades by completing EMI/EMC power upgrades, fielding new data products for improved test management, and fielding new real-time displays and controls. NRTF continued efforts to enhance efficiency of operations and accuracy for measuring RCS of Low Observable platforms and antennas, including design and fabrication of a new operational control center and adaptive signal processing and antenna development. ***FY 2013 Plans:*** The 412 EWG/OL-HN will continue RF threat simulator reconstitution by conducting functional checkouts, initiating facilities improvements and conducting operator training on the systems delivered in FY12. DIADS will continue to develop and validate architecture and simulation upgrades to advance new capabilities to simulate evolving threats, and begin efforts to improve weapon control algorithms and integrate jamming capabilities. AWTEC will continue BAF upgrades to provide new state-of-the-art stimulators and EMI/EMC test capabilities in high and low frequency bands. NRTF will continue facility upgrades to enhance efficiency of operations and accuracy for measuring RCS of Low Observable platforms and antennas, including next generation radar and follow-on antenna development. ***FY 2014 Plans:*** The 412 EWG/OL-HN will continue RF threat simulator reconstitution by initiating permanent installation and end-to-end checkout of approximately 1/3 of the RF threat simulator systems delivered in FY12. DIADS will continue to develop and validate architecture and simulation upgrades to advance new capabilities to simulate evolving threats, and continue efforts to improve weapon control algorithms and integrate jamming capabilities. AWTEC will continue BAF upgrades to provide better test chamber control, integration and monitoring. NRTF will continue facility upgrades to enhance efficiency of operations and accuracy for measuring RCS of Low Observable platforms and antennas, including software development and integration, verification and validation of a new antenna array.			
Title: EC Test Process Support	1.004	1.319	1.544
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 2012 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 2013 Plans:***			

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0604256F: *Threat Simulator Development*	PROJECT 663321: *Electronic Warfare Ground Test Resources*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
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 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.			
Accomplishments/Planned Programs Subtotals	12.143	13.260	12.355

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• RDTE: BA 06: PE 0604759F: *Major T&E Investment*	60.388	42.236	34.841		34.841	47.821	49.479	47.688	48.546	Continuing	Continuing
• RDTE: BA 06: PE 0605807F: *Test and Evaluation Support*	737.697	722.071	742.658		742.658	698.869	704.063	708.671	714.639	Continuing	Continuing
• RDTE: BA 06: PE 0605976: *Facility Restoration & Modernization - T&E*	44.547	42.597	44.160		44.160	43.765	26.774	28.970	29.492	Continuing	Continuing
• RDTE: BA 06: PE 0605978F: *Facilities Sustainment - T&E Support*	27.953	27.301	27.643		27.643	28.698	23.898	24.301	24.739	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 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0604256F: *Threat Simulator Development*	PROJECT 667500: *Foreign Materiel Acquisition/ Analysis*	

COST ($ in Millions)	All Prior Years	FY 2012	FY 2013#	FY 2014 Base	FY 2014 OCO ##	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
667500: *Foreign Materiel Acquisition/Analysis*	-	12.087	7.274	3.777	-	3.777	8.707	8.118	6.663	6.783	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 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 2012	FY 2013	FY 2014
Title: FMP	12.087	7.274	3.777
Description: Supports USAF Foreign Materiel Program (FMP) Requirements through the acquisition and analysis of foreign materiel. ***FY 2012 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 2013 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 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.			
Accomplishments/Planned Programs Subtotals	12.087	7.274	3.777

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0604256F: *Threat Simulator Development*	PROJECT 667500: *Foreign Materiel Acquisition/ Analysis*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• RDTE: BA 06: PE 0605807F: *Test and Evaluation Support*	737.697	722.071	742.658		742.658	698.869	704.063	708.671	714.639	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.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force											DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 6: *RDT&E Management Support*					R-1 ITEM NOMENCLATURE PE 0604759F: *Major T&E Investment*							
COST ($ in Millions)	**All Prior Years**	**FY 2012**	**FY 2013#**	**FY 2014 Base**	**FY 2014 OCO ##**	**FY 2014 Total**	**FY 2015**	**FY 2016**	**FY 2017**	**FY 2018**	**Cost To Complete**	**Total Cost**
Total Program Element	-	60.388	42.236	34.841	-	34.841	47.821	49.479	47.688	48.546	Continuing	Continuing
664597: *Air Force Test Investments*	-	60.388	42.236	34.841	-	34.841	47.821	49.479	47.688	48.546	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 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 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.

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
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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 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 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0604759F: *Major T&E Investment*	

B. Program Change Summary ($ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	62.206	42.236	43.044	-	43.044
Current President's Budget	60.388	42.236	34.841	-	34.841
Total Adjustments	-1.818	0.000	-8.203	-	-8.203
• Congressional General Reductions	-	0.000			
• Congressional Directed Reductions	-	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	-	0.000			
• Congressional Directed Transfers	-	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	-1.818	0.000			
• Other Adjustments	0.000	0.000	-8.203	-	-8.203

Change Summary Explanation

FY12: $1.818M decrease reflects SBIR transfer.

FY14: $8.203M decrease reflects a realignment for higher DoD priorities.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Title: Airframe/Propulsion/Avionics T&E I&M	38.077	26.227	23.091
Description: Improvement and modernization of the AF capability to test and evaluate Airframe/Propulsion/Avionics (APA)			
FY 2012 Accomplishments: The Advanced Range Systems Upgrade (ARSU) project fielded critical infrastructure upgrades to the operational control center, digital data handling systems, and data display & analysis systems at the 412TW range to manage obsolescence. The Joint Airborne Instrumentation Integration (JAII) effort completed hardware and data instrumentation system modifications to about five percent of the test fleet's instrumented airborne platforms. The Telemetry Systems Integration and Support (TSIS) effort improved telemetry (TM) acquisition systems completing C-band upgrades to all the mobile TM systems and finalize plans for fixed TM system upgrades at Edwards AFB. The Von Karman Facility (VKF) Plant Modernization project completed additional motor rewinds and control room modifications improving efficiency, performance, reliability and maintainability of the VKF compressor facility that supplies high pressure air to all AEDC test cells. The Tunnel 4T Modernization effort continued fabrication of new nozzle actuator and control systems, design and procurement of a new Captive Trajectory System (CTS), and installation and checkout of a new data acquisition system (DAS) for AEDC's transonic wind tunnel. The Tunnels A/B/C Modernization project continued 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			

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0604759F: *Major T&E Investment*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Advanced Large Military Engine Capability (ALMEC) project completed fabrication, installation, and checkout of the temperature-controlled test cell cooling system and finished preliminary design activities on the exhaust intercoolers, plant control systems, main drive exciters, and air supply water system to upgrade the C1/C2 aero-propulsion test cells for testing advanced high-speed air-breathing engines. The Advanced Small Military Engine Capability (ASMEC) project completed technical requirements and preliminary designs on the air supply, mechanical bypass, gas heater and control systems to upgrade the T3 test facility supporting high-Mach small-engine propulsion test requirements. The Ultra-High Accuracy Reference System (UHARS) effort completed design and initiated procurement efforts to develop a high-accuracy inertial-based TSPI truth source reference system for testing and evaluating future navigation and guidance systems. The T&E Board of Directors led tri-service investment and joint T&E Reliance activities as directed by the Service Secretaries.			
FY 2013 Plans: ARSU will complete critical upgrades to data and video distribution systems, switching networks, interactive display and analysis software, and mission control rooms at the 412TW range. JAII will continue executing instrumentation systems upgrades to the test fleet's instrumented airborne platforms per the test fleet modernization plan. TSIS will begin C-band upgrades to the fixed TM antenna sites at Edwards AFB. ALMEC will advance the design and initiate development activities on the exhaust intercoolers, plant control systems, main drive exciters, and air supply water system for the C1/C2 aero-propulsion test cells. ASMEC will complete design efforts on the air supply, mechanical bypass, gas heater and control systems for the T3 test facility. Tunnel 4T will complete fabrication and installation of the new nozzle actuator and control systems, the CTS rig, and the DAS and begin checkout at AEDC's transonic wind tunnel. Tunnels A/B/C will complete installation & checkout of the new nozzle actuator, control systems, and DAS and begin final acceptance activities. UHARS procurement efforts of GPS and non-GPS based reference systems begin delivery and initiate integration activities. The T&E Board of Directors will continue to lead tri-service investment and joint T&E Reliance efforts as directed by the Service Secretaries.			
FY 2014 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 the design and development and initiate procurement activities on the exhaust intercoolers, plant control systems, main drive exciters, and air supply water system for the C1/C2 aero-propulsion test cells. ASMEC will begin procurement efforts on the air supply, mechanical bypass, gas heater and control systems to upgrade the T3 test facility. UHARS will 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 Common Range Integrated Instrumentation System (CRIIS) effort will begin design, development and procurement efforts to upgrade range TSPI instrumentation capabilities. The Improved Transonic Test Capability (ITTC) 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 begin design and development efforts to provide instrumentation and data system upgrades across AEDC test			

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
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C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
infrastructure. 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	20.733	15.509	11.250
Description: Improvement and modernization of the AF capability to test and evaluate Armament/Munitions (A/M) ***FY 2012 Accomplishments:*** The Advanced Command Destruct System (ACDS) project completed procurement and continued integration efforts to upgrade the command destruct systems supporting test missions at Eglin AFB and Edwards AFB. The Advanced Range Telemetry (ARTM) project continued to procure and integrate new antenna and receiver systems to modernize critical TM capabilities at the 96 TW. The Advanced Munitions Test Improvement (AMTI) project continued development of a Millimeter Wave (MMW) simulator, target models, and an advanced GPS simulator to provide new HITL capabilities for testing advanced multi-mode seeker/sensor guidance technologies. The Gulf Range Test and Training Center (GRTTCC) project continued procurement and integration of range data systems, including high-resolution video systems, network router and firewall systems, mission control room computer systems, and data storage systems. The Joint Gulf Range Area Network Development (JGRAND) project continued to procure and implement advanced fiber optic, data transport, and network security systems to improve range communication capabilities at the 96TW. The Combined High-Speed/High-Resolution (CHSHR) EO/IR Imaging project began design, development and procurement efforts to provide improved tracking capabilities for small, high-speed A/M, missiles and airborne platform testing. The Next Generation Munitions Test Environment (NGMTE) project began design, development and procurement efforts to upgrade aging gun and munitions test capabilities to support advent of modern, smarter weapon systems requiring more precise data. ***FY 2013 Plans:*** AMTI will continue development of a MMW simulator, an advanced GPS simulator, and low observable target and countermeasure models for testing advanced multi-mode seeker/sensor guidance technologies. GRTTCC will continue procurement and integration efforts to upgrade range data systems, including digital switching systems, high resolution video encoders and decoders, TM processing equipment, mission control room equipment, data storage systems, and fiber data links. JGRAND will continue to procure and implement advanced fiber optic and network security systems and begin development of a network operations control center to improve range communication capabilities at the 96TW. CHSHR EO/IR Imaging will continue procurement and integration of new high-speed digital cameras, modernization of long-range Cine-T photo optic tracking systems, and upgrade weather data systems to provide improved tracking capabilities. NGMTE will continue to develop and procure new ballistic scoring and fragmentation recording systems supporting gun and munitions test capabilities. ***FY 2014 Plans:***			

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 6: *RDT&E Management Support*	**R-1 ITEM NOMENCLATURE** PE 0604759F: *Major T&E Investment*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
GRTTCC will complete procurement and integration efforts to upgrade range data systems including range communication, range interface, and data display systems. JGRAND will continue to integrate advanced fiber optic systems and develop a network operations control center to improve range communication capabilities at the 96TW. CHSHR EO/IR Imaging will continue procurement and integration of new high-speed digital cameras, modernization of long-range Cine-T photo optic tracking systems, and upgrade weather data systems to provide improved tracking capabilities. NGMTE will continue to 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 2012 Accomplishments:*** The Command and Control Test Operations Center (C2TOC) project continued to develop a Joint Air Operations Center (AOC) level test capability to support C2 weapon systems, including modernization of C2 computer systems, network firewalls and equipment, and test tools. ***FY 2013 Plans:*** C2TOC will continue to develop a Joint AOC level test capability by incorporating additional connectivity and links to support C2 end-to-end weapon system testing. ***FY 2014 Plans:*** C2TOC will continue to procure and integrate network servers and performance monitoring and instrumentation systems to support C2 end-to-end weapon system testing.	1.578	0.500	0.500
Accomplishments/Planned Programs Subtotals	60.388	42.236	34.841

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• RDTE: BA 06: PE 0604256F: *Threat Simulator Development*	26.473	22.812	17.690		17.690	22.213	22.542	20.523	20.892	Continuing	Continuing
• RDTE: BA 06: PE 0605807F: *Test and Evaluation Support*	737.697	722.071	742.658		742.658	698.869	704.063	708.671	714.639	Continuing	Continuing
• RDTE: BA 06: PE 0605976F: *Facility Restoration & Modernization - T&E*	44.547	42.597	44.160		44.160	43.765	26.774	28.970	29.492	Continuing	Continuing

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
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D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• RDTE: BA 06: PE 0605978F: *Facility Sustainment - T&E Support*	27.953	27.301	27.643		27.643	28.698	23.898	24.301	24.739	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.

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 2014 Air Force											DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 6: *RDT&E Management Support*					R-1 ITEM NOMENCLATURE PE 0605101F: *RAND Project Air Force*							
COST ($ in Millions)	**All Prior Years**	**FY 2012**	**FY 2013#**	**FY 2014 Base**	**FY 2014 OCO ##**	**FY 2014 Total**	**FY 2015**	**FY 2016**	**FY 2017**	**FY 2018**	**Cost To Complete**	**Total Cost**
Total Program Element	-	32.057	25.579	32.956	-	32.956	28.358	28.868	29.388	29.887	Continuing	Continuing
661110: *Project Air Force*	-	32.057	25.579	32.956	-	32.956	28.358	28.868	29.388	29.887	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 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 IAW 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 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 6: *RDT&E Management Support*	**R-1 ITEM NOMENCLATURE** 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 operations required for general research, development, test and evaluation.

B. Program Change Summary ($ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	27.579	25.579	26.259	-	26.259
Current President's Budget	32.057	25.579	32.956	-	32.956
Total Adjustments	4.478	0.000	6.697	-	6.697
• Congressional General Reductions	-	0.000			
• Congressional Directed Reductions	-	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	-	0.000			
• Congressional Directed Transfers	-	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	4.478	0.000	6.697	-	6.697

Change Summary Explanation

FY12 funding increase of $4.478M resulted from a BTR which supported additional RAND PAF study efforts and the FY12 Need for Fee.

FY14 increases PE funding by $6.697M to a 90 STE level of effort which allows for sustainment of the RAND Project Air Force contract. Lower funding levels jeopardize the continuation of the four study areas under RAND Project Air Force: Strategy and Doctrine, Force Modernization and Employment, Manpower, Personnel and Training and Resource Management. Currently, the Air Force has noted a need to continue all four study areas.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Title: Strategy & Doctrine	6.798	6.305	7.309
Description: Provides for continuing analytical research across a broad spectrum of aerospace issues and concerns--strategy and doctrine.			
FY 2012 Accomplishments:			

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605101F: *RAND Project Air Force*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Provided for analytical research across a broad spectrum of aerospace issues and concerns--strategy and doctrine. ***FY 2013 Plans:*** Provides for continuing 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.			
Title: Force Development ***Description:*** Provides analytical research across a broad spectrum of aerospace issues and concerns--force development employment. ***FY 2012 Accomplishments:*** Provided for analytical research across a broad spectrum of aerospace issues and concerns--force development employment. ***FY 2013 Plans:*** Provides for continuing 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.	5.974	5.540	8.142
Title: Manpower, Personnel & Training ***Description:*** Provides analytical research across a broad spectrum of aerospace issues and concerns--manpower, personnel and training. ***FY 2012 Accomplishments:*** Provided for analytical research across a broad spectrum of aerospace issues and concerns--manpower, personnel and training. ***FY 2013 Plans:*** Provides for continuing 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	5.974	5.540	7.309
Title: Resource Management	11.690	6.689	8.559

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 6: *RDT&E Management Support*	**R-1 ITEM NOMENCLATURE** PE 0605101F: *RAND Project Air Force*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Description: Provides analytical research across a broad spectrum of aerospace issues and concerns--resource management. ***FY 2012 Accomplishments:*** Provided for analytical research across a broad spectrum of aerospace issues and concerns--resource management. ***FY 2013 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 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.			
Title: Intergrative Research/Direct Support ***Description:*** Provides for continuing analytical research across a broad spectrum of aerospace issues and concerns--intergrative research/direct support. ***FY 2012 Accomplishments:*** Provided for analytical research across a broad spectrum of aerospace issues and concerns--intergrative research/direct support ***FY 2013 Plans:*** Provides for continuing analytical research across a broad spectrum of aerospace issues and concerns--intergrative research/ direct support. ***FY 2014 Plans:*** Provides for continuing analytical research across a broad spectrum of aerospace issues and concerns--intergrative research/ direct support.	1.621	1.505	1.637
Accomplishments/Planned Programs Subtotals	32.057	25.579	32.956

D. Other Program Funding Summary ($ in Millions)

N/A

Remarks

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605101F: *RAND Project Air Force*

E. Acquisition Strategy

A comprehensive review of RAND/Project AIR FORCE was completed in Sep 00 and led to a 5-year (FY01-FY05) Cost Plus / Fixed Fee contract, awarded on 01 Oct 00. A subsequent comprehensive review was conducted in FY05. A follow-on (FY06-FY10) Cost Plus / Fixed Fee contract was awarded in Oct 05. Option 2 of this contract was awarded in Sep 2010.

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 2014 Air Force											DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 6: *RDT&E Management Support*					R-1 ITEM NOMENCLATURE PE 0605502F: *Small Business Innovation Research*							
COST ($ in Millions)	**All Prior Years**	**FY 2012**	**FY 2013#**	**FY 2014 Base**	**FY 2014 OCO ##**	**FY 2014 Total**	**FY 2015**	**FY 2016**	**FY 2017**	**FY 2018**	**Cost To Complete**	**Total Cost**
Total Program Element	-	346.235	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
663005: *Small Business Innovation Research*	-	346.235	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 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 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	0.000	0.000	0.000	-	0.000
Current President's Budget	346.235	0.000	0.000	-	0.000
Total Adjustments	346.235	0.000	0.000	-	0.000
• Congressional General Reductions	-	0.000			
• Congressional Directed Reductions	-	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	-	0.000			
• Congressional Directed Transfers	-	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	346.235	0.000			
• Other Adjustments	0.000	0.000	0.000	-	0.000

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Title: Small Business Innovation Research	346.235	0.000	0.000
Description: Small Business Innovation Research			
FY 2012 Accomplishments: Small Business Innovation Research			
FY 2013 Plans:			

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 6: *RDT&E Management Support*	**R-1 ITEM NOMENCLATURE** PE 0605502F: *Small Business Innovation Research*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
N/A			
Accomplishments/Planned Programs Subtotals	346.235	0.000	0.000

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 2014 Air Force											DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 6: *RDT&E Management Support*					R-1 ITEM NOMENCLATURE PE 0605712F: *Initial Operational Test & Evaluation*							
COST ($ in Millions)	**All Prior Years**	**FY 2012**	**FY 2013#**	**FY 2014 Base**	**FY 2014 OCO ##**	**FY 2014 Total**	**FY 2015**	**FY 2016**	**FY 2017**	**FY 2018**	**Cost To Complete**	**Total Cost**
Total Program Element	-	17.754	16.197	13.610	-	13.610	14.019	13.351	13.098	13.334	Continuing	Continuing
660191: *Initial Operational Test and Eval*	-	17.754	16.197	13.610	-	13.610	14.019	13.351	13.098	13.334	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 OCO Request will be submitted at a later date

A. Mission Description and Budget Item Justification

This PE 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 OT participation in Integrated Test and Evaluation (IT&E), the Air Force participation in 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 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, and Intelligence (C4I); 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 for operations required for general test and evaluation.

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 6: *RDT&E Management Support*	**R-1 ITEM NOMENCLATURE** PE 0605712F: *Initial Operational Test & Evaluation*

B. Program Change Summary ($ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	17.754	16.197	14.790	-	14.790
Current President's Budget	17.754	16.197	13.610	-	13.610
Total Adjustments	0.000	0.000	-1.180	-	-1.180
• Congressional General Reductions	-	0.000			
• Congressional Directed Reductions	-	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	-	0.000			
• Congressional Directed Transfers	-	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	0.000	0.000	-1.180	-	-1.180

Change Summary Explanation

FY14: $1.180M decrease reflects a realignment for higher DoD priorities.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Title: Air Systems OT&E	13.102	6.298	7.133
Description: Plan, execute and report OT&E for Air Systems			
FY 2012 Accomplishments: - ALR-69A Radar Warning Receiver (ALR-69A): Conduct IOT&E - AWACS Block 40/45 (AWACS Block 40/45): Conduct FOT&E - B-52 COmbat NEtwork Communications Technology (CONECT): Conduct OA - C-130 Avionics Modernization Program (C-130 AMP): Conduct IOT&E - C-5 Core Mission Computer and Weather Radar Program (C-5 CMC/WX Radar): Early Influence - Common Rescue Helicopter (CRH): Early Influence - Diminishing Manufacturing Sources Replacement of Avionics Global Operations and Navigation (E-3 DRAGON): Plan for OA 1 - E-XX National Airborne Operations Center (E-XX NAOC): Early Influence - F-15 Mark XIIA Mode 5 (F-15 Mode 5): Conduct IOT&E - F-15E Radar Modernization Program (F-15E RMP): Conduct IOT&E - F-22A FOT&E 3.1 (F-22A 3.1): Complete FOT&E - F-22A Increment 3.2A (F-22A 3.2A): Plan for FOT&E - F-22A Increment 3.2B (F-22A 3.2B): Early Influence - HC/MC-130 Recapitalization (HC/MC-130 RECAP): Conduct IOT&E			

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605712F: *Initial Operational Test & Evaluation*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
- KC-46A Replacement Tanker (KC-46A): Plan for OA 1 - Large Aircraft Infrared Countermeasures (LAIRCM) Phase II: Publish Final Report - Miniature Air Launched Decoy-Jammer (MALD-J): Conduct IOT&E - MQ-9 Hunter-Killer (MQ-9 Block 5): Conduct OA - QF-16: Conduct EOA			
FY 2013 Plans: - Airborne Warning and Control System (AWACS Block 40/45): Conduct IOT&E - B-52 COmbat NEtwork Communications Technology (B-52 CONECT): Conduct IOT&E - C-130 Avionics Modernization Program (C-130 AMP): Conduct IOT&E - C-5 Core Mission Computer and Weather Radar Program (C-5 CMC/WX Radar): Early Influence - Common Rescue Helicopter (CRH): Early Influence - Diminishing Manufacturing Sources Replacement of Avionics Global Operations and Navigation (E-3 DRAGON): Conduct OA1 - E-XX National Airborne Operations Center (E-XX NAOC): Early Influence - F-15E Radar Modernization Program (F-15E RMP): Complete IOT&E - F-16 Combat Avionics Programmed Extension Suite (F-16 CAPES): Early Influence - F-22A Increment 3.2A (F-22A 3.2A): Plan for FOT&E - F-22A Increment 3.2B (F-22A 3.2B): Early Influence - HC/MC-130 Recapitalization (HC/MC-130 RECAP): Publish Final Report - KC-46A Replacement Tanker (KC-46A): Conduct OA 1 - Miniature Air Launched Decoy-Jammer (MALD-J): Complete IOT&E - MQ-9 Hunter-Killer (MQ-9 Block 5): Plan for FOT&E - Presidential Aircraft Recapitalization (PAR): Early Influence - QF-16: Conduct OA and IOT&E			
FY 2014 Plans: - AC-130J: Conduct OA - C-130 Avionics Modernization Program (C-130 AMP): Publish Final Report - C-5 Core Mission Computer and Weather Radar Program (C-5 CMC/WX Radar): Conduct OA - Common Rescue Helicopter (CRH): Plan for OA - Diminishing Manufacturing Sources Replacement of Avionics Global Operations and Navigation (E-3 DRAGON): Plan for OA2 - E-XX National Airborne Operations Center (E-XX NAOC): Early Influence - Distributed Common Ground System SR 3.0 (AF DCGS SR 3.0): Early Influence - F-16 Combat Avionics Programmed Extension Suite (F-16 CAPES): Early Influence - F-22A Increment 3.2A (F-22A 3.2A): Conduct FOT&E			

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 6: *RDT&E Management Support*	**R-1 ITEM NOMENCLATURE** PE 0605712F: *Initial Operational Test & Evaluation*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
- F-22A Increment 3.2B (F-22A 3.2B): Early Influence - KC-46A Replacement Tanker (KC-46A): Conduct OA 2 - MQ-9 Hunter-Killer (MQ-9 Block 5): Conduct FOT&E - Presidential Aircraft Recapitalization (PAR): Early Influence - QF-16: Complete IOT&E			
Title: Space Systems OT&E	1.325	1.900	1.313
Description: Plan, execute and report OT&E for Space Systems OT&E ***FY 2012 Accomplishments:*** - Advanced EHF Satellite Communications (Advanced EHF): Conduct OUE - Enhanced Polar System (EPS): Plan for EOA - Global Positioning System Block III (GPS III): Early Influence - Military GPS User Equipment (GPS MGUE): Plan for EOA - GPS Next Generation Control Segment (GPS OCX): Early Influence - Joint Space Operations Center Mission System (JMS): Conduct OUE - Mobile User Objective System (MUOS): CPlan for MOT&E - Space Based Infrared System (SBIRS): Conduct OUE 1 - Space Based Space Surveillance Follow-on (SBSS F/O): Early Influence - Space Fence: Conduct EOA - Space Situational Awareness Environmental Monitoring (SSAEM): Conduct EOA ***FY 2013 Plans:*** - Advanced EHF Satellite Communications (Advanced EHF): Complete OUE - Enhanced Polar System (EPS): Conduct EOA - Global Positioning System Block III (GPS III): Early Influence - Military GPS User Equipment (GPS MGUE): Conduct EOA - GPS Next Generation Control Segment (GPS OCX): Plan for OA - Joint Space Operations Center Mission System (JMS): Plan for OA - Mobile User Objective System (MUOS): Plan for MOT&E - Space Based Infrared System (SBIRS): Plan for OUE 2 - Space Based Space Surveillance Follow-on (SBSS F/O): Early Influence - Space Fence: Plan for IOT&E			

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605712F: *Initial Operational Test & Evaluation*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
- Space Situational Awareness Environmental Monitoring (SSAEM): Conduct OA ***FY 2014 Plans:*** - Advanced EHF Satellite Communications (Advanced EHF): Conduct MOT&E - Enhanced Polar System (EPS): Conduct OA - Global Positioning System Block III (GPS III): Plan for OUE - Military GPS User Equipment (GPS MGUE): Plan OA - GPS Next Generation Control Segment (GPS OCX): Conduct OA - Joint Space Operations Center Mission System (JMS): Conduct OA - Mobile User Objective System (MUOS): Conduct MOT&E - Space Based Infrared System (SBIRS): Plan for OUE 2 - Space Based Space Surveillance Follow-on (SBSS F/O): Early Influence - Space Fence: Plan for IOT&E - Space Situational Awareness Environmental Monitoring (SSAEM): Plan for IOT&E			
Title: Weapons OT&E ***Description:*** Plan, execute and report OT&E for Weapons OT&E ***FY 2012 Accomplishments:*** - AIM-9X Block II: Conduct MOT&E - AIM-120C Electronic Protection Improvement Program (AIM-120C EPIP): Plan for MOT&E - B-61 Life Extension Program (B-61 LEP): Early Influence - Hard Target Void Sensing Fuze (HTVSF): Plan for OA - Joint Air-to-Surface Standoff Missile Extended Range (JASSM-ER): Conduct IOT&E - Small Diameter Bomb Increment II (SDB II): Conduct OA ***FY 2013 Plans:*** - AIM-9X Block II: Complete MOT&E - AIM-120C Electronic Protection Improvement Program (AIM-120C EPIP): Conduct MOT&E - AIM-120C Advanced Electronic Protection Improvement Program (AIM-120C Advanced EPIP): Plan for MOT&E - B-61 Life Extension Program (B-61 LEP): Early Influence - Hard Target Void Sensing Fuze (HTVSF): Conduct OA - Joint Air-to-Surface Standoff Missile Extended Range (JASSM-ER): Publish IOT&E Report - Small Diameter Bomb Increment II (SDB II): Complete OA ***FY 2014 Plans:***	1.935	5.221	0.404

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 6: *RDT&E Management Support*	**R-1 ITEM NOMENCLATURE** PE 0605712F: *Initial Operational Test & Evaluation*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
- AIM-9X Block II: Publish Final Report - AIM-120C Electronic Protection Improvement Program (AIM-120C EPIP): Publish Final Report - AIM-120C Advanced Electronic Protection Improvement Program (AIM-120C Advanced EPIP): Conduct MOT&E - B-61 Life Extension Program (B-61 LEP): Plan for EOA - Hard Target Void Sensing Fuze (HTVSF): Complete OA - Small Diameter Bomb Increment II (SDB II): Plan for IOT&E			
Title: C4I Programs OT&E	1.383	2.641	4.721
Description: Plan, execute and report OT&E for Command, Control, Communications, Computer, and Intelligence (C4I) Programs OT&E ***FY 2012 Accomplishments:*** - Three Dimensional Expeditionary Long Range Radar (3DELRR): Plan for EOA - Air Force Integrated Personnel and Pay System (AF-IPPS): Early Influence - Air Operations Center as a Weapon System (AOC): Plan for OA - B-1 Fully Integrated Data Link (B-1 FIDL): Publish Final IOT&E Report - Battle Control System Fixed 3.2 (BCS-F): Conduct IOT&E - Command and Control Air Operation Suite (C2AOS): Plan for MOT&E - Distributed Common Ground System (DCGS) SR 3.0: Plan for OUE - Family of Advanced Beyond Line Of Sight Terminals (FAB T): Plan for OA - Global Hawk Spiral 4 Multiple Platform Radar Technology Insertion Program (RQ-4B BLOCK 40): Plan for OUE - Integrated Broadcast Service (IBS): Plan for MOT&E - Joint Precision Approach & Landing System (JPALS): Early Influence - MQ-9 ASIP 2C: Conduct OA-3 ***FY 2013 Plans:*** - Three Dimensional Expeditionary Long Range Radar (3DELRR): Conduct EOA - Air Force Integrated Personnel and Pay System (AF-IPPS): Plan for OA - Air Operations Center as a Weapon System (AOC): Plan for OA - Battle Control System Fixed (BCS-F) 3.2: Publish Final Report - Bold Quest 13: Conduct JOTA - Command and Control Air Operation Suite (C2AOS): Plan for MOT&E - Distributed Common Ground System (DCGS) SR 3.0: Plan for OUE - Dismount Detection Radar (DDR): Plan for OUE - Family of Advanced Beyond Line Of Sight Terminals (FAB T): Conduct OA			

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 6: *RDT&E Management Support*	**R-1 ITEM NOMENCLATURE** PE 0605712F: *Initial Operational Test & Evaluation*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
- Global Hawk Spiral 4 Multiple Platform Radar Technology Insertion Program (RQ-4B Block 40): Conduct OUE - Integrated Broadcast Service (IBS): Conduct MOT&E - Joint Precision Approach & Landing System (JPALS): Early Influence - MQ-9 ASIP 2C: Complete OA 3 ***FY 2014 Plans:*** - Three Dimensional Expeditionary Long Range Radar (3DELRR): Plan for OA - Air Force Integrated Personnel and Pay System (AF-IPPS): Conduct OA - Air Operations Center as a Weapon System (AOC): Conduct OA - Command and Control Air Operation Suite (C2AOS): Conduct MOT&E - Distributed Common Ground System (DCGS) SR 3.0: Conduct OUE - Dismount Detection Radar (DDR): Conduct OUE - Family of Advanced Beyond Line Of Sight Terminals (FAB T): Conduct IOT&E - Global Hawk Spirals 4 Multiple Platform Radar Technology Insertion Program (RQ-4B Block 40): Plan for IOT&E - Joint Precision Approach & Landing System (JPALS): Early Influence - MQ-9 ASIP 2C: Conduct FOT&E			
Title: Combat Support Programs OT&E ***Description:*** Plan, execute and report OT&E for Combat Support Programs OT&E ***FY 2012 Accomplishments:*** - Joint Counter Radio-Controlled Improvised Explosive Device EW (JCREW): Plan for OA - Joint Mission Planning System (JMPS): Plan for IOT&E ***FY 2013 Plans:*** - Integrated Aircrew Ensemble (IAE): Plan for OA - Joint Counter Radio-Controlled Improvised Explosive Device EW (JCREW): Plan OA - Joint Mission Planning System (JMPS): Conduct IOT&E ***FY 2014 Plans:*** - Integrated Aircrew Ensemble (IAE): Conduct OA - Joint Counter Radio-Controlled Improvised Explosive Device EW (JCREW): Conduct MOT&E	0.009	0.137	0.039
Accomplishments/Planned Programs Subtotals	17.754	16.197	13.610

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 6: *RDT&E Management Support*	**R-1 ITEM NOMENCLATURE** PE 0605712F: *Initial Operational Test & Evaluation*

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 2014 Air Force											DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 6: *RDT&E Management Support*					R-1 ITEM NOMENCLATURE PE 0605807F: *Test and Evaluation Support*							
COST ($ in Millions)	**All Prior Years**	**FY 2012**	**FY 2013#**	**FY 2014 Base**	**FY 2014 OCO ##**	**FY 2014 Total**	**FY 2015**	**FY 2016**	**FY 2017**	**FY 2018**	**Cost To Complete**	**Total Cost**
Total Program Element	-	737.697	722.071	742.658	-	742.658	698.869	704.063	708.671	714.639	Continuing	Continuing
6606TG: *96th Test Group*	-	33.613	31.442	30.519	-	30.519	30.875	30.530	31.118	31.692	Continuing	Continuing
6606TS: *Test and Evaluation Support*	-	704.084	690.629	712.139	-	712.139	667.994	673.533	677.553	682.947	Continuing	Continuing

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 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 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	704.475	722.071	701.000	-	701.000
Current President's Budget	737.697	722.071	742.658	-	742.658
Total Adjustments	33.222	0.000	41.658	-	41.658
• Congressional General Reductions	-	0.000			
• Congressional Directed Reductions	-	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	-	0.000			
• Congressional Directed Transfers	-	0.000			
• Reprogrammings	33.222	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	0.000	0.000	41.658	-	41.658

Change Summary Explanation

FY12: $33.222M increase reflects a $28.4M civilian pay pricing correction and a BTR of $4.822M to rebalance previously taken efficiencies.

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605807F: *Test and Evaluation Support*

FY14: $41.658M increase reflects civilian pay adjustments, restoration of B-52 depot maintenance, flying operations costs, and realignment of test infrastructure requirements with DoD priorities.

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605807F: *Test and Evaluation Support*	PROJECT 6606TG: *96th Test Group*	

COST ($ in Millions)	All Prior Years	FY 2012	FY 2013#	FY 2014 Base	FY 2014 OCO ##	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
6606TG: *96th Test Group*	-	33.613	31.442	30.519	-	30.519	30.875	30.530	31.118	31.692	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 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 2012	FY 2013	FY 2014
Title: 96th Test Group	33.613	31.442	30.519

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605807F: *Test and Evaluation Support*	PROJECT 6606TG: *96th Test Group*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
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 2012 Accomplishments:*** Total consists of utilities, contractor services, and civilian pay. ***FY 2013 Plans:*** Total consists of utilities, contractor services, and civilian pay. ***FY 2014 Plans:*** Total consists of utilities, contractor services, and civilian pay. FY14 decrease is a result of civilian pay repricing to more accurately reflect institutional requirements.			
Accomplishments/Planned Programs Subtotals	33.613	31.442	30.519

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• NA: *NA*	0.000	0.000	0.000		0.000	0.000	0.000	0.000	0.000	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 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605807F: *Test and Evaluation Support*	PROJECT 6606TS: *Test and Evaluation Support*	

COST ($ in Millions)	All Prior Years	FY 2012	FY 2013#	FY 2014 Base	FY 2014 OCO ##	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
6606TS: *Test and Evaluation Support*	-	704.084	690.629	712.139	-	712.139	667.994	673.533	677.553	682.947	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 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,

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605807F: *Test and Evaluation Support*	PROJECT 6606TS: *Test and Evaluation Support*

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.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
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 2012 Accomplishments:*** Total consists of utilities, contractor services, and civilian pay. ***FY 2013 Plans:*** Total consists of infrastructure funding such as utilities, contractor services, and civilian pay. FY13 adustment is a restoration of funding to better align test infrastructure with current AF priorities. ***FY 2014 Plans:*** Total consists of utilities, contractor services, and civilian pay. FY14 adjustment is a restoration of funding to align test infrastructure with current AF and DoD priorities.	160.564	162.292	167.226
Title: 412TW ***Description:*** Continue to provide institutional test infrastructure support at the 412TW and continue to operate the USAF Test Pilot School. ***FY 2012 Accomplishments:*** Total consists of utilities, contractor services, civilian pay, and aircraft flying costs. ***FY 2013 Plans:*** Total consists of utilities, contractor services, flight test operations and support and civilian pay. FY13 decrease as a result of realigning PE funds for higher AF priorities. ***FY 2014 Plans:*** Total consists of utilities, contractor services, flight test operations and support, and civilian pay. Adjustment is a result of a civilian pay conversion adjustment and restoration of B-52 depot maintenance, fuel, and flying hour costs to align with the aircraft program modernization schedule, and increased test efficiency.	361.447	329.374	336.324
Title: 96th Test Wing ***Description:*** Continue institutional test infrastructure support at 96th Test Wing (TW) for non-nuclear air armaments.	182.073	198.963	208.589

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605807F: *Test and Evaluation Support*	PROJECT 6606TS: *Test and Evaluation Support*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
FY 2012 Accomplishments: Total consists of utilities, contractor services, civilian pay, and aircraft flying costs. ***FY 2013 Plans:*** Total consists of utilities, contractor services, flight test operations and support, and civilian pay. FY13 increase due to an alignment of test infrastructure requirements with current AF priorities ***FY 2014 Plans:*** Total consists of utilities, contractor services, and civilian pay. Adjustment is a result of civilian pay adjustments and aligning test infrastructure requirements with AF and DoD priorities.			
Accomplishments/Planned Programs Subtotals	704.084	690.629	712.139

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• NA: *NA*	0.000	0.000	0.000		0.000	0.000	0.000	0.000	0.000	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.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force											DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 6: *RDT&E Management Support*					R-1 ITEM NOMENCLATURE PE 0605860F: *Rocket Systems Launch Program (SPACE)*							
COST ($ in Millions)	**All Prior Years**	**FY 2012**	**FY 2013#**	**FY 2014 Base**	**FY 2014 OCO ##**	**FY 2014 Total**	**FY 2015**	**FY 2016**	**FY 2017**	**FY 2018**	**Cost To Complete**	**Total Cost**
Total Program Element	-	146.536	16.200	14.203	-	14.203	51.588	34.909	17.314	17.625	Continuing	Continuing
661023: *Rocket System Launch Program (RSLP)*	-	146.536	16.200	14.203	-	14.203	51.588	34.909	17.314	17.625	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 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 06 - RDT&E Management Support, since RSLP provides research and development effort and/or operations support for general research and development use.

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605860F: *Rocket Systems Launch Program (SPACE)*

B. Program Change Summary ($ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	157.799	16.200	16.459	-	16.459
Current President's Budget	146.536	16.200	14.203	-	14.203
Total Adjustments	-11.263	0.000	-2.256	-	-2.256
• Congressional General Reductions	-	0.000			
• Congressional Directed Reductions	-	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	-	0.000			
• Congressional Directed Transfers	-	0.000			
• Reprogrammings	-0.494	0.000			
• SBIR/STTR Transfer	-10.769	0.000			
• Other Adjustments	0.000	0.000	-2.256	-	-2.256

Change Summary Explanation

FY2012: -$10.769M for SBIR; -$0.494M for higher Department priorities.

FY2014: -$2.256M for higher Department priorities.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Title: STORAGE/REFURBISHMENT/DEMIL	24.992	10.691	9.749
Description: Storage, refurbishment, inventory control, and demil/disposal of deactivated Minuteman, Peacekeeper and other missile flight test assets			
FY 2012 Accomplishments: Continued storage, refurbishment, inventory control, and demil of deactivated Minuteman, Peacekeeper and other missile flight test assets and performed research and development support operations as required; Continued support activities such as, but not limited to mission support, special studies, etc. Continued demil efforts; Completed implementation of new inventory control procedures (Air Force Comprehensive Assessment of Nuclear Sustainment (AFCANS)).			
FY 2013 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 2014 Plans:			

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 6: *RDT&E Management Support*	**R-1 ITEM NOMENCLATURE** PE 0605860F: *Rocket Systems Launch Program (SPACE)*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
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.			
Title: AGING SURVEILLANCE ***Description:*** Perform aging surveillance-related activities on stored motors ***FY 2012 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 2013 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. ***FY 2014 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.	3.427	3.971	1.919
Title: OTHER LAUNCH SUPPORT SERVICES ***Description:*** Perform launch services activities ***FY 2012 Accomplishments:*** Provided vehicle acquisition, processing, launch services support, mission assurance, and launch operations to launch NOAA's Deep Space Climate Observatory (DSCOVR) mission. ***FY 2013 Plans:*** N/A ***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.	109.467	0.000	1.000
Title: PROGRAM MANAGEMENT ADMINISTRATION	8.650	1.538	1.535

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605860F: *Rocket Systems Launch Program (SPACE)*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Description: Perform program management, adminstrative, information technology, travel, and supply support. ***FY 2012 Accomplishments:*** Provided program support for storage, refurbishment, inventory control, demil/disposal, aging surveillance, orbital/suborbital launch support, and other launch service activities. ***FY 2013 Plans:*** Continue program support for storage, refurbishment, inventory control, demil/disposal, aging surveillance, orbital/suborbital launch support, and other launch service activities. ***FY 2014 Plans:*** Continue program support for storage, refurbishment, inventory control, demil/disposal, aging surveillance, orbital/suborbital launch support, and other launch service activities.			
Accomplishments/Planned Programs Subtotals	146.536	16.200	14.203

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• None: *None*	0.000	0.000	0.000		0.000	0.000	0.000	0.000	0.000	0.000	0.000

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 2014 Air Force											DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 6: *RDT&E Management Support*					R-1 ITEM NOMENCLATURE PE 0605864F: *Space Test Program (STP)*							
COST ($ in Millions)	**All Prior Years**	**FY 2012**	**FY 2013#**	**FY 2014 Base**	**FY 2014 OCO ##**	**FY 2014 Total**	**FY 2015**	**FY 2016**	**FY 2017**	**FY 2018**	**Cost To Complete**	**Total Cost**
Total Program Element	-	44.308	10.051	13.000	-	13.000	26.000	26.000	26.000	26.000	Continuing	Continuing
662617: *Free-Flyer Spacecraft Missions*	-	44.308	10.051	13.000	-	13.000	26.000	26.000	26.000	26.000	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 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 are the most cost-effective way to flight test new space system technologies, concepts and designs, providing an inexpensive way to:

- Support the space 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, test, and acquire advanced payload support hardware for small and medium expendable launch vehicles (LV) and unmanned spaceflight vehicles

The Deputy Secretary of Defense Space Test Program Management & Funding Policy, issued in Jul 2002, reaffirmed STP as the primary provider of spaceflight for the DoD space research community. The Jul 2002 policy statement also reaffirms STP's role as the single manager for all DoD payloads on the Space Shuttle and the International Space Station (ISS).

In FY12, STP provided launch services to 4 Space Experiment Review Board (SERB)approved experiments. It also provided operations support for free-flyer experiments and long-duration external experiments on the ISS.

The FY13 funds were oringially requested to support program closeout and termination. STP was re-instated in FY13 and funds are now providing services to 14 SERB-approved experiments. In FY14 funds will be used to ramp up the program and plan for a restored Space Test Program.

STP-2 integration and mission operations will be continued in FY13-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 is in Budget Activity 6, RDT&E Management Support, because it supports RDT&E satellite launches.

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 6: *RDT&E Management Support*	**R-1 ITEM NOMENCLATURE** PE 0605864F: *Space Test Program (STP)*

B. Program Change Summary ($ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	47.409	10.051	0.000	-	0.000
Current President's Budget	44.308	10.051	13.000	-	13.000
Total Adjustments	-3.101	0.000	13.000	-	13.000
• Congressional General Reductions	-	0.000			
• Congressional Directed Reductions	-	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	-	0.000			
• Congressional Directed Transfers	-	0.000			
• Reprogrammings	-0.264	0.000			
• SBIR/STTR Transfer	-2.837	0.000			
• Other Adjustments	0.000	0.000	13.000	-	13.000

Change Summary Explanation

FY2012: -$2.837M for SBIR; -$0.264M due to higher Department priorities.

FY2014: +$13M to reinstitute the Space Test Program.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Title: PROGRAM SUPPORT	0.107	0.112	0.100
Description: Provide program support for piggyback/secondary, Small Launch Vehicle, Medium Launch Vehicle, NASA Shuttle, the ISS, manned and ISS resupply, and commercial spaceflight missions			
FY 2012 Accomplishments: Provided program support for piggyback/secondary, Small Launch Vehicle, Medium Launch Vehicle, the ISS, ISS resupply, and commercial spaceflight missions, and began program termination management, mission manifest changes/updates, documentation and records storage, and other closeout activities as required to terminate program.			
FY 2013 Plans: Resume program support for piggyback/secondary, Small Launch Vehicle, Medium Launch Vehicle, the ISS, ISS resupply, and commercial spaceflight missions. With STP reinstated at lower funding levels, re-initiate the SERB process, and re-start the mission manifest process and associated program planning.			
FY 2014 Plans:			

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605864F: *Space Test Program (STP)*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Provide program support for piggyback/secondary, Small Launch Vehicle, Medium Launch Vehicle, the ISS, ISS resupply, and commercial spaceflight missions. Restore mission manifest process and associated program planning.			
Title: PAYLOAD INTEGRATION ***Description:*** Initiate, develop, and continue integration of payloads onto piggyback/secondary, Small Launch Vehicle, Medium Launch Vehicle, NASA Shuttle, the ISS, manned and ISS resupply, and commercial spaceflight missions to include acquisition of associated spacecraft and integration hardware ***FY 2012 Accomplishments:*** Continued remaining payload integration efforts onto piggyback/secondary, Small Launch Vehicle, Medium Launch Vehicle, the ISS, ISS resupply and commercial spaceflight missions to include acquisition of associated spacecraft and integration hardware. ***FY 2013 Plans:*** Continue payload integration efforts onto piggyback/secondary, Small Launch Vehicle, Medium Launch Vehicle, the ISS, ISS resupply and commercial spaceflight missions to include acquisition of associated spacecraft and integration hardware. ***FY 2014 Plans:*** Continue payload integration efforts onto piggyback/secondary, Small Launch Vehicle, Medium Launch Vehicle, the ISS, ISS resupply and commercial spaceflight missions to include acquisition of associated spacecraft and integration hardware.	10.189	2.070	1.600
Title: LAUNCH VEHICLE AND LAUNCH SERVICES ***Description:*** Initiate and continue purchase of launch services, launch vehicles and launch vehicle support for piggyback/ secondary, Small Launch Vehicle, Medium Launch Vehicle, ISS, ISS resupply, and commercial spaceflight missions. ***FY 2012 Accomplishments:*** Continued purchase of launch services, launch vehicles, and launch vehicle support for shared/piggyback/secondary, Small Launch Vehicle, Medium Launch Vehicle, ISS, and ISS resupply, and commercial spaceflight missions for maximum flyout of existing, approved payloads. ***FY 2013 Plans:*** Resume purchase of launch services, launch vehicles, and launch vehicle support for shared/piggyback/secondary, Small Launch Vehicle, Medium Launch Vehicle, ISS, and ISS resupply, and commercial spaceflight missions. ***FY 2014 Plans:***	17.180	1.737	4.870

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 6: *RDT&E Management Support*	**R-1 ITEM NOMENCLATURE** PE 0605864F: *Space Test Program (STP)*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Continue purchase of launch services, launch vehicles, and launch vehicle support for shared/piggyback/secondary, Small Launch Vehicle, Medium Launch Vehicle, ISS, and ISS resupply, and commercial spaceflight missions.			
Title: ON ORBIT SATELLITE OPERATIONS ***Description:*** Initiate, develop, and continue first-year operations and operations planning for STP-sponsored missions. ***FY 2012 Accomplishments:*** Developed and continued first-year operations and operations planning for STP-sponsored missions. ***FY 2013 Plans:*** Develop and continue first-year operations and/or operations support for STP-sponsored missions. ***FY 2014 Plans:*** Develop and continue first-year operations and/or operations support for STP-sponsored missions.	8.902	1.328	0.700
Title: PROGRAM MANAGEMENT ADMINISTRATION ***Description:*** Provide the unique program costs required for the operation of the Space Test Program in its management and oversight role including program management, adminstrative, information technology, travel, training, and supply support. ***FY 2012 Accomplishments:*** Provided the unique program costs required for the operation of the Space Test Program in its management and oversight role including program management, adminstrative, information technology, travel, training, and supply support. ***FY 2013 Plans:*** Provide the unique program costs required for the operation of the Space Test Program in its management and oversight role including program management, adminstrative, information technology, travel, training, and supply support. ***FY 2014 Plans:*** Provide the unique program costs required for the operation of the Space Test Program in its management and oversight role including program management, adminstrative, information technology, travel, training, and supply support.	7.930	4.804	5.730
Accomplishments/Planned Programs Subtotals	44.308	10.051	13.000

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• None: *None*	0.000	0.000	0.000		0.000	0.000	0.000	0.000	0.000	0.000	0.000

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605864F: *Space Test Program (STP)*

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost

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 2014 Air Force											DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 6: *RDT&E Management Support*					R-1 ITEM NOMENCLATURE PE 0605976F: *Facilities Restoration and Modernization - Test and Evaluation Support*							
COST ($ in Millions)	**All Prior Years**	**FY 2012**	**FY 2013#**	**FY 2014 Base**	**FY 2014 OCO ##**	**FY 2014 Total**	**FY 2015**	**FY 2016**	**FY 2017**	**FY 2018**	**Cost To Complete**	**Total Cost**
Total Program Element	-	44.547	42.597	44.160	-	44.160	43.765	26.774	28.970	29.492	Continuing	Continuing
6606MC: *Facility Restoration and Modernization - T&E*	-	44.547	42.597	44.160	-	44.160	43.765	26.774	28.970	29.492	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 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 facilities: 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 and the 412TW at Edwards AFB, 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 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	44.547	42.597	35.046	-	35.046
Current President's Budget	44.547	42.597	44.160	-	44.160
Total Adjustments	0.000	0.000	9.114	-	9.114
• Congressional General Reductions	-	0.000			
• Congressional Directed Reductions	-	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	-	0.000			
• Congressional Directed Transfers	-	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	0.000	0.000	9.114	-	9.114

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 6: *RDT&E Management Support*	**R-1 ITEM NOMENCLATURE** PE 0605976F: *Facilities Restoration and Modernization - Test and Evaluation Support*

Change Summary Explanation

FY14: $9.114M increase restores test infrastructure to align with current AF and DoD priorities.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Title: Facility restoration and modernization at the 96 TG	0.796	0.816	0.827
Description: Facility restoration and modernization at the 96 TG. ***FY 2012 Accomplishments:*** Refurbished office space and a secure area for National Radar Cross Section (RCS) Test Facility (NRTF) alternative duty location. Replaced Silo Roof airbags at NRTF. Installed electrical power, insulation, and HVAC at Holloman High Speed Test Track munitions storage building. Renovated 120i dynamometer hydraulic power system at Landing Gear Test Facility. ***FY 2013 Plans:*** Renovate bathrooms Central Inertial and GPS Test Facility (CIGTF). Remove inoperable radiators in Test Track main hall offices. Repair power system on the 84i Dynamometer at the Landing Gear Test Facility. Upgrade carpet and ceilings in information technology office. ***FY 2014 Plans:*** Restoration of Test Track building 1173 damaged after years of a leaking roof. Extension of a Test Track wind fence for rain field test missions. Refurbishment of diffraction ridge at NRTF silo test area. Modernization of the 168i Dynamometer process controller and data acquisition system at Landing Gear Test Facility.			
Title: Facility restoration and modernization at the 96 TW	2.300	2.356	2.387
Description: Facility restoration and modernization at the 96 TW. ***FY 2012 Accomplishments:*** Extended security fencing in munitions storage area. Replaced three Flight Motion Simulator controllers in Guided Weapons Evaluation Facility (GWEF). Installed three-phase power to support test at C-52. Installed sheltered test observation tower at C-52. Relocated CO2 Hydraulic pumps in GWEF. Replaced large overhead door at site A-15. Rewired all electrical service to sled track at C-74. Extended secured test compound at C-1. Replaced 14 range access control gates. Renovated Bldg 22 restrooms. Replaced Blgd 12470 roof. Replaced air handler at A-3. Replaced floor at site A-6. Replaced hoist at metal fabrication bldg. 946. Replaced GWEF 400 Hz generators. Resurfaced lab floor at bldg. 990. ***FY 2013 Plans:*** Repaint two Methyl Chloride Tanks at Climatic Lab. Build two additional munitions storage igloos at C-74. Design and plan relocation of HEI Firing range from C-52. Install entry control system for Design and Development Facility at 96 TSS. Install			

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605976F: *Facilities Restoration and Modernization - Test and Evaluation Support*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
target shelter for target support maintenance and repair. Replace Threat Seekers for STV at the GWEF. Replace three radar C-Band Transponders. Replace 10 range access gates. ***FY 2014 Plans:*** Construct concrete berms under AMU-1 at Climatic Lab. Renovate R-139 in GWEF to support IR test. Install 3-phase power to bldg. 628. Replace wooden steps for bldg. 133. Replace remaining Flight Motion simulator controllers at GWEF. Replace roof at bldg. 9307. Repair fire suppression system bldg. 12555. Facility renovation for TSI Pre-flight bldg. 961.			
Title: Facility restoration and modernization at AEDC ***Description:*** Facility restoration and modernization at AEDC. ***FY 2012 Accomplishments:*** Upgraded Von Karman Facility (VKF) Plant Control System for Tunnels ABC. Continued phased VKF valve refurbishment. Replaced 16T Wind Tunnel C1 compressor Spacers, procured replacement C1 spacers. Refurbished selected parts of Engine Test Facility C-Plant compressors, valves, barowells, lube oils, motors, breakers, and instrumentation and controls until a major service life extension program can be funded. Replaced 4T Wind Tunnel Roll / Inline Roll / Seal Flaps. Replaced J6 Test Unit Support System. Upgraded Fiber Optic Communication Backbone to support Electrical System Modernization. ***FY 2013 Plans:*** Continue to recertify Pressure and Hazardous Material Systems (PHMS). Continue planning for Test Utility Power System Upgrades for new supervisory control and data acquisition (SCADA) system. Replace C-Plant RC11 water coils, repair trichloroethylene (TCE) coolant lines, repair R12 Freon systems, replace reefer unit motors and gear sets. Repair C-Plant ventilation in test cells C-1 and C-2. Replace arc heater H2 diffuser, upgrade H2 mixing chamber and upgrade conical high-enthalpy nozzles. Refurbish 5 Plenum Evacuation System compressor rotors. ***FY 2014 Plans:*** 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 H3 model positioning system. Replace 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.	37.302	35.175	36.640
Title: Facility restoration and modernization at 412 TW ***Description:*** Facility restoration and modernization at 412 TW. ***FY 2012 Accomplishments:***	4.149	4.250	4.306

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 6: *RDT&E Management Support*	**R-1 ITEM NOMENCLATURE** PE 0605976F: *Facilities Restoration and Modernization - Test and Evaluation Support*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Replaced existing Chiller #1 and #2, related piping, wiring, and pumps in the mechanical room (004 ST). Repaired and upgraded the main fire panel. Repaired 3750 KVA Primary 34500V Sec 480/277V transformer and switchgear with A/B sides. Replaced 320 KW generator. Upgraded lighting in hangars with energy efficient lights and secondary electrical system. ***FY 2013 Plans:*** Plan to replace the BAF Radar Absorbant Material in two increments. Replace IFAST 400Hz frequency converters. Replace the Polyalphaolefin (PAO) system in B1030. Plan to do a conversion on the deluge system to a high expansion foam system. ***FY 2014 Plans:*** 412 TW will continue projects for Electronic Warfare, Range, and other T&E facilities including, but not limited to, roofing, heating & air conditioning, windows, doors, and floors, work area rezoning, transformers and power systems, fire suppression systems, seismic upgrades, and RAM replacement.			
Accomplishments/Planned Programs Subtotals	44.547	42.597	44.160

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• RDTE: BA06: PE 0604256F: *Threat Simulator Development*	26.473	22.812	17.690		17.690	22.213	22.542	20.523	20.892	Continuing	Continuing
• RDTE: BA06: PE 0604759F: *Major T&E Investment*	60.388	42.236	34.841		34.841	47.821	49.479	47.688	48.546	Continuing	Continuing
• RDTE: BA06: PE 0605807F: *Test and Evaluation Support*	737.697	722.071	742.658		742.658	698.869	704.063	708.671	714.639	Continuing	Continuing
• RDTE: BA06: PE 0605978F: *Facility Sustainment - T&E Support*	27.953	27.301	27.643		27.643	28.698	23.898	24.301	24.739	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 2014 Air Force											DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 6: *RDT&E Management Support*					R-1 ITEM NOMENCLATURE PE 0605978F: *Facilities Sustainment - Test and Evaluation Support*							
COST ($ in Millions)	**All Prior Years**	**FY 2012**	**FY 2013#**	**FY 2014 Base**	**FY 2014 OCO ##**	**FY 2014 Total**	**FY 2015**	**FY 2016**	**FY 2017**	**FY 2018**	**Cost To Complete**	**Total Cost**
Total Program Element	-	27.953	27.301	27.643	-	27.643	28.698	23.898	24.301	24.739	Continuing	Continuing
6606MR: *Facility Sustainment - T&E Support*	-	27.953	27.301	27.643	-	27.643	28.698	23.898	24.301	24.739	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 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) 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 facilities: 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, and the 412 Test Wing (TW) at Edwards AFB, CA.

Budget Activity Justification: This program element in Budget Activity 6, RDT&E Management Support, because it funds the sustainment of the institutional test infrastructure at the Air force test activities which are included in the Department of Defense (DoD) Major Range and Test Facility Base (MRTFB).

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 6: *RDT&E Management Support*	**R-1 ITEM NOMENCLATURE** PE 0605978F: *Facilities Sustainment - Test and Evaluation Support*

B. Program Change Summary ($ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	27.953	27.301	23.849	-	23.849
Current President's Budget	27.953	27.301	27.643	-	27.643
Total Adjustments	0.000	0.000	3.794	-	3.794
• Congressional General Reductions	-	0.000			
• Congressional Directed Reductions	-	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	-	0.000			
• Congressional Directed Transfers	-	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	0.000	0.000	3.794	-	3.794

Change Summary Explanation

FY14: $3.794M increase restores test infrastructure to align with current AF and DoD priorities.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Title: Facility sustainment at the 96 TG.	0.360	0.363	0.355
Description: Facility sustainment at the 96 TG.			

FY 2012 Accomplishments:

Projects completed included sustainment of the test unique infrastructure throughout the National Radar Cross Section (RCS) Test Facility (NRTF), Holloman High Speed Test Track, Central Inertial and GPS Test Facility (CIGTF), and the Landing Gear Test Facility (LGTF). Hoist tilt mechanism refurbishment and sustainment, office refurbishment, door replacement and HVAC sustainment were completed.

FY 2013 Plans:

Planned 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 GPS Test Facility (CIGTF), and the Landing Gear Test Facility (LGTF). Sustainment projects planned include roof repair at the HHSTT, refurbishing bathrooms at NRTF, painting buildings, and carpet replacement.

FY 2014 Plans:

Projects include sustainment of the test unique infrastructure throughout the National Radar Cross Section (RCS) Test Facility (NRTF), Holloman High Speed Test Track, Central Inertial and GPS Test Facility (CIGTF), and the Landing Gear Test Facility

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 6: *RDT&E Management Support*	**R-1 ITEM NOMENCLATURE** PE 0605978F: *Facilities Sustainment - Test and Evaluation Support*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
(LGTF). Sustainment projects include HVAC repairs at NRTF, painting buildings, and carpet replacement at the 96 TG Operation Locations at WPAFB.			
Title: Facility sustainment at the 96 TW. ***Description:*** Facility sustainment at the 96 TW. ***FY 2012 Accomplishments:*** The 96 TW accomplished over 400 Direct Scheduled Work Orders through civil engineering for facility repair across the MRTFB including the climatic laboratory, guided weapons evaluation facility, and other facilities throughout the range. ***FY 2013 Plans:*** Anticipate accomplishing several hundred Direct Scheduled Work Orders (DSWs) within the Test infrastructure. ***FY 2014 Plans:*** Anticipate accomplishing several hundred Direct Scheduled Work Orders (DSWs) within the Test infrastructure.	0.427	0.432	0.422
Title: Facility sustainment at the AEDC. ***Description:*** Facility sustatinment at the AEDC. ***FY 2012 Accomplishments:*** Performed calendar based scheduled preventative maintenance on Engine Test Facility Plant, Propulsion Wind Tunnel (PWT) plant and Transonic Aerodynamic test support facilities, Von Karman facility (VKF), Rocket Test facility, and aeropropulsion plant and test cells. Designed, fabricated, and installed new JM3 5th stage cooler piping in VKF plant. Installed Plenum Evacuation System (PES) battery station. Repaired PWT House Air Unit #2. Repaired PWT 16T facility electrical power ground fault detection system. High-Enthalpy Arc Heater validation runs completed after extensive restoration maintenance completed. Installed upgraded infrared window and performed infrared electrical power system inspections. ***FY 2013 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. ***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	25.847	25.176	25.517

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0605978F: *Facilities Sustainment - Test and Evaluation Support*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
test operations. Currently plan to disassemble, inspect, evaluate, refurbish or repair and test one helium rotary screw (RS) compressor unit for the cryogenic cooling system for space chambers.			
Title: Facility sustainment at the 412 TW. ***Description:*** Facility sustainment at the 412 TW. ***FY 2012 Accomplishments:*** Painted hangar floors with 2-part epoxy coating and restriped lines. Chemically treated boilers & cooling towers. Conducted yearly septic tank pumping. Repaired and rebuilt hydraulic lift on back dock. Conducted routine BAF facility sustainment and CE in-house and emergency repairs as needed. ***FY 2013 Plans:*** Continue repainting hanger floors with 2-part epoxy coatings and restriping floors. Continue boiler and cooling tower chemical treatments. Continue septic tank pumping. Conduct scales maintenance in B1030. Plan to do hanger door maintenance for B1030. Continue providing CE 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.	1.319	1.330	1.349
Accomplishments/Planned Programs Subtotals	27.953	27.301	27.643

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• RDTE: BA06: PE 0604256F: *Threat Simulator Development*	26.473	22.812	17.690		17.690	22.213	22.542	20.523	20.892	Continuing	Continuing
• RDTE: BA06: PE 0604759F: *Major T&E Investment*	60.388	42.236	34.841		34.841	47.821	49.479	47.688	48.546	Continuing	Continuing
• RDTE: BA06: PE 0605807F: *Test & Evaluation Support*	737.697	722.071	742.658		742.658	698.869	704.063	708.671	714.639	Continuing	Continuing
• RDTE: BA06: PE 0605976F: *Facility Restoration and Modernization-T&E*	44.547	42.597	44.160		44.160	43.765	26.774	28.970	29.492	Continuing	Continuing

Remarks

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE 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 2014 Air Force												DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 6: *RDT&E Management Support*					R-1 ITEM NOMENCLATURE PE 0606323F: *Multi-Service Systems Engineering Initiative*							
COST ($ in Millions)	**All Prior Years**	**FY 2012**	**FY 2013#**	**FY 2014 Base**	**FY 2014 OCO ##**	**FY 2014 Total**	**FY 2015**	**FY 2016**	**FY 2017**	**FY 2018**	**Cost To Complete**	**Total Cost**
Total Program Element	-	13.532	13.964	13.935	-	13.935	0.000	0.000	0.000	0.000	0.000	41.431
668101: *MSSE and JIAMD Capability Initiative*	-	13.532	13.964	13.935	-	13.935	0.000	0.000	0.000	0.000	0.000	41.431
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 OCO Request will be submitted at a later date

Note

In FY 2014, Project Number 668101, MSSE and JIAMD Capability Initiative was terminated in order to meet higher Air Force priorities.

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.
- 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.

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 6: *RDT&E Management Support*	**R-1 ITEM NOMENCLATURE** PE 0606323F: *Multi-Service Systems Engineering Initiative*

- 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 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	13.953	13.964	13.935	-	13.935
Current President's Budget	13.532	13.964	13.935	-	13.935
Total Adjustments	-0.421	0.000	0.000	-	0.000
• Congressional General Reductions	-	0.000			
• Congressional Directed Reductions	-	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	-	0.000			
• Congressional Directed Transfers	-	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	-0.421	0.000			
• Other Adjustments	0.000	0.000	0.000	-	0.000

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Title: Requirements Development	1.000	1.000	1.000
Description: MSSE Requirements Development ***FY 2012 Accomplishments:*** Developed, recommended, and documented as necessary overarching JIAMD technical/performance requirements. ***FY 2013 Plans:*** Develop, recommend, and document as necessary overarching JIAMD technical/performance requirements. ***FY 2014 Plans:*** Will develop, recommend, and document as necessary overarching JIAMD technical/performance requirements.			
Title: Architecture Development	5.000	5.164	5.164
Description: MSSE Architecture Development ***FY 2012 Accomplishments:***			

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 6: *RDT&E Management Support*	**R-1 ITEM NOMENCLATURE** PE 0606323F: *Multi-Service Systems Engineering Initiative*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Conducted the engineering activity to develop coordinated Joint IAMD architecture products (e.g., System Views) while maintaining and deriving common standards. Recommended updates to the Joint Staff IAMD Operational Views as necessary. ***FY 2013 Plans:*** Conduct the engineering activity 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 2014 Plans:*** Will conduct the engineering activity to develop coordinated Joint IAMD architecture products (e.g., System Views) while maintaining and deriving common standards. Will recommend updates to the Joint Staff IAMD Operational Views as necessary.			
Title: Engineering ***Description:*** MSSE Systems Engineering ***FY 2012 Accomplishments:*** Performed Joint IAMD FOS engineering and related analyses, and developed recommendations for incrementally implementing Joint IAMD capabilities. Developed Joint IAMD FOS engineering and Capability Validation Plans and strategies. ***FY 2013 Plans:*** Perform Joint IAMD FOS engineering and related analyses, and develop recommendations for incrementally implementing Joint IAMD capabilities. Developing Joint IAMD FOS engineering and Capability Validation Plans and strategies. ***FY 2014 Plans:*** Will perform Joint IAMD FOS engineering and related analyses, and develop recommendations for incrementally implementing Joint IAMD capabilities. Will develop Joint IAMD FOS engineering and Capability Validation Plans and strategies.	7.532	7.800	7.771
Accomplishments/Planned Programs Subtotals	13.532	13.964	13.935

D. Other Program Funding Summary ($ in Millions)

N/A

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.

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 6: *RDT&E Management Support*	**R-1 ITEM NOMENCLATURE** PE 0606323F: *Multi-Service Systems Engineering Initiative*

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 2014 Air Force											DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 6: *RDT&E Management Support*					R-1 ITEM NOMENCLATURE PE 0606392F: *Space and Missile Center (SMC) Civilian Workforce*							
COST ($ in Millions)	**All Prior Years**	**FY 2012**	**FY 2013#**	**FY 2014 Base**	**FY 2014 OCO ##**	**FY 2014 Total**	**FY 2015**	**FY 2016**	**FY 2017**	**FY 2018**	**Cost To Complete**	**Total Cost**
Total Program Element	-	158.589	203.766	192.348	-	192.348	194.358	196.842	200.347	204.151	Continuing	Continuing
664280: *SMC Civilian Pay*	-	158.589	203.766	192.348	-	192.348	194.358	196.842	200.347	204.151	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 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 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0606392F: *Space and Missile Center (SMC) Civilian Workforce*

B. Program Change Summary ($ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	187.096	203.766	207.143	-	207.143
Current President's Budget	158.589	203.766	192.348	-	192.348
Total Adjustments	-28.507	0.000	-14.795	-	-14.795
• Congressional General Reductions	-	0.000			
• Congressional Directed Reductions	-	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	-	0.000			
• Congressional Directed Transfers	-	0.000			
• Reprogrammings	-22.775	0.000			
• SBIR/STTR Transfer	-5.732	0.000			
• Other Adjustments	0.000	0.000	-14.795	-	-14.795

Change Summary Explanation

FY12 adjustments: -$22.775M Omnibus reprogramming for higher department priorities; -$5.732M SBIR

FY14 adjustments: -$14.795M due to higher department priorities

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Title: SMC Acquisition Workforce	158.589	203.766	192.348
Description: Provide professional government civilian acquisition workforce in support of all Space and Missile Systems Center programs. ***FY 2012 Accomplishments:*** Provided professional government civilian acquisition workforce in support of all Space and Missile Systems Center programs. ***FY 2013 Plans:*** 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.			
Accomplishments/Planned Programs Subtotals	158.589	203.766	192.348

D. Other Program Funding Summary ($ in Millions)

N/A

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0606392F: *Space and Missile Center (SMC) Civilian Workforce*

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.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force											DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 6: *RDT&E Management Support*					R-1 ITEM NOMENCLATURE PE 0702806F: *Acquisition and Management Support*							
COST ($ in Millions)	**All Prior Years**	**FY 2012**	**FY 2013#**	**FY 2014 Base**	**FY 2014 OCO ##**	**FY 2014 Total**	**FY 2015**	**FY 2016**	**FY 2017**	**FY 2018**	**Cost To Complete**	**Total Cost**
Total Program Element	-	35.830	42.430	28.647	-	28.647	34.259	28.939	26.589	27.203	Continuing	Continuing
66ACS1: *Acquistion and Command Support*	-	35.830	37.512	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
66ACSI: *ACSI*	-	0.000	4.918	28.647	-	28.647	34.259	28.939	26.589	27.203	Continuing	Continuing

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 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 2014 Air Force					DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 6: *RDT&E Management Support*			R-1 ITEM NOMENCLATURE PE 0702806F: *Acquisition and Management Support*		
B. Program Change Summary ($ in Millions)	**FY 2012**	**FY 2013**	**FY 2014 Base**	**FY 2014 OCO**	**FY 2014 Total**
Previous President's Budget	31.962	42.430	38.811	-	38.811
Current President's Budget	35.830	42.430	28.647	-	28.647
Total Adjustments	3.868	0.000	-10.164	-	-10.164
• Congressional General Reductions	-	0.000			
• Congressional Directed Reductions	-	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	-	0.000			
• Congressional Directed Transfers	-	0.000			
• Reprogrammings	4.822	0.000			
• SBIR/STTR Transfer	-0.954	0.000			
• Other Adjustments	0.000	0.000	-10.164	-	-10.164

Change Summary Explanation

FY12: Correction for an inaccurately applied efficiency.

FY14: Decrease due to higher Air Force priorities.

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0702806F: *Acquisition and Management Support*	PROJECT 66ACS1: *Acquistion and Command Support*	

COST ($ in Millions)	All Prior Years	FY 2012	FY 2013#	FY 2014 Base	FY 2014 OCO ##	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
66ACS1: *Acquistion and Command Support*	-	35.830	37.512	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 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.

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. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Title: Acquisition Mandates	5.300	0.600	0.000
Description: Supporting Congressional, SECDEF, and SECAF mandates. Program funding provides the framework for Air Force business and acquisition. ***FY 2012 Accomplishments:*** Continued program management and resouce management oversight ***FY 2013 Plans:*** Continue program management and resouce management oversight ***FY 2014 Plans:*** N/A			
Title: Performance Measurements	5.869	6.100	0.000
Description: Initiating performance measures for capability-based planning constructs.			

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0702806F: *Acquisition and Management Support*	PROJECT 66ACS1: *Acquistion and Command Support*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
FY 2012 Accomplishments: Continued 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 2013 Plans:*** Continue 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			
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 2012 Accomplishments:*** Continued development of information technology (IT) development. ***FY 2013 Plans:*** Continue development of information technology (IT) development. ***FY 2014 Plans:*** N/A	15.762	19.200	0.000
Title: Recruiting and Development ***Description:*** Increasing activities to recruit, develop, and manage the technical workforce ***FY 2012 Accomplishments:*** Continued activities to develop, manage, and retain the technical workforce ***FY 2013 Plans:*** Continue activities to develop, manage, and retain the technical workforce ***FY 2014 Plans:*** N/A	8.899	11.612	0.000
Accomplishments/Planned Programs Subtotals	35.830	37.512	0.000

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0702806F: *Acquisition and Management Support*	PROJECT 66ACS1: *Acquistion and Command Support*

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 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0702806F: *Acquisition and Management Support*	PROJECT 66ACSI: *ACSI*	

COST ($ in Millions)	All Prior Years	FY 2012	FY 2013#	FY 2014 Base	FY 2014 OCO ##	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
66ACSI: *ACSI*	-	0.000	4.918	28.647	-	28.647	34.259	28.939	26.589	27.203	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 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

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Title: Acquisition Mandates	0.000	4.918	2.612
Description: Supports Congressional, SECDEF, and SECAF mandates that are directed to improve the overall acquisition process.			
FY 2012 Accomplishments: N/A			
FY 2013 Plans: Continue program management and resources management oversight.			
FY 2014 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0702806F: *Acquisition and Management Support*	PROJECT 66ACSI: *ACSI*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Continue program management and resources management oversight.			
Title: Performance Measurements	0.000	0.000	4.112
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 2012 Accomplishments:*** N/A ***FY 2013 Plans:*** N/A ***FY 2014 Plans:*** Develop and analyze acquisition processes to provide process improvements and efficiencies.			
Title: Technical and Analytical Support	0.000	0.000	18.423
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 -- Preparing Purchase Requisitions and Contract Orders -- Managing contract writing			

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0702806F: *Acquisition and Management Support*	PROJECT 66ACSI: *ACSI*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
-- 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 -- Managing access to scientific and technical information -- Increasing industrial base decision-support information. ***FY 2012 Accomplishments:*** N/A ***FY 2013 Plans:*** N/A ***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			
Title: Development & Retention ***Description:*** Supports activities to develop, manage, and retain the acquisition workforce. ***FY 2012 Accomplishments:*** N/A ***FY 2013 Plans:*** N/A ***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.	0.000	0.000	3.500
Accomplishments/Planned Programs Subtotals	0.000	4.918	28.647

C. Other Program Funding Summary ($ in Millions)

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 0702806F: *Acquisition and Management Support*	PROJECT 66ACSI: *ACSI*

C. Other Program Funding Summary ($ in Millions)

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

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

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force											DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 6: *RDT&E Management Support*					R-1 ITEM NOMENCLATURE PE 0804731F: *General Skill Training*							
COST ($ in Millions)	**All Prior Years**	**FY 2012**	**FY 2013#**	**FY 2014 Base**	**FY 2014 OCO ##**	**FY 2014 Total**	**FY 2015**	**FY 2016**	**FY 2017**	**FY 2018**	**Cost To Complete**	**Total Cost**
Total Program Element	-	1.463	1.294	0.315	-	0.315	1.443	1.339	1.443	1.469	Continuing	Continuing
665297: *Technical Training Information Systems*	-	1.463	1.294	0.315	-	0.315	1.443	1.339	1.443	1.469	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 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 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	1.510	1.294	1.006	-	1.006
Current President's Budget	1.463	1.294	0.315	-	0.315
Total Adjustments	-0.047	0.000	-0.691	-	-0.691
• Congressional General Reductions	-	0.000			
• Congressional Directed Reductions	-	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	-	0.000			
• Congressional Directed Transfers	-	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	-0.047	0.000	-0.691	-	-0.691

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Title: Technical Training Management System (TTMS)	1.463	1.294	0.315

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 6: *RDT&E Management Support*	**R-1 ITEM NOMENCLATURE** PE 0804731F: *General Skill Training*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Description: Provide TTMS productivity enhancements and higher degree of efficiency to AETC (i.e., Military Training Leader and Basic Training Management System). ***FY 2012 Accomplishments:*** Continued TTMS productivity enhancements (i.e., Military Training Leader and Basic Training Management System). ***FY 2013 Plans:*** Continue to provide TTMS productivity enhancements and higher degree of efficiency to AETC (i.e., Military Training Leader and Basic Training Management System). ***FY 2014 Plans:*** Continue to provide TTMS productivity enhancements and higher degree of efficiency to AETC (i.e., Basic Training Management System).			
Accomplishments/Planned Programs Subtotals	1.463	1.294	0.315

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 2014 Air Force											DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 6: *RDT&E Management Support*					R-1 ITEM NOMENCLATURE PE 1001004F: *International Activities*							
COST ($ in Millions)	**All Prior Years**	**FY 2012**	**FY 2013#**	**FY 2014 Base**	**FY 2014 OCO ##**	**FY 2014 Total**	**FY 2015**	**FY 2016**	**FY 2017**	**FY 2018**	**Cost To Complete**	**Total Cost**
Total Program Element	-	3.798	3.851	3.785	-	3.785	3.838	3.917	3.984	4.056	Continuing	Continuing
664645: *International Cooperative Research & Development*	-	3.798	3.851	3.785	-	3.785	3.838	3.917	3.984	4.056	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 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, and expand mutually beneficial international partnerships through the implementation of air, space, and cyber international cooperative research, development, test, evaluation, and acquisition agreements thereby supporting USAF and DoD goals and objectives. These International Agreements (IAs) will significantly improve US and allied conventional defense capabilities by leveraging our Allies' best defense technologies, eliminating costly duplication of research and development (R&D) efforts, accelerating the availability of defense systems, and promoting US and allied interoperability or commonality.

The USAF is party to multiple air, space, and cyber bilateral and multilateral IAs to solve common US and allied military research and development efforts, develop materiel solutions, harmonize coalition requirements and build interoperability with our international partners. This program element funds the USAF to identify, develop, process, negotiate, implement, and manage 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 budget are: air, space, and cyber international armaments cooperation (IAC); technology assessment; specialized working groups; Air Senior National Representative (ASNR) activities; IAC program and project reviews; overseas R&D liaison offices; bilateral and multilateral staff talks; support International Trade Shows to promote cooperation and interoperability activities; Engineering and Scientist Exchange Program (ESEP); and Administrative and Professional Exchange Program (APEP).

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. These funds are not to be used for civilian salaries or the construction of permanent facilities.

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 1001004F: *International Activities*	

B. Program Change Summary ($ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	3.798	3.851	3.902	-	3.902
Current President's Budget	3.798	3.851	3.785	-	3.785
Total Adjustments	0.000	0.000	-0.117	-	-0.117
• Congressional General Reductions	-	0.000			
• Congressional Directed Reductions	-	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	-	0.000			
• Congressional Directed Transfers	-	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	0.000	0.000	-0.117	-	-0.117

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
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 AFMC Facilities, Product Centers, Test Centers, and Logistic Centers for tours at selected European and Asian government laboratories and facilities. ***FY 2012 Accomplishments:*** Continued USAF execution and management oversight of the ESEP and APEP programs and personnel. ***FY 2013 Plans:*** Continue 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.			
Title: International Research and Development Activities	2.251	1.911	1.900
Description: Funds USAF management, support, and oversight of IAC goals and objectives. Funds USAF participation in NATO fora to promote harmonization and interoperability. Funds USAF support and participation in OSD bi-lateral IAC forums. Funds USAF overseas R&D liaison office. Funds technical assessments and discussions that support 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: Brazil, Poland, Chile, Czech Republic, India, South Africa and Turkey.			

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 6: *RDT&E Management Support*	**R-1 ITEM NOMENCLATURE** PE 1001004F: *International Activities*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
FY 2012 Accomplishments: Continued USAF management, support, and oversight of IAC goals and objectives. IAC efforts focused on expanding mutually beneficial partnerships between the US and coalition partners. ***FY 2013 Plans:*** Continue USAF management, support, and oversight of IAC goals and objectives initiated in FY12 to establish, sustain, and expand mutually beneficial partnerships between the US and coalition partners. IAC efforts will have an enhanced focus on mutually beneficial partners with Asia. ***FY 2014 Plans:*** Continue USAF management, support, and oversight of IAC goals and objectives initiated in FY13 to establish, sustain, and expand mutually beneficial partnerships between the US and coalition partners. IAC efforts will have an enhanced focus on mutually beneficial partners with Asia.			
Title: Armaments Cooperation	0.800	0.750	0.750
Description: Funds the USAF's ability to identify, develop, process, negotiate, implement, and manage the increasing number bilateral and multilateral IAs that meet the goals, objectives, and mission of the USAF and DoD. IAC activities will meet warfighter needs and enhance interoperability by exploring cooperation in the areas of: materials and composites, human effectiveness, robotics, nanotechnology, coalition information sharing, biometrics, virtual munitions design, hypersonics, alternative energy, IED defeat, WMD defeat, distributed mission operations, lasers, unmanned air systems, ISR capabilities, sustainment, development, distributed mission training, software updates, CNS/ATM requirements, aging aircraft, airlift, test and evaluation, acquisition, interoperability and system development and upgrades. ***FY 2012 Accomplishments:*** Continued funding for USAF to identify, develop, process, negotiate, implement, and manage the increasing number bilateral and multilateral IAs that meet the goals, objectives, and mission of the USAF and DoD. Continued work on IAs developed, but not implemented, during FY11. ***FY 2013 Plans:*** Continue funding for USAF to identify, develop, process, negotiate, implement, and manage the increasing number bilateral and multilateral IAs that meet the goals, objectives, and mission of the USAF and DoD. Work will continue on IAs developed, but not implemented, during FY12. ***FY 2014 Plans:***			

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 1001004F: *International Activities*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Continue funding for USAF to identify, develop, process, negotiate, implement, and manage the increasing number bilateral and multilateral IAs that meet the goals, objectives, and mission of the USAF and DoD. Work will continue on IAs developed, but not implemented, during FY13.			
Title: Air Force Material Command (AFMC) ***Description:*** Funds AFMC's ability to support IAC R&D efforts within the Air Force Research Laboratories (AFRL) and other organizations within AFMC. Funds field level technical assessments and discussions that support technology identification and development activities in support of interoperability. ***FY 2012 Accomplishments:*** Continued support of AFMC's ability to identify and develop IAC R&D efforts initiated in FY11. ***FY 2013 Plans:*** Continue support of AFMC's ability to identify and develop IAC R&D efforts initiated in FY12. ***FY 2014 Plans:*** Continue support of AFMC's ability to identify and develop IAC R&D efforts initiated in FY13.	0.200	0.150	0.150
Title: International Space Cooperation ***Description:*** Funds USAF's research, development, and acquisition 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 2012 Accomplishments:*** Continued USAF support of space cooperation research and development activities initiated in FY11. ***FY 2013 Plans:*** Continue USAF support of space cooperation research and development activities initiated in FY12. ***FY 2014 Plans:*** Continue USAF support of space cooperation research and development activities initiated in FY13.	0.187	0.190	0.190
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	0.060	0.550	0.495

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 6: *RDT&E Management Support*	R-1 ITEM NOMENCLATURE PE 1001004F: *International Activities*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
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 2012 Accomplishments:*** Continued USAF efforts to establish cooperative relationships with allies in cyberspace missions initiated in FY11. ***FY 2013 Plans:*** Continue 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.			
Accomplishments/Planned Programs Subtotals	3.798	3.851	3.785

D. Other Program Funding Summary ($ in Millions)

N/A

Remarks

E. Acquisition Strategy

This program element is the only source of USAF funds to identify, develop, process, negotiate, implement, and manage IAC IA opportunities to: (a) 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; and (c) exploit the best US and allied technologies for equipping coalition forces and supporting interoperability. 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 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.

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