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**Department of Defense
Fiscal Year (FY) 2012 Budget Estimates**

February 2011



Air Force

Justification Book Volume 2

Research, Development, Test & Evaluation, Air Force

Volume II

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**Fiscal Year 2012 Program And Budget Estimates
RDT&E Descriptive Summaries
Budget Activities
February 2011**

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 2012 President's Budget.
- 1) All exhibits in this document have been assembled in accordance with DoD 7000.14R, Financial Management Regulation, Volume 2 B, 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 2012 RDT&E program with the exception of classified program elements. The formats and contents of this document are in accordance with 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 RDT&E 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.
 - c) "Facilities Exhibits", Military Construction Project Data, (DD 1391), for improvements to and construction of government-owned facilities funded in RD&E are included in this submission.

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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Nuclear Weapons Support	0604222F	57	05.....Volume 2 - 377	
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(Listing by Budget Activity, then Program Element Number)

BA# 04: Advanced Component Development & Prototypes (ACD&P)

Line#	BA#	PE#	PE Title	Cost (\$ in Millions)				
				FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
28	04	0603260F	Intelligence Advanced Development	5.785	5.019	4.013	-	4.013
29	04	0603287F	Physical Security Equipment	3.483	3.576	3.586	-	3.586
30	04	0603423F	Global Positioning System III - Operational Control Segment	288.402	-	-	-	-
31	04	0603430F	Advanced (EHF MILSATCOM (Space)	456.238	351.817	421.687	-	421.687
32	04	0603432F	Polar MILSATCOM (Space)	246.660	164.232	122.991	-	122.991
33	04	0603438F	Space Control Technology	99.232	61.012	45.755	-	45.755
34	04	0603742F	Combat Identification Technology	27.850	26.172	38.496	-	38.496
35	04	0603790F	NATO Cooperative R&D	4.243	4.372	4.424	-	4.424
36	04	0603791F	International Space Cooperative R&D	0.609	0.635	0.642	-	0.642
37	04	0603830F	Space Protection Program	-	8.349	9.819	-	9.819
38	04	0603850F	Integrated Broadcast Service (DEM/VAL)	24.438	20.580	20.046	-	20.046
39	04	0603851F	ICBM - DEM/VAL	67.811	66.745	67.202	-	67.202
40	04	0603854F	Wideband MILSATCOM (Space)	67.228	36.123	12.804	-	12.804
41	04	0603859F	Pollution Prevention	10.264	2.534	2.075	-	2.075
42	04	0603860F	Joint Precision Approach and Landing System	20.856	13.952	20.112	-	20.112
43	04	0604015F	Next Generation Bomber	-	198.957	197.023	-	197.023
44	04	0604283F	BMC2 Sensor Development	21.822	-	60.250	-	60.250
45	04	0604317F	Technology Transfer	-	-	2.553	-	2.553

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(Listing by Budget Activity, then Program Element Number)

BA# 04: Advanced Component Development & Prototypes (ACD&P)

				Cost (\$ in Millions)				
Line#	BA#	PE#	PE Title	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
46	04	0604327F	Hardened Target Munitions	20.804	22.389	38.248	-	38.248
47	04	0604330F	Joint Dual-Role Air Dominance Missile (JDRADM)	6.853	9.799	29.759	-	29.759
48	04	0604337F	Requirements Analysis and Maturation	36.391	34.339	24.217	-	24.217
49	04	0604436F	Next-Generation MILSATCOM Technology	49.791	-	-	-	-
50	04	0604635F	Ground Attack Weapons Fuze Development	0.087	32.513	24.467	-	24.467
51	04	0604796F	Alternative Fuels	68.350	24.064	-	-	-
52	04	0604830F	Automated Air-to-Air Refueling	42.978	0.085	-	-	-
53	04	0604857F	Operationally Responsive Space	133.785	93.978	86.543	-	86.543
54	04	0604858F	Technology Transition Program.	9.275	12.260	2.773	-	2.773
55	04	0305178F	National Polar-Orbiting Op Env Satellite	394.986	325.505	444.900	-	444.900
Total: Advanced Component Development & Prototypes (ACD&P)				2,108.221	1,519.007	1,684.385	-	1,684.385

BA# 05: Development & Demonstration (SDD)

				Cost (\$ in Millions)				
Line#	BA#	PE#	PE Title	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
56	05	0603840F	Global Broadcast Service (GBS)	31.149	18.171	5.680	-	5.680

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BA# 05: Development & Demonstration (SDD)

				Cost (\$ in Millions)				
Line#	BA#	PE#	PE Title	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
57	05	0604222F	Nuclear Weapons Support	41.685	60.545	18.538	-	18.538
58	05	0604233F	Specialized Undergraduate Pilot Training	9.900	8.066	21.780	-	21.780
59	05	0604270F	EW Development	89.939	89.966	26.880	-	26.880
60	05	0604280F	JOINT TACTICAL RADIO SYSTEMS (JTRS)	-	0.631	-	-	-
61	05	0604281F	TACTICAL DATA NETWORKS ENTERPRISE	160.316	132.941	52.355	-	52.355
62	05	0604287F	Physical Security Equipment	0.049	0.050	0.051	-	0.051
63	05	0604329F	Small Diameter Bomb	150.082	153.505	132.891	-	132.891
64	05	0604421F	Counterspace Systems	60.141	40.276	31.913	-	31.913
65	05	0604425F	Space Situational Awareness Systems	224.178	426.525	273.689	-	273.689
66	05	0604429F	AIRBORNE ELECTRONIC ATTACK	10.719	25.937	47.100	-	47.100
67	05	0604441F	Spaced Based Infrared System (SBIRS) High	521.470	530.047	621.629	-	621.629
68	05	0604443F	Third Generation Infrared Surveillance (3GIRS)	78.418	-	-	-	-
69	05	0604602F	Armament/Ordnance Development	21.423	6.693	10.055	-	10.055
70	05	0604604F	Submunitions	1.777	1.622	2.427	-	2.427
71	05	0604617F	Agile Combat Support	8.371	37.987	11.878	-	11.878
72	05	0604618F	Joint Direct Attack Munition	50.000	-	-	-	-
73	05	0604706F	Life Support Systems	13.997	10.650	11.280	-	11.280
74	05	0604735F	Combat Training Ranges	21.559	36.905	28.106	-	28.106

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BA# 05: Development & Demonstration (SDD)

				Cost (\$ in Millions)				
Line#	BA#	PE#	PE Title	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
75	05	0604740F	Integrated Command & Control Applications	10.068	0.010	0.010	-	0.010
76	05	0604750F	Intelligence Equipment	1.489	1.364	0.995	-	0.995
77	05	0604800F	Joint Strike Fighter EMD	2,033.521	883.773	1,387.926	-	1,387.926
78	05	0604851F	ICBM - EMD	59.736	71.843	158.477	-	158.477
79	05	0604853F	Evolved Expendable Launch Vehicle - EMD	43.945	30.245	20.028	-	20.028
80	05	0605221F	KC-X, Next Generation Aerial Refueling Aircraft	14.937	863.875	877.084	-	877.084
81	05	0605229F	CSAR HH-60 Recapitalization	-	12.584	94.113	-	94.113
82	05	0605277F	CSAR-X	13.788	-	-	-	-
83	05	0605278F	HC/MC-130 Recap	20.496	15.536	27.071	-	27.071
84	05	0605452F	Joint SIAP Program Executive Office	14.358	-	-	-	-
85	05	0101125F	NUCLEAR WEAPON MODERNIZATION	-	-	93.867	-	93.867
86	05	0207100F	LAAR Squadrons	-	-	23.721	-	23.721
87	05	0207451F	Single Integrated Air Picture (SIAP)	12.939	1.832	-	-	-
88	05	0207701F	Full Combat Mission Training	58.077	57.393	39.826	-	39.826
89	05	0401138F	Joint Cargo Aircraft	9.031	26.407	27.089	-	27.089
90	05	0401318F	CV-22	18.953	18.270	20.723	-	20.723
91	05	0401845F	SLC3S-A (Senior Leader C3S)	19.892	15.826	12.535	-	12.535

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UNCLASSIFIED**Air Force • President's Budget FY 2012 • RDT&E Program****Exhibit R-1**

(Listing by Budget Activity, then Program Element Number)

BA# 05: Development & Demonstration (SDD)**Cost (\$ in Millions)**

Line#	BA#	PE#	PE Title	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Total: Development & Demonstration (SDD)				3,826.403	3,579.475	4,079.717	-	4,079.717

BA# 06: RDT&E Management Support**Cost (\$ in Millions)**

Line#	BA#	PE#	PE Title	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
92	06	0604256F	Threat Simulator Development	25.375	21.245	22.420	-	22.420
93	06	0604759F	Major T&E Investment	63.892	61.587	62.206	-	62.206
94	06	0605101F	RAND Project Air Force	34.457	26.752	27.579	-	27.579
95	06	0605502F	Small Business Innovative Research	365.871	-	-	-	-
96	06	0605712F	Initial Operational Test & Evaluation	25.368	20.665	17.767	-	17.767
97	06	0605807F	Test and Evaluation Support	755.992	759.868	654.475	-	654.475
98	06	0605860F	Rocket Systems Launch Program (RSLP)	32.479	23.551	158.096	-	158.096
99	06	0605864F	Space Test Program	46.524	47.623	47.926	-	47.926
100	06	0605976F	Facility Restoration and Modernization - T&E	52.190	46.327	44.547	-	44.547
101	06	0605978F	Facility Sustainment - T&E Support	29.559	27.579	27.953	-	27.953
102	06	0606323F	Multi-Service Systems Engineering	-	18.901	13.953	-	13.953

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Air Force • President's Budget FY 2012 • RDT&E Program

Exhibit R-1

(Listing by Budget Activity, then Program Element Number)

BA# 06: RDT&E Management Support

				Cost (\$ in Millions)				
Line#	BA#	PE#	PE Title	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
103	06	0702806F	ACQUISITION AND COMMAND SUPPORT	18.176	24.968	31.966	-	31.966
104	06	0804731F	GENERAL SKILL TRAINING	1.399	1.544	1.510	-	1.510
105	06	0909999F	Financing for Cancelled Account Adjustments	0.100	-	-	-	-
106	06	1001004F	International Activities	3.611	3.764	3.798	-	3.798
Total: RDT&E Management Support				1,454.993	1,084.374	1,114.196	-	1,114.196

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PROGRAM ELEMENT (BY BUDGET ACTIVITY)

PROGRAM ELEMENT COMPARISON SUMMARY

BUDGET ACTIVITY #1: BASIC RESEARCH (Volume 1)

0601102F

Defense Research Sciences

Remarks

In FY 2012, nine legacy Projects 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308 and 2311 were consolidated into three new Projects 3001, 3002, 3003 to more appropriately describe and align the changing focus of the scientific disciplines within the overall Basic Research Program. Also in FY 2012, External Research Programs - Project 4113 was renamed Education and Outreach- Project 3004 to more appropriately describe its mission.

BUDGET ACTIVITY #2: APPLIED RESEARCH (Volume 1)

0602204F

Aerospace Sensors

In FY 2012 the efforts in Project 624916 move from Hanscom AFB, MA to Wright Patterson AFB, OH due to the decisions of the Base Realignment and Closure Commission. The individual efforts from Project 624916 are merged into other existing Projects in this PE.

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

0603216F

Aerospace Propulsion and Power Technology

In FY 2012, funding in this project is increased to complete scramjet engine flight demonstrations.

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

0305178F

National Polar-Orbiting Op Env Satellite

In FY2012, the program funding includes overhead reduction efficiencies that are not intended to impact program content. The efficiencies reductions total \$179.701M . Starting in the FY12 year of execution, DWSS funds will be transferred to a new PE (0305187F, Defense Weather Satellite System). Totals include funding for PRCP Program Number 239, NPOESS.

0603423F

Global Positioning System III - Operational Control Segment

In FY2012, totals include funding for PRCP Program Number, 292, GPS IIIA The program funding includes reductions for overhead reduction efficiencies that are not intended to impact program content. The efficiencies reductions total \$6.464M. FY12-16 funding has been transferred to this PE from PE 0305265F. However, funds were incorrectly loaded into BPAC 67A021 instead of 64A021.

0603430F

Advanced (EHF MILSATCOM (Space)

In FY 2012,totals include funding for PRCP Program Number 261, AEHF. The program funding includes Overhead reduction and Reports/Studies/ Boards/Reviews efficiencies that are not intended to impact program content. The efficiencies reductions total \$4.3M. The Capability and Affordability Insertion Program (CAIP) is funded in BPAC 64A030, Evolved AEHF MILSATCOM. Prior to FY12PB, BPAC 64A030 funds were included in BPAC 644050.

PROGRAM ELEMENT (BY BUDGET ACTIVITY)

PROGRAM ELEMENT COMPARISON SUMMARY

0603432F	Polar MILSATCOM (Space)	In FY2012, totals include funding for PRCP Program Number 121, EPS. The program funding includes Overhead reduction efficiencies that are not intended to impact program content. The efficiencies reductions total \$1.8M.
0603438F	Space Control Technology	FY 2012, the program funding includes Overhead reduction efficiencies that are not intended to impact program content. The efficiencies reductions total \$0.063M. CY funding totals include \$16.000M requested for Overseas Contingency Operations.
0603850F	Integrated Broadcast Service (DEM/VAL)	In FY 2012, the program funding includes reductions for Overhead Reduction efficiencies that are not intended to impact program content. The efficiencies reductions total \$0.085M.
0603860F	Joint Precision Approach and Landing Systems - Dem/Val	In FY2012, the program funding includes reductions for Overhead Reduction efficiencies that are not intended to impact program content. The efficiencies reductions total \$.161M. While the Joint Precision Approach and Landing System (JPALS) is an ACAT ID program, the Air Force Exhibit R-3 does not include "to complete" costs as the JPALS Land-Based Increment 2 (Air Force lead) is pre-Milestone B (FY15) and not Section 2366a certified. The Sea-Based Increment 1a (Navy lead) is post-Milestone B and Section 2366a certified. Reference Navy JPALS R-Doc for data (PNO 238). Totals include funding for Program Resources Collection Process Program Number (PNO) 238, JPALS (Land-Based Increment 2).
0604283F	BMC2 Sensor Development	In FY 2012, Project 6002, Three Dimensional Expeditionary Long Range Radar (3DELRR), efforts were transferred from PE 0207412F, Control and Reporting Center, BPAC 675294, Theater Air Control System Improvement - Radar, in order to provide this pre-Major Defense Acquisition Program its own Program Element.
0604317F	Technology Transfer	In FY 2012, the Office of the Secretary of Defense (OSD) transferred this program to the Air Force.
0604857F	Operational Responsive Space	In FY 2012, the program funding includes overhead reduction efficiencies that are not intended to impact program content. The efficiencies reductions total \$1.187.

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

0101125F	NUCLEAR WEAPON MODERNIZATION	In FY2012 B61 LEP efforts were transferred from PE 0604222F, Nuclear Weapons Support, to PE 0101125F, Nuclear Weapon Modernization in order to support B61 LEP development. In FY2012 LRSO efforts were transferred from PE 0101122F, Air Launched Cruise Missile, to PE 0101125F, Nuclear Weapon Modernization in order to support LRSO development.
0207100F	LAAR Squadrons	In FY 2012, Project 657005, Light Attack, includes New Start efforts.
0603840F	Global Broadcast Service (GBS)	In FY2012,the program funding includes overhead reduction efficiencies that are not intended to impact program content. The efficiencies reductions total \$0.070M.

PROGRAM ELEMENT (BY BUDGET ACTIVITY)

PROGRAM ELEMENT COMPARISON SUMMARY

0604222F	Nuclear Weapons Support	In FY12 B61 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 Joint Fuze efforts were transferred from PE 0604222F, Nuclear Weapons Support, to PE 0604851F, ICBM EMD in order to support Joint Fuze development.
0604270F	EW Development	In FY 2012, Project 653891, Advanced IR Counter Measures (AIRCM), includes new start efforts.
0604281F	TACTICAL DATA NETWORKS ENTERPRISE	In FY 2012, the program funding includes reductions for reports/studies/boards efficiencies that are not intended to impact program content. The efficiencies reductions total \$0.509M.
0604421F	Counterspace Systems	In FY 2012, the program funding includes reductions for Overhead Reduction efficiencies that are not intended to impact program content. The efficiencies reductions total \$2.099M in FY12. The program funding includes reductions for Knowledge Based Services, Acquisition Program Management Administrative efficiencies that are not intended to impact program content. The efficiencies reductions total \$0.306M.
0604425F	Space Situational Awareness Systems	In FY 2012, the program funding in this Program Element includes overhead reductions that are not intended to impact program content. The efficiencies reductions total \$6.663M. Totals include funding for PRCP Program Number 328, SBSS Block 10.
0604429F	AIRBORNE ELECTRONIC ATTACK	In FY 2012, the program funding includes reductions for overhead reduction efficiencies that are not intended to impact program content. The efficiencies reductions total \$.433M.
0604441F	Spaced Based Infrared System (SBIRS) High	In FY 2012, the program funding includes overhead reductions for efficiencies that are not intended to impact program content. The efficiencies reductions total \$12.499. Totals include funding for PRCP Program (PNO) 210 SBIRS High.
0604617F	Agile Combat Support	In FY2012, Project 652895, Civil Engineering Readiness, includes two new start efforts, one for Basic Expeditionary Airfield Resources and the other for Explosives Ordnance Disposal.
0604706F	Life Support Systems	In FY2012, Project 65412A, Life Support Systems, includes new starts for Aircrew Laser Eye Protection (ALEP) Block 3 and Voice in Beacon (ViB) programs. The program funding includes reductions for overhead reduction efficiencies that are not intended to impact program content. The efficiencies reductions total \$0.879M in FY12.
0604735F	Combat Training Ranges	In Fy 2012, the program funding includes reductions for overhead reduction efficiencies that are not intended to impact program content. The efficiencies reductions total \$.134.
0604851F	ICBM - EMD	In FY2012, Project Number 655037, Support Equipment, includes the Single Integrated Operation Plan Targeting Application Computer System new start effort. In FY2012, the fuze efforts in Project Number 657006, ICBM EMD: Fuze Support, were transferred from PE 0604222F Nuclear Weapons Support in order to consolidate service activities as they progress towards deployable products. The program funding includes reductions for overhead efficiencies that are not intended to impact program content. The efficiencies reductions total \$0.432M in FY12 from the Support Equipment Programs.

PROGRAM ELEMENT (BY BUDGET ACTIVITY)		PROGRAM ELEMENT COMPARISON SUMMARY
0604853F	Evolved Expendable Launch Vehicle - EMD	In FY 2012, the program funding includes overhead reduction efficiencies that are not intended to impact program content. The efficiencies reductions total \$.059M.
0605221F	KC-X, Next Generation Aerial Refueling Aircraft	In FY2012, the program funding includes reductions for overhead efficiencies that are not intended to impact program content. The efficiencies reductions are \$13.806M.
0605229F	CSAR HH-60 Recapitalization	In FY2012, Project Number 657001, Avionics Development and Integration efforts were transferred to PE 0207224F, Project Number 676016, and PE 0101235F, Modification Number 3149T, in order to effectively execute this effort for both HH-60G and UH-1N aircraft.
BUDGET ACTIVITY #6: RDT&E MANAGEMENT SUPPORT (Volume 2)		
0605807F	Test and Evaluation Support	In FY 2012, the program funding includes reductions for manpower efficiencies that are not intended to impact program content. The efficiencies total \$109.336.
0605860F	Rocket Systems Launch Program (RSLP)	In FY 2012,the program funding includes overhead reduction efficiencies that are not intended to impact program content. The efficiencies reductions total \$406k. In FY2012, Deep Space Climate Observatory (DSCOVR) launch service is a "New Start" effort.
0605864F	Space Test Program	In FY 2012, the program funding includes reductions for (Knowledge Based Services)efficiencies that are not intended to impact program content. The efficiencies reductions total \$291k.
0702806F	ACQUISITION AND COMMAND SUPPORT	In FY 2012, the program funding includes an increases for overhead reductions of \$4.822M efficiencies that are intended to reduce out year costs through improvement in program infrastructure or reduction in unit costs. The program funding also includes reductions for service support contractor efficiencies that are not intended to impact program content. The efficiencies reductions total \$2.187M.
BUDGET ACTIVITY #7: OPERATIONAL SYSTEM DEVELOPMENT (Volume 3)		
0101113F	B-52 SQUADRONS	In FY 012, the program funding includes reductions for Overhead reduction efficiencies that are not intended to impact program content. The efficiencies reductions total \$1.378M.

PROGRAM ELEMENT (BY BUDGET ACTIVITY)

PROGRAM ELEMENT COMPARISON SUMMARY

0101127F	B-2 SQUADRONS	<p>In FY 2012, three new project numbers were established:</p> <p>676021 Baseline Support</p> <p>676022 EHF SATCOM and Computer</p> <p>676023 Defensive Management System</p> <p>Funding for the three new project numbers was transferred from the existing 675345 project number. Project number 675345 will continue to be used for B-2 Modernization efforts that are not allocated to the three new project numbers.</p> <p>The program funding includes reductions for overhead reduction efficiencies that are not intended to impact program content. The efficiencies reductions total \$3.515M in FY12.</p> <p>The program funding includes reductions for acquisition excellence efficiencies for project 676023 in FY15 and FY16 that are not intended to impact program content. Reductions for efficiencies may be spread to other Air Force programs at a later date. Amounts of the reductions are: \$3.7M/FY15 and \$54.2M/FY16.</p>
0205219F	MQ-9 Development and Fielding	<p>In FY 2012, the program funding includes reductions for Overhead Reduction efficiencies that are not intended to impact program content. The efficiencies reductions total \$0.742M</p>
0207131F	A-10 SQUADRONS	<p>In FY 2012, the program funding includes reductions for overhead reduction efficiencies that are not intended to impact program content. The efficiencies reductions total \$.777M</p>
0207133F	F-16 SQUADRONS	<p>In FY2012, the program funding includes reductions for acquisition excellence efficiencies and program management administration reductions that are not intended to impact program content. The efficiencies reductions total \$2.189M</p>
0207134F	F-15 PROGRAMS	<p>In FY 2012. the F-15 program has two FY 2012 new starts: F-15C/D BLOS will provide Beyond Line of Sight (BLOS)communications for Air Superiority and Air Sovereignty Alert missions. F-15 Radar Enhancements will improve F-15E capabilities with empahsis on Electronic Protection and other radar improvements.</p>
0207136F	Manned Destructive Suppression	<p>In FY 2012, the program funding includes reductions for Overhead reduction efficiencies that are not intended to impact program content. The efficiencies reductions total \$.077M.</p>
0207142F	Joint Strike Fighter Squadrons	<p>In FY 2012, Project 676011 Dual Capable Aircraft includes new start efforts.</p> <p>PE 0207142F was a new PE for Joint Strike Fighter (JSF) starting in FY11 for post SDD enhancements. PE 0604800F is the USAF RDT&E funding for JSF SDD.</p> <p>Program funding reflects reductions to overhead. These efficiencies total \$.643M in FY12, and do not impact program content.</p>
0207163F	Advanced Medium Range Air-to-Air Missile	<p>In FY 2012, the program funding includes reductions for overhead reduction efficiencies that are not intended to impact program content. The efficiencies reductions total \$.345M.</p>
0207224F	0207224F	<p>In FY2012, Project Number 676016, Avionics Development and Integration, efforts were transferred from PE 0605229F, Project Number 657001, Avionics Development and Integration in order to effectively execute the HH-60G portion of the effort.</p>
0207253F	Compass Call	<p>In FY 2012, the program funding includes reductions for economic efficiencies that are not intended to impact program content. The efficiencies reduction total \$0.062M.</p>

PROGRAM ELEMENT (BY BUDGET ACTIVITY)

PROGRAM ELEMENT COMPARISON SUMMARY

0207325F	Joint Air-to-Surface Standoff Missile (JASSM)	In FY 2012, the program funding includes reduction for overhead cost efficiencies that are not intended to impact program content. The efficiencies reductions total \$0.721M.
0207410F	AEROSPACE OPERATION CENTER (AOC)	In FY 2012, The program funding includes reductions for efficiencies that are not intended to impact program content. The efficiencies reductions total \$8.703M.
0207412F	Modular Control System	In FY 2012, BPAC 675294, Theater Control System Improvement-Radar (TACSI-R) efforts transfer to PE 0604283F, Battle Management Command & Control (BMC2) Sensor Development, BPAC 646002, Three Dimensional Expeditionary Long Range Radar in order to provide this pre-Major Defense Acquisition Program its own Program Element.
0207417F	Airborne Warning and Control System (AWACS)	In FY 2012, totals include funding for Program Resources Collection Process (PRCP) Program Number, 277, AWACS Upgrade (for Block 40/45 Upgrade). The program funding includes reduction for Overhead Reduction, Service Support Contractors, and Reports/Studies/Boards efficiencies that are not intended to impact program content. The efficiencies reductions total \$17.565M
0207423F	Advanced Communications Systems	In FY2012, Project 674934, Tactical Air Control Party,efforts transferred to PE 0207444F, Tactical Air Control Party, Project 676013, Equipment Modernization, in order to better identify and delineate efforts for Tactical Air Control Party Modernization.
0207438F	Theater Battle Management (TBM) C4I	In FY 2012, the program funding includes reductions for Overhead Reduction efficiencies that are not intended to impact program content. The efficiencies reductions total \$0.127M
0207444F	Tactical Air Control Party Modernization	In FY2012, Project 676013, Equipment Modernization, efforts were transferred from PE 0207423F, Advanced Communications Systems, Project 674934, TACP-M, in order to better identify and deliniate efforts for Tactical Air Control Party Modernization.
0207449F	C2 Constellation	In FY 2012, the program funding includes reductions for efficiencies that are not intended to impact program content. The efficiencies reductions total \$2.262M
0207581F	JOINT STARS	In FY 2012, the program funding includes reductions for overhead reduction efficiencies that are not intended to impact program content. The efficiencies reductions total \$2.490M
0207605F	Wargaming and Simulation Centers	In FY 2012, the program funding includes reductions for Air Force efficiencies that are not intended to impact program content. The efficiencies reductions total \$.118M.
0208006F	Mission Planning Systems	In FY 2012, the program funding includes reductions for overhead efficiencies that are not intended to impact program content. The efficiencies reductions total \$2.664M.
0303131F	Minimum Essential Emergency Communications Network (MEECN)	In FY 2012, Project 675378 Long Term Solution (LTS) includes new start efforts. The program funding for Project 672832 MEECN System Improvements (MSI) includes reductions for Reports/Studies/Board efficiencies that are not intended to impact program content. The efficiencies reductions total \$292K in FY12.

PROGRAM ELEMENT (BY BUDGET ACTIVITY)

PROGRAM ELEMENT COMPARISON SUMMARY

0303140F	Information Systems Security Program	<p>In FY 2012, the program funding includes reductions for CENTCOM Fourth Estate Baseline Review efficiencies that are not intended to impact program content. The efficiencies reductions total \$0.455M.</p> <p>The program funding includes reductions for Reports, Studies, Boards and Commissions Review efficiencies that are not intended to impact program content. The efficiencies reductions total \$0.572M in FY12.</p> <p>The program funding includes reductions for Reducing Reliance of DoD Services Support Contractors efficiencies that are not intended to impact program content. The efficiencies reductions total \$0.012M in FY12.</p>
0303601F	MILSATCOM Terminals	<p>In FY 2012, the program funding includes Overhead reduction efficiencies that are not intended to impact program content. The efficiencies reductions total \$0.948M.</p>
0304260F	Airborne SIGINT Enterprise (JMIP)	<p>In FY 2012, the program funding includes reductions for Overhead efficiencies that are not intended to impact program content. The efficiencies reductions total \$2.455M.</p> <p>Totals include funding for PRCP program number 375 "ASIP"</p>
0305110F	Satellite Control Network	<p>In FY2012, the program funding includes overhead reduction efficiencies that are not intended to impact program content. The efficiencies reductions total \$0.681M.</p>
0305111F	WEATHER SERVICE	<p>In FY 2012, The program funding includes reductions for Overhead and Reports/Studies Board efficiencies that are not intended to impact program content. The efficiencies reductions total \$0.260M.</p>
0305164F	NAVSTAR Global Positioning System User Equipment Space	<p>In FY2012, the program funding includes reductions for overhead reduction efficiencies that are not intended to impact program content. The efficiencies reductions total \$3.902M.</p>
0305173F	SPACE TEST CTR/RANGE CONSOLIDATION	<p>In FY 2012, the program funding includes overhead reduction efficiencies that are not intended to impact program content. The efficiencies reductions total \$12.4M in FY12.</p> <p>FY2012-FY2016: +\$1.0B for Acquisition workforce civilian pay.</p>
0305182F	Spacelift Range System	<p>In FY 2012, the program funding includes overhead reduction efficiencies that are not intended to impact program content. The efficiencies reductions total \$0.063M.</p>
0305205F	Endurance Unmanned Aerial Vehicles	<p>In FY2012, funding was added to this AF-DARPA joint project to develop a prototype for flight test and a potential operational demo in FY14.</p>
0305206F	Airborne Reconnaissance Systems	<p>In FY 2012, the program funding includes reductions for Overhead Reduction and 4th Estate Baseline Review efficiencies that are not intended to impact program content. The efficiencies reductions total \$1.488M and \$.017M, respectively, in FY12.</p> <p>In FY2012, project 675292, is renamed from Airborne Cueing & Exploitation System-Hyperspectral (ACES HY) to Hyperspectral Sensors to better reflect the depth of development efforts and operational need for hyperspectral airborne sensors.</p> <p>In FY2012, project 675382 is renamed from Wide Area Airborne Surveillance Program of Record (WAAS PoR) to Broad Area Surveillance Sensors to better reflect the WAAS PoR termination and continued technical development of Broad Area Surveillance Sensors.</p>
0305208F	Distributed Common Ground Systems	<p>In FY 2012, the program funding includes reductions for Overhead Reduction efficiencies that are not intended to impact program content. The efficiencies reductions total \$.513M.</p> <p>In FY 2012, Project Number 676025, Data Compression, includes new start efforts.</p>
0305219F	PREDATOR DEVELOPMENT/FIELDING	<p>In FY 2012, Totals include funding for PRCP Program Number 271, "MQ-1 Predator".</p> <p>The program funding includes reductions for overhead efficiencies that are not intended to impact program content. The efficiencies reductions total \$0.086M.</p>

PROGRAM ELEMENT (BY BUDGET ACTIVITY)

PROGRAM ELEMENT COMPARISON SUMMARY

0305220F	GLOBAL HAWK DEVELOPMENT/FIELDING	<p>In FY 2012, This program element funds three related Air Force efforts sharing the Global Hawk platform in common: Global Hawk program, the Multi-Platform Radar Technology Insertion Program (MP-RTIP), and U.S participation and support of the North Atlantic Treaty Organization (NATO) Alliance Ground Surveillance (AGS) program.</p> <p>The program has been funded to latest cost estimate, less efficiencies. The reduction for efficiencies are not intended to impact program content. In FY 2012, P018, NATO AGS efforts transfer from PE 1001018D8Z, NATO AGS, to PE 0305220F, Project 676001, NATO AGS, in order to transfer control of this effort from OSD to the USAF.</p>
0305265F	GPS III Space Segment	<p>In FY 2012,totals include funding for PRCP Program Number 292, GPS IIIA.</p> <p>The program funding includes overhead reduction and Review, Study, Board reduction efficiencies that are not intended to impact program content. The efficiencies reductions total \$3.965M in FY12.</p> <p>FY12-16 total OCX funding transferred to PE 0603423F.</p> <p>In FY2012, BPAC 67007, DASS Integration, includes new start efforts.</p>
0305614F	JSpOC Mission System	<p>In FY 2012, the program funding includes Overhead reduction efficiencies that are not intended to impact program content. The efficiencies reductions total \$1.417M.</p>
0305887F	Electronic Combat Intelligence Support	<p>In FY 2012, the program funding includes reductions for Service Support Contractors efficiencies that are not intended to impact program content. The efficiencies reductions total \$00.028M.</p>
0305913F	NUDET Detection System (Space)	<p>In FY 2012, the program funding includes reductions for overhead reduction efficiencies that are not intended to impact program content. The efficiencies reductions total \$0.556M.</p>
0305940F	Space Situational Awareness Operations	<p>In FY 2012, the program funding in this Program Element includes overhead reduction efficiencies that are not intended to impact program content. The efficiencies reductions total \$.440M.</p>
0308699F	Shared Early Warning System	<p>In FY 2012, the program funding includes reductions for Fourth Estate Baseline Review efficiencies that are not intended to impact program content. The efficiencies reductions total \$10k.</p>
0401139F	LIGHT MOBILITY AIRCRAFT (LIMA)	<p>In FY2012, Project 5379, Light Mobility Aircraft, efforts were transferred from PE 0401315F, Cargo-Short Takeoff and Landing (C-STOL) Aircraft, Project 5379, Light Mobility Aircraft, in order to more readily differentiate Light Mobility Aircraft (LiMA) efforts from C-STOL activities.</p>
0401315F	C-STOL AIRCRAFT	<p>In FY2012, Project number 5379, Light Mobility Aircraft, efforts transferred to PE 0401139F, Light Mobility Aircraft, Project 5379, in order to more readily differentiate Light Mobility Aircraft (LiMA) efforts from Cargo-Short Takeoff and Landing (C-STOL) Aircraft efforts.</p>
0603423F	Global Positioning System III - Operational Control Segment	<p>In FY 2012, FY12-16 funding is in an incorrect BPAC - should be in 64A021, GPS III OCX.</p>
0708610F	Logistics Information Technology (LOGIT)	<p>In FY 2012, the program funding includes reductions for Overhead Reduction efficiencies that are not intended to impact program content. The efficiencies reductions total \$7.003M.</p>

PROGRAM ELEMENT (BY BUDGET ACTIVITY)

0901202F

PROGRAM ELEMENT COMPARISON SUMMARY

JOINT PERSONNEL RECOVERY AGENCY
(JPRA)

In FY 2012, the program funding includes reductions for Overhead Reduction efficiencies that are not intended to impact program content. The efficiencies reductions total \$3.598M.

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

<u>Program Element</u>	<u>Title</u>
0101314F	NIGHT FIST- USSTRATCOM
0101815F	Advanced Strategic Program
0207424F	Evaluation and Analysis Program
0208161F	Special Evalution System
0301310F	National Air Intelligence Center
0301314F	COBRA BALL
0301315F	Missile and Space Techincal Collection
0301324F	FOREST GREEN
0301386F	GDIP Collection Management
0301555F	Classified Programs
0301556F	Special Program
0304111F	Special Activities
0304311F	Selected Activities
0304348F	Advanced Geospatial Intelligence (AGI)
0305124F	Special Applications Program
0305142F	Applied Technolgy and Integration
0305159F	Defense Reconnaissance Support Activities
0305172F	Combined Advanced Applications
0605798F	Analysis Support Group
0305127F	Foreign Counterintelligence Activites

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE							
3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>				PE 0603260F: <i>Intelligence Advanced Development</i>							
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	5.785	5.019	4.013	-	4.013	3.859	3.983	4.352	4.334	Continuing	Continuing
643479: <i>Advanced Sensor Exploitation</i>	2.605	1.833	0.773	-	0.773	0.542	0.618	0.939	0.860	Continuing	Continuing
643480: <i>Automated Imagery Exploitation</i>	0.911	0.904	0.919	-	0.919	0.941	0.955	0.968	0.986	Continuing	Continuing
643481: <i>Knowledge Based Tech For Intelligence</i>	1.557	1.564	1.596	-	1.596	1.652	1.675	1.701	1.731	Continuing	Continuing
643482: <i>Science & Tech Intelligence Methodology</i>	0.712	0.718	0.725	-	0.725	0.724	0.735	0.744	0.757	Continuing	Continuing

A. Mission Description and Budget Item Justification

(U) Intelligence Advanced Development (IAD) demonstrates and validates advanced technologies required to support warfighter needs for timely all-source intelligence information. IAD research 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 by using new and existing data sources, streamlining data analyses, reducing the required intelligence footprint, and by extending the life of sensors in place as well as enhancing their performance. The Air Force Research Laboratory, Rome Research Site, Information and Intelligence Exploitation Division (AFRL/RIE) works directly with users, employing a rapid prototyping evolutionary approach, and then integrating finished modules directly into the field. The programs are oriented towards specific shortfalls and deficiencies as documented by the major commands, combatant commands, and intelligence organizations in their mission and functional area plans. The goal of this activity is to expedite technology transition from the laboratory to operational use via rapid prototyping. This activity is focused on technology insertion to correct Air Force intelligence deficiencies at tactical and operational levels. The effort bridges the transition of new technologies from Advanced Technology Demonstrations and Integrated Technology Thrust Programs into current/new systems, and also supports the associated Defense Technology Objectives. IAD may reallocate existing resources to support out-of-cycle new/updated warfighter requirements.

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.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603260F: <i>Intelligence Advanced Development</i>
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B. Program Change Summary (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	5.809	5.019	5.091	-	5.091
Current President's Budget	5.785	5.019	4.013	-	4.013
Total Adjustments	-0.024	-	-1.078	-	-1.078
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-0.024	-	-1.078	-	-1.078

Congressional Add Details (\$ in Millions, and Includes General Reductions)

Project: 643479: *Advanced Sensor Exploitation*

 Congressional Add: *Multilingual Text Mining Platform for Intelligence Analysts (MTMPIA)*

Congressional Add Subtotals for Project: 643479

Congressional Add Totals for all Projects

FY 2010	FY 2011
0.800	-
0.800	-
0.800	-

Change Summary Explanation

\$1.078M reduced in FY12 due to Air Force priorities.

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force								DATE: February 2011			
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)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
643479: Advanced Sensor Exploitation	2.605	1.833	0.773	-	0.773	0.542	0.618	0.939	0.860	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		
A. Mission Description and Budget Item Justification											
<p>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. Capabilities 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 as opposed to 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.</p> <p>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.</p>											
B. Accomplishments/Planned Programs (\$ in Millions)							FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: Ubiquitous Collaboration							1.805	-	-	-	-
Description: Continues integration of emerging technologies to improve collaboration between intelligence and operations personnel at all echelons and across security domains to include coalition environments (i.e., CENTCOM).											
FY 2010 Accomplishments: Completes integration of emerging technologies to improve collaboration between intelligence and operations personnel at all echelons and across security domains to include coalition environments (i.e., CENTCOM).											
FY 2011 Plans:											
FY 2012 Base Plans:											
FY 2012 OCO Plans:											

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force								DATE: February 2011				
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 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: Smart Target Folders 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 2010 Accomplishments: FY 2011 Plans: Creates the 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 Base Plans: Continues the development of the 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 OCO Plans:								-	1.833	0.773	-	0.773
Accomplishments/Planned Programs Subtotals								1.805	1.833	0.773	-	0.773
								FY 2010	FY 2011			
Congressional Add: Multilingual Text Mining Platform for Intelligence Analysts (MTMPIA) FY 2010 Accomplishments: Expands MTMPIA capability to allow analysts to extract and translate an Indo-Iranian language (Urdu). FY 2011 Plans:								0.800	-			
Congressional Adds Subtotals								0.800	-			
C. Other Program Funding Summary (\$ in Millions)												
Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost	
• N/A: None	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing	
D. Acquisition Strategy												
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												

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603260F: <i>Intelligence Advanced Development</i>	PROJECT 643479: <i>Advanced Sensor Exploitation</i>

(Rome Research Site). Prototype products (usually software), once evaluated by the users, are fielded in incremental capability spirals. MTMPIA is sole source in FY10. All other 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.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force											DATE: February 2011			
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)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Ubiquitous Collaboration	C/CPFF	Chiliad, ISS:Washington DC & Rome, NY	1.805	-		-		-		-	Continuing	Continuing	TBD	
Multilingual Text Mining Platform for Intelligence Analysts	SS/CPFF	Janya:Amherst, NY	0.800	-		-		-		-	0.000	0.800	0.000	
Initiate Smart Target Folders	C/CPFF	Intelligent Software Solutions:Colorado Springs, CO	-	1.833	Nov 2010	0.773		-		0.773	Continuing	Continuing	TBD	
Subtotal			2.605	1.833		0.773		-		0.773				
Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Subtotal			-	-		-		-		-	0.000	0.000	0.000	
Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Subtotal			-	-		-		-		-	0.000	0.000	0.000	
Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Subtotal			-	-		-		-		-	0.000	0.000	0.000	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force								DATE: February 2011						
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						
				Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals				2.605	1.833		0.773		-		0.773			

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

3600: Research, Development, Test & Evaluation, Air Force
BA 4: Advanced Component Development & Prototypes (ACD&P)

R-1 ITEM NOMENCLATURE

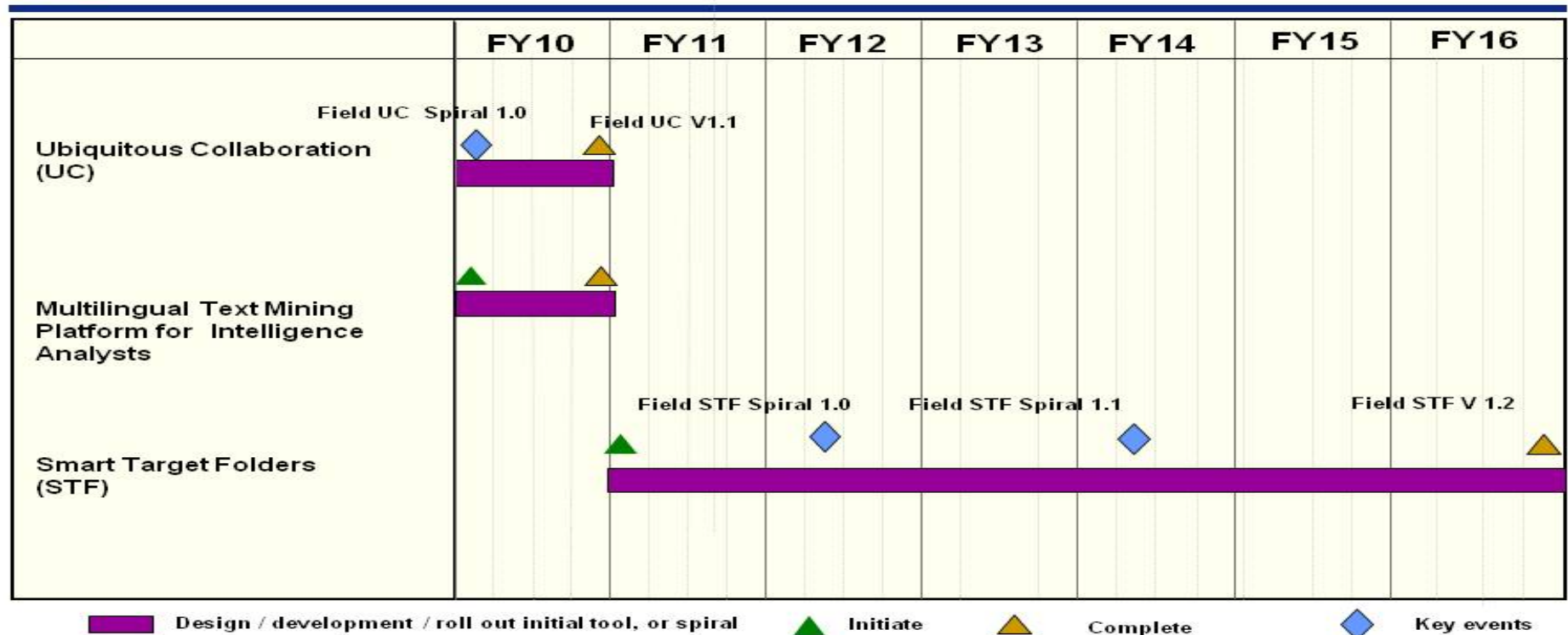
PE 0603260F: Intelligence Advanced
Development

PROJECT

643479: Advanced Sensor Exploitation



Intelligence Advanced Development Program – Advanced Sensor Exploitation Program Schedule (BPAC 643479)



PB12 R-Docs

Depicted by installation/production flow

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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603260F: <i>Intelligence Advanced Development</i>	PROJECT 643479: <i>Advanced Sensor Exploitation</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Complete Ubiquitous Collaboration	1	2010	4	2010
Field Ubiquitous Collaboration Spiral 1.0	1	2010	1	2010
Field Ubiquitous Collaboration Spiral 1.1	4	2010	4	2010
Multilingual Text Mining Platform for Intelligence Analysts	1	2010	4	2010
Initiate Smart Target Folders (STF)	1	2011	4	2016
Field STF Spiral 1.0	2	2012	2	2012
Field STF Spiral 1.1	2	2014	2	2014
Field STF Spiral 1.2	4	2016	4	2016

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force								DATE: February 2011				
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)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost	
643480: Automated Imagery Exploitation	0.911	0.904	0.919	-	0.919	0.941	0.955	0.968	0.986	Continuing	Continuing	
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0			
A. Mission Description and Budget Item Justification												
This project 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 be more precise target locations and identifications, precise target reference scenes, and more accurate damage assessments for the operator; 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. This program is in Advanced Component Development & Prototypes (ACD&P), Budget Activity 4, because it demonstrates and validates advanced technology which enhances information / intelligence systems' capabilities and techniques.												
B. Accomplishments/Planned Programs (\$ in Millions)								FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: Persistent Surveillance								0.330	0.230	0.111	-	0.111
Description: Integrates emerging technologies to seamlessly mesh and optimize various ISR sources to achieve persistent surveillance over the battlefield												
FY 2010 Accomplishments: Continues integration of emerging technologies to seamlessly mesh and optimize various ISR sources to achieve persistent surveillance over the battlefield												
FY 2011 Plans: Continues integration of emerging technologies to seamlessly mesh and optimize various ISR sources to achieve persistent surveillance over the battlefield												
FY 2012 Base Plans: Continues integration of emerging technologies to seamlessly mesh and optimize various ISR sources to achieve persistent surveillance over the battlefield												
FY 2012 OCO Plans:												
Title: Digital Library Input Processing System (DLIPS)								0.581	0.074	0.111	-	0.111

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011			
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 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
<p>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.</p> <p>FY 2010 Accomplishments: Continues update of current DLIPS configuration (Text-to-Text translation only) to process foreign language audio or video input into English in support of open-source analysts</p> <p>FY 2011 Plans: Continues update of current DLIPS configuration (Text-to-Text translation only) to process foreign language audio or video input into English in support of open-source analysts</p> <p>FY 2012 Base Plans: Continues update of current DLIPS configuration (Text-to-Text translation only) to process foreign language audio or video input into English in support of open-source analysts</p> <p>FY 2012 OCO Plans:</p>						
<p>Title: Emitter Location Systems Modeling (ELSM)</p> <p>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</p> <p>FY 2010 Accomplishments:</p> <p>FY 2011 Plans: Initiates enhancement modeling capability of next generation US, Allied, and adversary RF emitters on the battlefield to allow for enhanced EW performance and vulnerability assessments</p> <p>FY 2012 Base Plans: Continues 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</p> <p>FY 2012 OCO Plans:</p>		-	0.300	0.397	-	0.397
<p>Title: Rapid Electronic Attack Assessment For Protection, Exploitation, and Reprogramming (REAPER)</p> <p>Description: Initiates capability to rapid assessment of adversary Electronic Attack (EA) signals, which supports pilot training and the development of EA protection and countermeasures systems</p>		-	0.300	0.300	-	0.300

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force				DATE: February 2011	
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>		R-1 ITEM NOMENCLATURE PE 0603260F: <i>Intelligence Advanced Development</i>		PROJECT 643480: <i>Automated Imagery Exploitation</i>	

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
<i>FY 2010 Accomplishments:</i> <i>FY 2011 Plans:</i> Initiates capability to rapid assessment of adversary Electronic Attack (EA) signals, which supports pilot training and the development of EA protection and countermeasures systems <i>FY 2012 Base Plans:</i> Continues capability to rapid assessment of adversary Electronic Attack (EA) signals, which supports pilot training and the development of EA protection and countermeasures systems <i>FY 2012 OCO Plans:</i>					
Accomplishments/Planned Programs Subtotals	0.911	0.904	0.919	-	0.919

C. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012 Base</u>	<u>FY 2012 OCO</u>	<u>FY 2012 Total</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• N/A: None	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

D. Acquisition Strategy
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 fielded in incremental capability 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.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force										DATE: February 2011			
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)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Persistent Surveillance	C/CPFF	ITT:Rochester, NY	0.330	0.230		0.111		-		0.111	Continuing	Continuing	TBD
Digital Library Input Processing System (DLIPS)	C/CPFF	Northrop Grumman:Dayton, OH	0.581	0.074		0.111		-		0.111	Continuing	Continuing	TBD
Emitter Location Systems Modeling (ELSM)	C/TBD	TBD:TBD,	-	0.300	Nov 2010	0.397		-		0.397	Continuing	Continuing	TBD
REAPER	C/TBD	TBD:TBD,	-	0.300	Nov 2010	0.300		-		0.300	Continuing	Continuing	TBD
Subtotal			0.911	0.904		0.919		-		0.919			
Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-	0.000	0.000	0.000
Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-	0.000	0.000	0.000
Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-	0.000	0.000	0.000
			Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			0.911	0.904		0.919		-		0.919			

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force						DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>			R-1 ITEM NOMENCLATURE PE 0603260F: <i>Intelligence Advanced Development</i>			PROJECT 643480: <i>Automated Imagery Exploitation</i>			
	Total Prior Years Cost	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract	
Remarks									

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

3600: Research, Development, Test & Evaluation, Air Force
BA 4: Advanced Component Development & Prototypes (ACD&P)

R-1 ITEM NOMENCLATURE

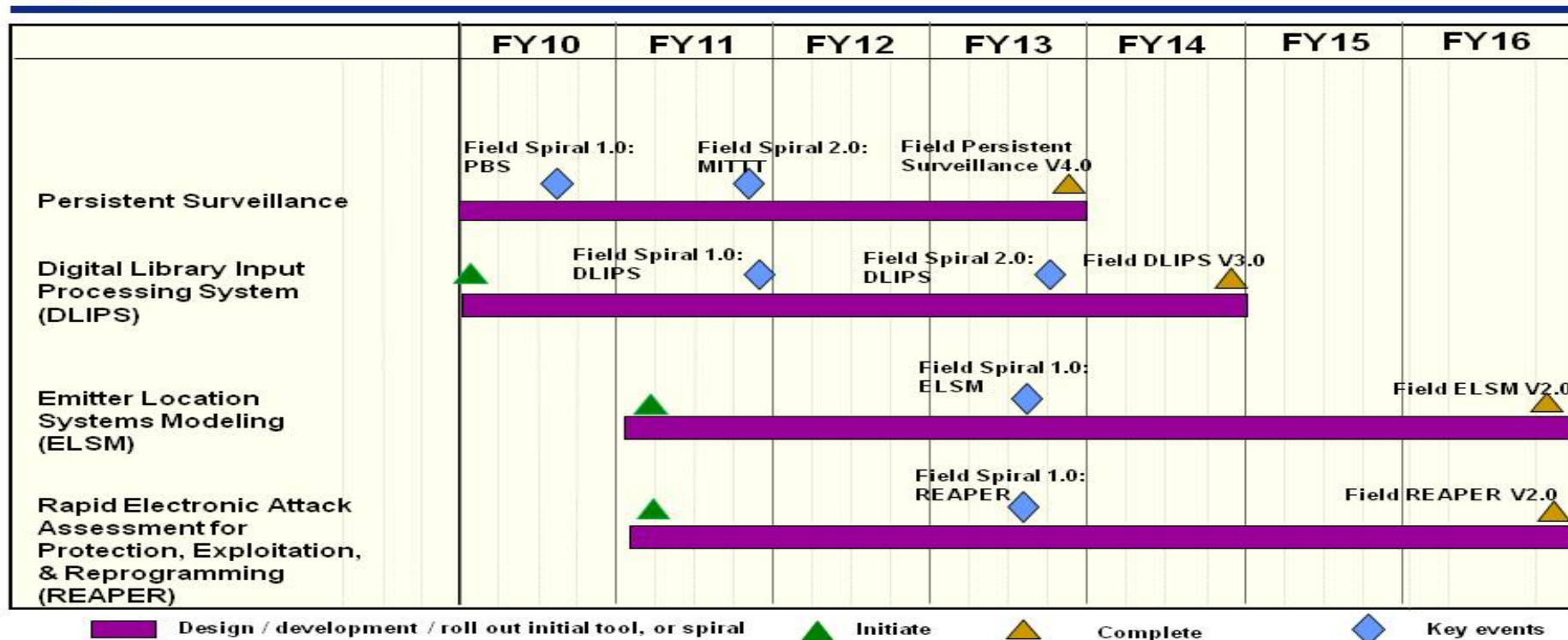
PE 0603260F: Intelligence Advanced Development

PROJECT

643480: Automated Imagery Exploitation



Intelligence Advanced Development Program – Advanced Automated Imagery Exploitation Schedule (BPAC 643480)



PB12 R-Docs

Depicted by installation/production flow

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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603260F: <i>Intelligence Advanced Development</i>	PROJECT 643480: <i>Automated Imagery Exploitation</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Continue Persistent Surveillance	1	2010	4	2013
Continue Digital Library Input Processing System (DLIPS)	1	2010	4	2014
Initiate Emitter Location Systems Modeling (ELSM)	1	2011	4	2016
Initiate Rapid Electronic Attack Assessment for Protection, Exploitation, and Reprogramming (REAPER)	1	2011	4	2016

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force								DATE: February 2011			
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)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
643481: Knowledge Based Tech For Intelligence	1.557	1.564	1.596	-	1.596	1.652	1.675	1.701	1.731	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		
A. Mission Description and Budget Item Justification											
This project 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. This program is in Advanced Component Development & Prototypes (ACD&P), Budget Activity 4, because it demonstrates and validates advanced technology which enhances information/intelligence systems' capabilities and techniques.											
B. Accomplishments/Planned Programs (\$ in Millions)							FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: Dynamic ISR for Non-Traditional Adversarial Methods							0.547	1.564	1.596	-	1.596
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 2010 Accomplishments: 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 2011 Plans: 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 Base Plans: 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 OCO Plans:											
Title: Net Enabled Dynamic Security							1.010	-	-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force						DATE: February 2011					
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>			R-1 ITEM NOMENCLATURE PE 0603260F: <i>Intelligence Advanced Development</i>			PROJECT 643481: <i>Knowledge Based Tech For Intelligence</i>					
B. Accomplishments/Planned Programs (\$ in Millions)						FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	
<p>Description: Completes capability to provide comprehensive battlespace understanding and subject-matter expertise to intel analysts at all level. Supports mutple disciplines to gain awareness of battlespace understanding.</p> <p>FY 2010 Accomplishments: Completes capability to provide comprehensive battlespace understanding and subject-matter expertise to intel analysts at all level. Supports mutple disciplines to gain awareness of battlespace understanding.</p> <p>FY 2011 Plans:</p> <p>FY 2012 Base Plans:</p> <p>FY 2012 OCO Plans:</p>											
Accomplishments/Planned Programs Subtotals						1.557	1.564	1.596	-	1.596	
C. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012 Base</u>	<u>FY 2012 OCO</u>	<u>FY 2012 Total</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• N/A: None	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
D. Acquisition Strategy											
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 fielded in incremental capability 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.											

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force										DATE: February 2011			
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)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Dynamic ISR for Non-Traditional Adversarial Methods	C/Various	Northrop-Grumman Corp:Bellevue, NE	0.547	1.564		1.596		-		1.596	Continuing	Continuing	TBD
Net Enabled Dynamic Security	C/CPFF	ISS:Colorado Springs, CO	1.010	-		-		-		-	0.000	1.010	0.000
Subtotal			1.557	1.564		1.596		-		1.596			
Remarks Both are IDIQ													
Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-	0.000	0.000	0.000
Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-	0.000	0.000	0.000
Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-	0.000	0.000	0.000
			Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			1.557	1.564		1.596		-		1.596			

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force						DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>			R-1 ITEM NOMENCLATURE PE 0603260F: <i>Intelligence Advanced Development</i>			PROJECT 643481: <i>Knowledge Based Tech For Intelligence</i>		
	Total Prior Years Cost	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
<u>Remarks</u>								

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

3600: Research, Development, Test & Evaluation, Air Force
BA 4: Advanced Component Development & Prototypes (ACD&P)

R-1 ITEM NOMENCLATURE

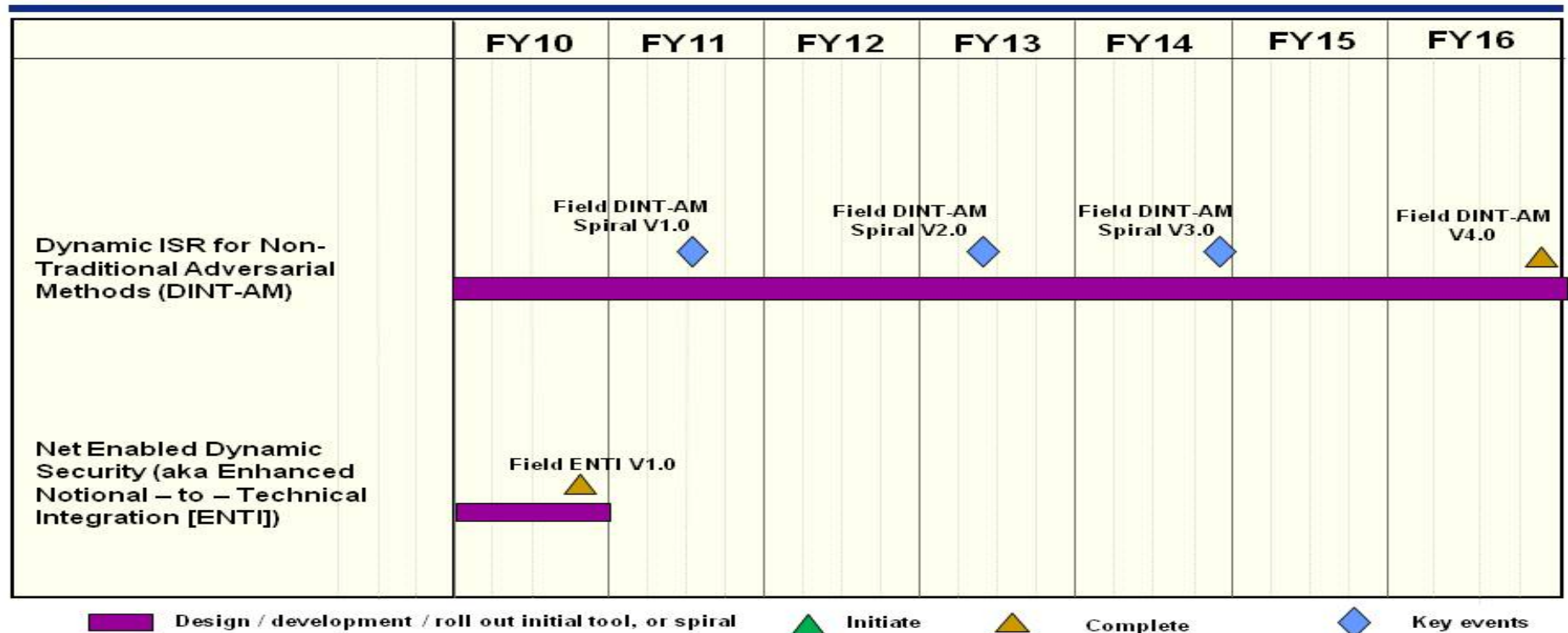
PE 0603260F: Intelligence Advanced Development

PROJECT

643481: Knowledge Based Tech For Intelligence



Intelligence Advanced Development Program – Knowledge Based Tech for Intelligence Schedule (BPAC 643481)



PB10 R-Docs

Depicted by installation/production flow

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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603260F: <i>Intelligence Advanced Development</i>	PROJECT 643481: <i>Knowledge Based Tech For Intelligence</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Continue Dynamic ISR for Non-Traditional Adversarial Methods	1	2010	4	2016
Complete Net Enabled Dynamic Security (a.k.a. Enhanced Notional - to - Technical Integration [ENTI])	1	2010	4	2010

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force								DATE: February 2011			
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)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
643482: Science & Tech Intelligence Methodology	0.712	0.718	0.725	-	0.725	0.724	0.735	0.744	0.757	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		
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 Reconnaissance 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. This program is in Advanced Component Development & Prototypes (ACD&P), Budget Activity 4, because it demonstrates and validates advanced technology which enhances information / intelligence systems' capabilities and techniques.											
B. Accomplishments/Planned Programs (\$ in Millions)							FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: Real Time Intelligence Situational Awareness							0.712	0.718	0.725	-	0.725
Description: Continues capability to provide machine "learning" capability that simulates a real-time interactive enviornment that results in an heightened sense of intel awareness.											
FY 2010 Accomplishments: Continue capability to provide machine "learning" capability that simulates a real-time interactive enviornment that results in an heightened sense of intel awareness.											
FY 2011 Plans: Continue capability to provide machine "learning" capability that simulates a real-time interactive enviornment that results in an heightened sense of intel awareness.											
FY 2012 Base Plans: Continue capability to provide machine "learning" capability that simulates a real-time interactive enviornment that results in an heightened sense of intel awareness.											
FY 2012 OCO Plans: Continue capability to provide machine "learning" capability that simulates a real-time interactive enviornment that results in an heightened sense of intel awareness.											
Accomplishments/Planned Programs Subtotals							0.712	0.718	0.725	-	0.725

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603260F: <i>Intelligence Advanced Development</i>	PROJECT 643482: <i>Science & Tech Intelligence Methodology</i>
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C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u> <u>Base</u>	<u>FY 2012</u> <u>OCO</u>	<u>FY 2012</u> <u>Total</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• N/A: <i>None</i>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

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 fielded in incremental capability 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.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force											DATE: February 2011			
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)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Real Time Intelligence Situational Awareness	C/CPFF	Northrop Grumman:Fairborn, OH	0.712	0.718	Nov 2010	0.725		-		0.725	Continuing	Continuing	TBD	
Subtotal			0.712	0.718		0.725		-		0.725				
Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Subtotal			-	-		-		-		-	0.000	0.000	0.000	
Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Subtotal			-	-		-		-		-	0.000	0.000	0.000	
Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Subtotal			-	-		-		-		-	0.000	0.000	0.000	
			Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract	
Project Cost Totals			0.712	0.718		0.725		-		0.725				
Remarks														

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

3600: Research, Development, Test & Evaluation, Air Force
BA 4: Advanced Component Development & Prototypes (ACD&P)

R-1 ITEM NOMENCLATURE

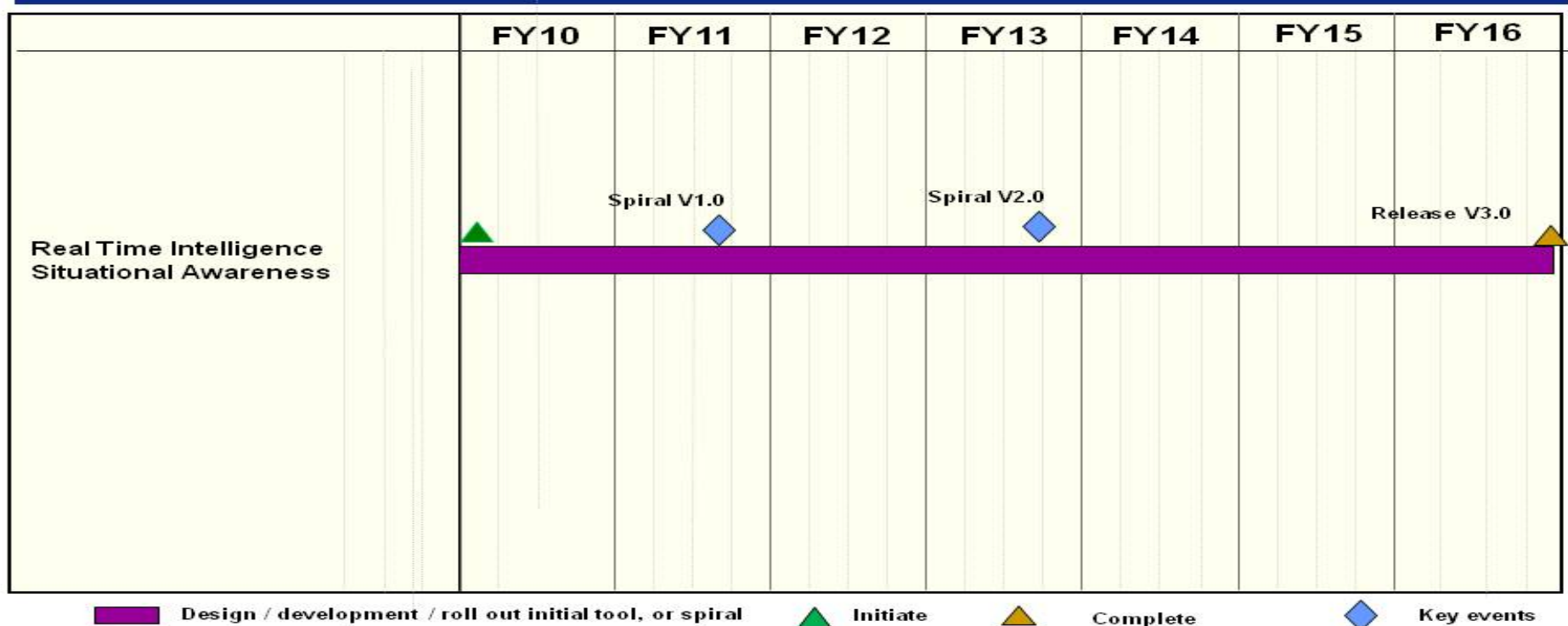
PE 0603260F: Intelligence Advanced Development

PROJECT

643482: Science & Tech Intelligence Methodology



**Intelligence Advanced Development Program –Science & Tech
Intelligence Methodology Schedule (BPAC 643482)**



PB12 R-Docs

Depicted by installation/production flow

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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force			DATE: February 2011
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

Events	Start		End	
	Quarter	Year	Quarter	Year
Continue Real Time Intelligence Situational Awareness	1	2010	4	2016

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE							
3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>				PE 0603287F: <i>Physical Security Equipment</i>							
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	3.483	3.576	3.586	-	3.586	3.749	3.927	4.006	4.076	Continuing	Continuing
645121: <i>Physical Security Equipment</i>	3.483	3.576	3.586	-	3.586	3.749	3.927	4.006	4.076	Continuing	Continuing

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 Equipment Action 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.

B. Program Change Summary (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	3.615	3.576	3.755	-	3.755
Current President's Budget	3.483	3.576	3.586	-	3.586
Total Adjustments	-0.132	-	-0.169	-	-0.169
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.132	-			
• Other Adjustments	-	-	-0.169	-	-0.169

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force								DATE: February 2011				
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				
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost	
645121: Physical Security Equipment	3.483	3.576	3.586	-	3.586	3.749	3.927	4.006	4.076	Continuing	Continuing	
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0			
A. Mission Description and Budget Item Justification												
This program 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 compliment to and in conjunction with the PSE RDT&E programs funded by the DOD Physical Security Equipment Action 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.												
B. Accomplishments/Planned Programs (\$ in Millions)								FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: PHYSICAL SECURITY EQUIPMENT								3.483	3.576	3.586	-	3.586
Description: FORCE PROTECTION/TACTICAL SECURITY EQUIPMENT - Develop, demonstrate, and test physical security equipment (PSE) systems, to include Force Protection.												
FY 2010 Accomplishments: Refined, research, and test 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. - Began to develop the XML Wide Area Sensor.												
FY 2011 Plans:												

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011					
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				
B. Accomplishments/Planned Programs (\$ in Millions)				FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
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 denial options for the Nuclear Storage environment FY 2012 Base 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								

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force				DATE: February 2011							
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>		R-1 ITEM NOMENCLATURE PE 0603287F: <i>Physical Security Equipment</i>		PROJECT 645121: <i>Physical Security Equipment</i>							
B. Accomplishments/Planned Programs (\$ in Millions)											
	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total						
- Develop internal denial options for the Nuclear Storage environment											
<i>FY 2012 OCO Plans:</i> Not applicable											
Accomplishments/Planned Programs Subtotals	3.483	3.576	3.586	-	3.586						
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• N/A: <i>Not Applicable</i>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
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-3, RDT&E Project Cost Analysis: PB 2012 Air Force											DATE: February 2011		
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)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
HQ ESC (Air Force)	Various	Various:Various,	3.152	3.106		3.271		-		3.271	1.200	10.729	TBD
Subtotal			3.152	3.106		3.271		-		3.271	1.200	10.729	
Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
HQ ESC (Air Force)	Various	Various:,,	0.331	0.470		0.315		-		0.315	0.000	1.116	0.000
Subtotal			0.331	0.470		0.315		-		0.315	0.000	1.116	0.000
Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-	0.000	0.000	0.000
Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-	0.000	0.000	0.000
			Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			3.483	3.576		3.586		-		3.586	1.200	11.845	
Remarks													

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603287F: <i>Physical Security Equipment</i>	PROJECT 645121: <i>Physical Security Equipment</i>

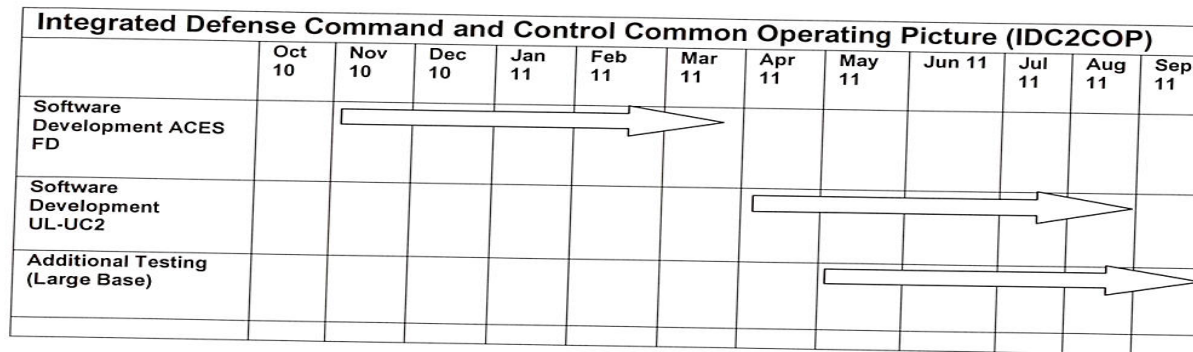
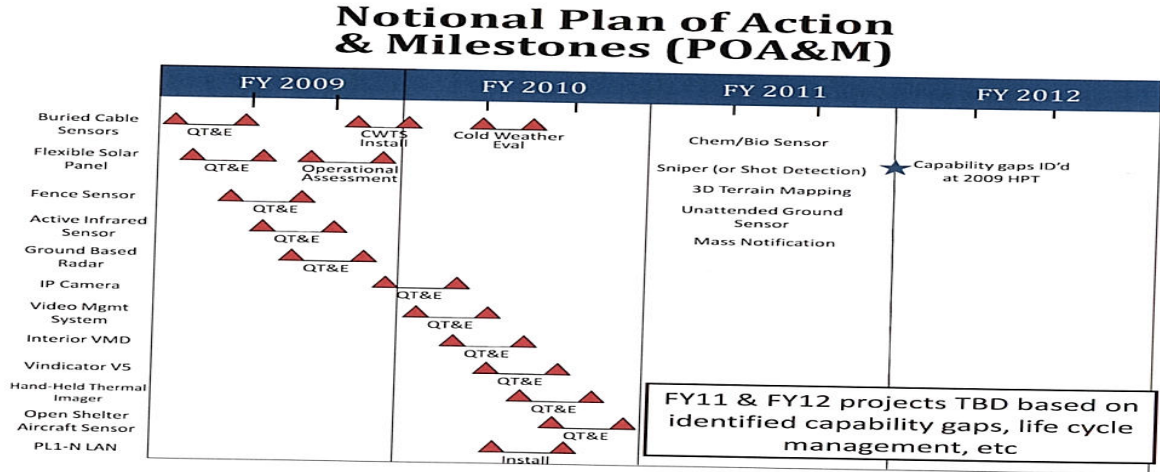


Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 4: Advanced Component Development & Prototypes (ACD&P)	R-1 ITEM NOMENCLATURE PE 0603287F: Physical Security Equipment	PROJECT 645121: Physical Security Equipment

Commercial Off The Shelf (COTS) Qualification



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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603287F: <i>Physical Security Equipment</i>	PROJECT 645121: <i>Physical Security Equipment</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Continue TASS P3I efforts including the annunciator	3	2010	4	2010
Conduct a Leap Ahead assessment of current PSE technology	1	2010	4	2010
COTS Testing	1	2010	4	2012
Develop SFMIS Module	2	2011	4	2011
IDC2COP Integration	1	2010	4	2011
Develop Physical Security Alarm Systems	1	2011	4	2011
Conduct System Effectiveness Assessment of Nuclear Environment	2	2011	4	2011
Develop Internal Denial options for Nuclear Storage environment	1	2011	4	2011

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603423F: <i>Global Positioning System III - Operational Control Segment</i>
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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	288.402	-	-	-	-	-	-	-	-	Continuing	Continuing
64A021: <i>GPS III OCX</i>	288.402	-	-	-	-	-	-	-	-	Continuing	Continuing

Note

Totals include funding for PRCP Program Number, 292, GPS IIIA

The program funding includes reductions for overhead reduction efficiencies that are not intended to impact program content. The efficiencies reductions total \$6.464M in FY12.

FY12-16 funding has been transferred to this PE from PE 0305265F. However, funds were incorrectly loaded into BPAC 67A021 instead of 64A021.

A. Mission Description and Budget Item Justification

The Global Positioning System (GPS) is a space based Position, Navigation and Time (PNT) distribution system. This Program Element (PE) funds the Research and Development (R&D) for the next generation GPS control segment (OCX). This includes, but is not limited to, advanced concept development, systems engineering and analysis, modernized control segment development, training simulators, Integrated Logistics Support (ILS) products, and developmental test resources. The OCX acquisition was established to 1) fly legacy and GPS III satellites, 2) incorporate situational awareness to support Navwar and signal monitoring, and 3) enable mission capability upgrades to support warfighter Effects-Based Approach to Operations (EBAO).

Funds will support engineering studies and analyses, architectural engineering studies, trade studies, technology needs forecasting, systems engineering, system development, test and evaluation efforts and mission operations in support of upgrades and product improvements for military and civil applications necessary to support efforts to protect U.S. military and allies' use of GPS. Additionally, funds will ensure a disciplined Capability Insertion Program (CIP) plan to meet Joint Requirements Oversight Council (JROC) approved required capabilities. Funds will support science and technology, technology development and systems development efforts.

This program element is Budget Activity 4. OCX is in the Technology Development Phase.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force				DATE: February 2011	
APPROPRIATION/BUDGET ACTIVITY		R-1 ITEM NOMENCLATURE			
3600: Research, Development, Test & Evaluation, Air Force		PE 0603423F: Global Positioning System III - Operational Control Segment			
BA 4: Advanced Component Development & Prototypes (ACD&P)					
B. Program Change Summary (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	292.000	-	-	-	-
Current President's Budget	288.402	-	-	-	-
Total Adjustments	-3.598	-	-	-	-
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-3.598	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-	-	-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force								DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 4: Advanced Component Development & Prototypes (ACD&P)				R-1 ITEM NOMENCLATURE PE 0603423F: Global Positioning System III - Operational Control Segment				PROJECT 64A021: GPS III OCX			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
64A021: GPS III OCX	288.402	-	-	-	-	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		
Note Totals include funding for PRCP Program Number, 292, GPS IIIA. In FY11, OCX funding is combined under the GPS III PE, 0305265F, and resides in a separate project (67A020) from the Space Vehicle development funding. FY12-16 funding was transferred back to this PE (0603423F) however it was incorrectly loaded under BPAC 67A021.											
A. Mission Description and Budget Item Justification The Global Positioning System (GPS) is a space based Position, Navigation and Time (PNT) distribution system. This Program Element (PE) funds the Research and Development (R&D) for the next generation GPS control segment (OCX). This includes, but is not limited to, advanced concept development, systems engineering and analysis, modernized control segment development, training simulators, Integrated Logistics Support (ILS) products, and developmental test resources. The OCX acquisition was established to 1) fly legacy and GPS III satellites, 2) incorporate situational awareness to support Navwar and signal monitoring, and 3) enable mission capability upgrades to support warfighter Effects-Based Approach to Operations (EBAO). Funds will support engineering studies and analyses, architectural engineering studies, trade studies, technology needs forecasting, systems engineering, system development, test and evaluation efforts and mission operations in support of upgrades and product improvements for military and civil applications necessary to support efforts to protect U.S. military and allies' use of GPS. Additionally, funds will ensure a disciplined Capability Insertion Program (CIP) plan to meet Joint Requirements Oversight Council (JROC) approved required capabilities. Funds will support science and technology, technology development and systems development efforts. This program element is Budget Activity 4. OCX is in the Technology Development Phase.											
B. Accomplishments/Planned Programs (\$ in Millions)							FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: OCX							288.402	-	-	-	-
Description: Development of the next generation GPS control segment.											
FY 2010 Accomplishments:											

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force									DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 4: Advanced Component Development & Prototypes (ACD&P)				R-1 ITEM NOMENCLATURE PE 0603423F: Global Positioning System III - Operational Control Segment				PROJECT 64A021: GPS III OCX			
B. Accomplishments/Planned Programs (\$ in Millions)							FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Complete OCX Block 1-2 Phase A development, source selection and contract award. Continue System Engineering & Integration (SE&I), technical and program support. FY 2011 Plans: NA FY 2012 Base Plans: FY 2012 OCO Plans:											
Accomplishments/Planned Programs Subtotals							288.402	-	-	-	-
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• RDT&E: AF PE 0305265F, GPS III Space Segment	410.469	446.304	460.297	0.000	460.297	316.328	217.458	247.201	227.330	Continuing	Continuing
• RDT&E (1): AF PE 0305265F, OCX	0.000	381.867	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
• MPAF PE 0305265F: GPS III Space Segment	0.000	122.490	515.337	0.000	515.337	515.408	529.623	555.924	626.121	Continuing	Continuing
• OPAF PE 0305265F: OCX	0.000	0.000	0.000	0.000	0.000	0.000	11.431	12.656	13.385	Continuing	Continuing
D. Acquisition Strategy											
The Air Force is pursuing a "Block" approach to the next generation GPS control segment (OCX) to rapidly respond to warfighter capability requirements. The Block acquisition strategy approach follows the "Back to Basics" space program acquisition philosophy which focuses on mitigating cost and schedule risk through a lower risk incremental delivery of mature technologies. This approach focuses on mission succes and on-time delivery.											
E. Performance Metrics											
Please refer to the Performance Base Budget Overview Book for information on how Air 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-3, RDT&E Project Cost Analysis: PB 2012 Air Force **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 4: Advanced Component Development & Prototypes (ACD&P)	R-1 ITEM NOMENCLATURE PE 0603423F: Global Positioning System III - Operational Control Segment	PROJECT 64A021: GPS III OCX
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Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Phase A OCX Development (Northrop Grumman)	C/CPFF	Northrop Grumman:Carson, CA	91.683	-		-		-		-	0.000	91.683	0.000
Phase A OCX Development (Raytheon)	C/CPFF	Raytheon:Aurora, CO	91.683	-		-		-		-	0.000	91.683	0.000
Phase B OCX Block 1 & 2 Development	C/CPAF	Raytheon:Aurora, CO	214.847	-		-		-		-	Continuing	Continuing	TBD
SE&I	C/CPAF	SAIC:Huntington Beach, CA	17.315	-		-		-		-	Continuing	Continuing	TBD
Modernization/SE & Technical Support	Various	Various:Various,	53.622	-		-		-		-	Continuing	Continuing	TBD
Subtotal			469.150	-		-		-		-			

Remarks
FY12-16 OCX funding transferred from PE 0305265F to 0603423F - in BPAC 67A021. FY11 OCX funding resides in PE 0305265F.

Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Wing Support	Various	Various:Various,	89.943	-		-		-		-	Continuing	Continuing	TBD
FFRDC	Various	Aerospace:El Segundo, CA	19.010	-		-		-		-	0.000	19.010	0.000
Subtotal			108.953	-		-		-		-			

Remarks
FY11 funding in PE 0305265F. FY12-FY16 funding in PE 0603423F, BPAC 67A021.

Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-	0.000	0.000	0.000

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force											DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>				R-1 ITEM NOMENCLATURE PE 0603423F: <i>Global Positioning System III - Operational Control Segment</i>				PROJECT 64A021: <i>GPS III OCX</i>					

Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-	0.000	0.000	0.000

	Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	578.103	-		-		-		-			

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

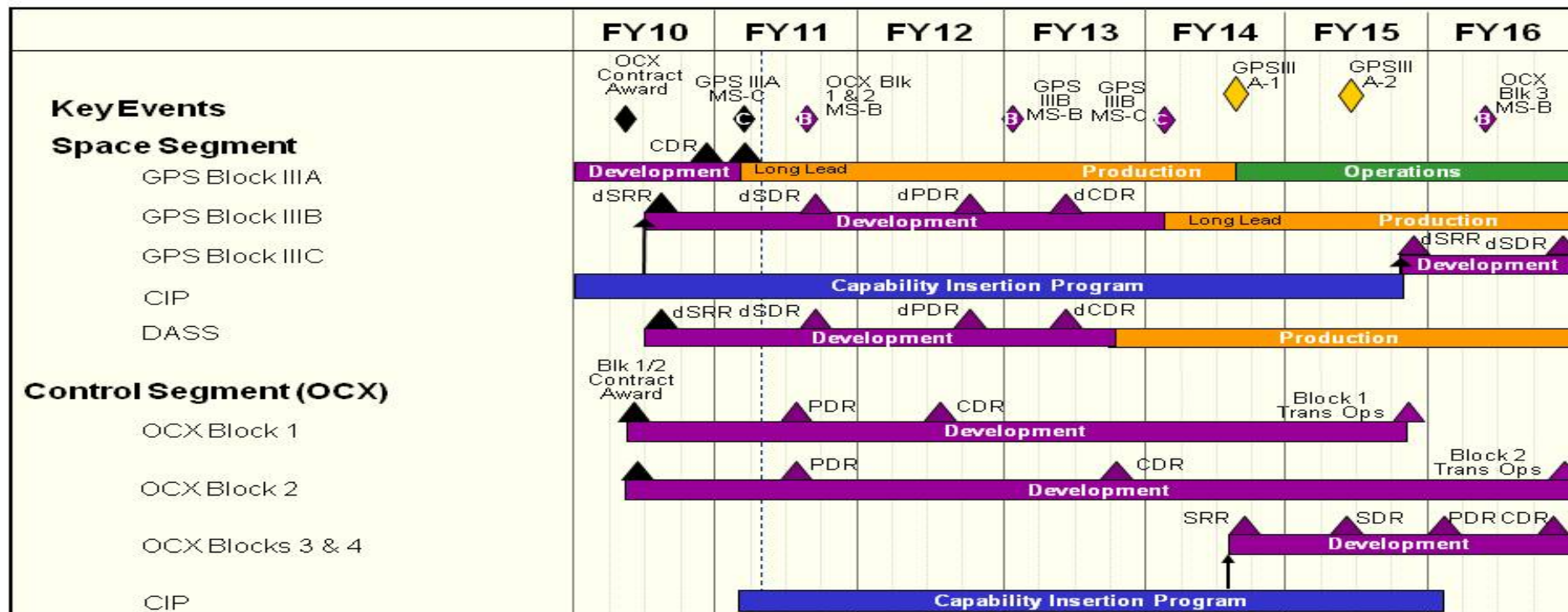
3600: Research, Development, Test & Evaluation, Air Force
BA 4: Advanced Component Development & Prototypes (ACD&P)

R-1 ITEM NOMENCLATURE

PE 0603423F: Global Positioning System III -
Operational Control Segment

PROJECT

64A021: GPS III OCX



CDR – Critical Design Review
CIP – Capability Insertion Program
DASS – Distress Alerting Satellite System

PDR – Preliminary Design Review
SRR – System Requirements Review
SV – Space Vehicle

SDR – System Design Review
d – Delta

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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603423F: <i>Global Positioning System III - Operational Control Segment</i>	PROJECT 64A021: <i>GPS III OCX</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
OCX Block 1-2 Contract Award	2	2010	2	2010

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE							
3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>				PE 0603430F: <i>Advanced (EHF MILSATCOM (Space)</i>							
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	456.238	351.817	421.687	-	421.687	392.884	360.969	343.483	215.929	Continuing	Continuing
644050: <i>Advanced MILSATCOM</i>	456.238	351.817	279.495	-	279.495	160.278	64.357	37.938	-	Continuing	Continuing
64A030: <i>Evolved AEHF MILSATCOM</i>	-	-	142.192	-	142.192	232.606	296.612	305.545	215.929	Continuing	Continuing

Note

Totals include funding for PRCP Program Number 261, AEHF.

The program funding includes Overhead reduction and Reports/Studies/ Boards/Reviews efficiencies that are not intended to impact program content. The efficiencies reductions total \$4.3M in FY12.

The Capability and Affordability Insertion Program (CAIP) is funded in BPAC 64A030, Evolved AEHF MILSATCOM. Prior to FY12PB, BPAC 64A030 funds were included in BPAC 644050.

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 is being raised to its geostationary orbit using alternative orbit raising techniques. SV-1 is projected to reach its on-orbit checkout location in August 2011. SV-2 is in storage and has a No-Earlier-Than (NET) 2QFY12 launch availability. The FY12 funds efforts such as SV-2 launch and on-orbit test & operations support, incremental Mission Control Segment (MCS) development including ground mobile command and control, test/fielding and support, and studies/analyses as required.

With SV-1 launched and SV-2 in storage, the AEHF program has nearly completed its development phase and is now addressing obsolescence, production continuity, supplier stability and industrial base issues. The Evolutionary Acquisition for Space Efficiency (EASE) approach is designed to address obsolescence issues (e.g., SV-6 crypto redevelopment, obsolescence/Diminishing Manufacturing Sources studies) as well as implement a Capability and Affordability Improvement (CAIP) program for SVs 7-8 that will employ key engineering staff with savings realized from a production block buy of satellites (i.e., SVs 5-6). The FY12 funds focus on parts obsolescence and risk reduction activities informed by the FY11 Space Communications Layer (JSCL) Materiel Solutions Analysis (MSA). The fielding of new capabilities will be based on technical maturity to prevent introducing undue risk. Future architecture development occurs in parallel to develop the next generation capability and encourage advanced technological concepts.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603430F: <i>Advanced (EHF MILSATCOM (Space))</i>
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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 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	461.380	351.817	740.127	-	740.127
Current President's Budget	456.238	351.817	421.687	-	421.687
Total Adjustments	-5.142	-	-318.440	-	-318.440
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-3.205	-			
• Other Adjustments	-1.937	-	-318.440	-	-318.440

Change Summary Explanation

FY12 funds were adjusted to address AEHF Capability and Affordability Insertion Program (CAIP) ramp management; funding is sufficient to address parts obsolescence and risk reduction of key technologies required to enhance AEHF.

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force								DATE: February 2011			
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)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
644050: Advanced MILSATCOM	456.238	351.817	279.495	-	279.495	160.278	64.357	37.938	-	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		
Note Totals include funding for PRCP Program Number 261, AEHF.											
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 is being raised to its geostationary orbit using alternative orbit raising techniques. SV-1 is projected to reach its on-orbit checkout location in August 2011. SV-2 is in storage and has a No-Earlier-Than (NET) 2QFY12 launch availability. The FY12 funds efforts such as SV-2 launch and on-orbit test & operations support, incremental Mission Control Segment (MCS) development including ground mobile command and control, test/fielding and support, and studies/analyses as required.											
B. Accomplishments/Planned Programs (\$ in Millions)							FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: AEHF SVs 1-2, MCS							456.238	351.817	279.495	-	279.495
Description: Develop and acquire AEHF MILSATCOM satellites, mission control segment, and cryptography											
FY 2010 Accomplishments: In FY 2010, completed SV-1 Final Integrated System Test (FIST), launch readiness and launch. Completed SV-2 Integration and Test, FIST, and Intersegment test. Delivered MCS Increment 4 to support AEHF-Milstar Command and Control (C2) cutover and SV-1 launch operations and completed MCS Increment 5. Conducted Interim Contractor Suport, continued technology needs forecasting, obsolescence studies, and initiated an AEHF Capability Insertion Program (CIP) [FY09 OMNIBUS funds]. Conducted qualification and productization of radiation-hardened components for USAF/DOD space programs [FY09 OMNIBUS funds].											
FY 2011 Plans:											

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force								DATE: February 2011				
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>				R-1 ITEM NOMENCLATURE PE 0603430F: <i>Advanced (EHF MILSATCOM (Space)</i>				PROJECT 644050: <i>Advanced MILSATCOM</i>				
B. Accomplishments/Planned Programs (\$ in Millions)												
								FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
<p>In FY 2011, conduct SV-1 on-orbit test and maintain SV-2 in environmentally-controlled storage. Deliver MCS Increment 5 and complete MCS Increment 7. Conduct Interim Contractor Support, continue program office support and related activities, continue technology needs forecasting, obsolescence studies, and support Capability and Insertion Program (CIP) for future capability enhancements.</p> <p><i>FY 2012 Base Plans:</i> In FY 2012, continue SV-1 on-orbit test and initiate operations. Complete SV-2 launch readiness, launch, and on-orbit test/operations. Deliver MCS Increment 7. Conduct Interim Contractor Support, continue program office support and related activities, and conduct studies/analyses, as required.</p> <p><i>FY 2012 OCO Plans:</i></p>												
Accomplishments/Planned Programs Subtotals								456.238	351.817	279.495	-	279.495
C. Other Program Funding Summary (\$ in Millions)												
Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost	
• Related Proc:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing	
• PE 0303604F: <i>Advanced EHF, MPAF</i>	1,836.687	246.598	552.833	0.000	552.833	555.421	542.388	486.405	686.469	Continuing	Continuing	
• PE 0603854F: <i>Wideband MILSATCOM (Space), Project #644870, CCS-C, RDT&E</i>	24.685	18.174	12.804	0.000	12.804	12.494	14.548	17.492	17.801	Continuing	Continuing	
• PE 0303601F: <i>MILSATCOM Terminals, RDT&E</i>	239.352	186.582	238.729	0.000	238.729	136.666	15.970	13.030	13.275	Continuing	Continuing	
D. Acquisition Strategy <p>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.</p>												

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603430F: <i>Advanced (EHF MILSATCOM (Space)</i>	PROJECT 644050: <i>Advanced MILSATCOM</i>

E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air 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-3, RDT&E Project Cost Analysis: PB 2012 Air Force										DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE				PROJECT					
3600: Research, Development, Test & Evaluation, Air Force BA 4: Advanced Component Development & Prototypes (ACD&P)				PE 0603430F: Advanced (EHF MILSATCOM (Space)				644050: Advanced MILSATCOM					
Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Cryptographic Development	MIPR	NSA:Camden, NJ	252.730	9.300	Dec 2010	10.500		-		10.500	Continuing	Continuing	0.000
Terminals Engineering	C/CPFF	JTEO:San Diego, CA	15.491	-		-		-		-	0.000	15.491	0.000
MILSATCOM Technology Validation	SS/CPAF	MIT/LL:Lexington, MA	21.538	-		-		-		-	0.000	21.538	0.000
Technical Support	SS/CPAF	MITRE:Bedford, MA	0.779	-		-		-		-	0.000	0.779	0.000
Processing Subsystem Engineering Model	Various	Hughes:El Segundo, CA	67.175	-		-		-		-	0.000	67.175	0.000
Processing Subsystem Engineering Model (2)	Various	TRW:Redondo Beach, CA	62.083	-		-		-		-	0.000	62.083	0.000
Technical Projects	Various	Various:Various,	66.659	-		-		-		-	0.000	66.659	0.000
Pre-EMD	Various	Lockheed Martin:Sunnyvale, CA	225.011	-		-		-		-	0.000	225.011	0.000
SDD	Various	Lockheed Martin:Sunnyvale, CA	4,648.036	231.017	Dec 2010	145.295	Dec 2010	-		145.295	Continuing	Continuing	0.000
Interim Contractor Support	Various	Lockheed Martin:Sunnyvale, CA	78.300	54.900	Dec 2010	83.000	Dec 2011	-		83.000	Continuing	Continuing	0.000
Radiation Hardened parts developers	Various	Various:Various,	117.480	-		-		-		-	0.000	117.480	0.000
Subtotal			5,555.282	295.217		238.795		-		238.795			0.000
Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Various	Various	Not specified.:	123.696	-		-		-		-	0.000	123.696	0.000
Technical Support	Various	Not specified.:	100.371	12.800	Dec 2009	4.900	Dec 2010	-		4.900	Continuing	Continuing	0.000
GFP	Various	Not specified.:	22.437	14.900	Dec 2010	12.700		-		12.700	0.000	50.037	0.000
Program Office Support	Various	Not specified.:	146.556	28.900	Dec 2010	23.100	Dec 2010	-		23.100	Continuing	Continuing	0.000
Subtotal			393.060	56.600		40.700		-		40.700			0.000

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force											DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>				R-1 ITEM NOMENCLATURE PE 0603430F: <i>Advanced (EHF MILSATCOM (Space)</i>				PROJECT 644050: <i>Advanced MILSATCOM</i>					

Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-	0.000	0.000	0.000

Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-	0.000	0.000	0.000

	Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	5,948.342	351.817		279.495		-		279.495			0.000

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

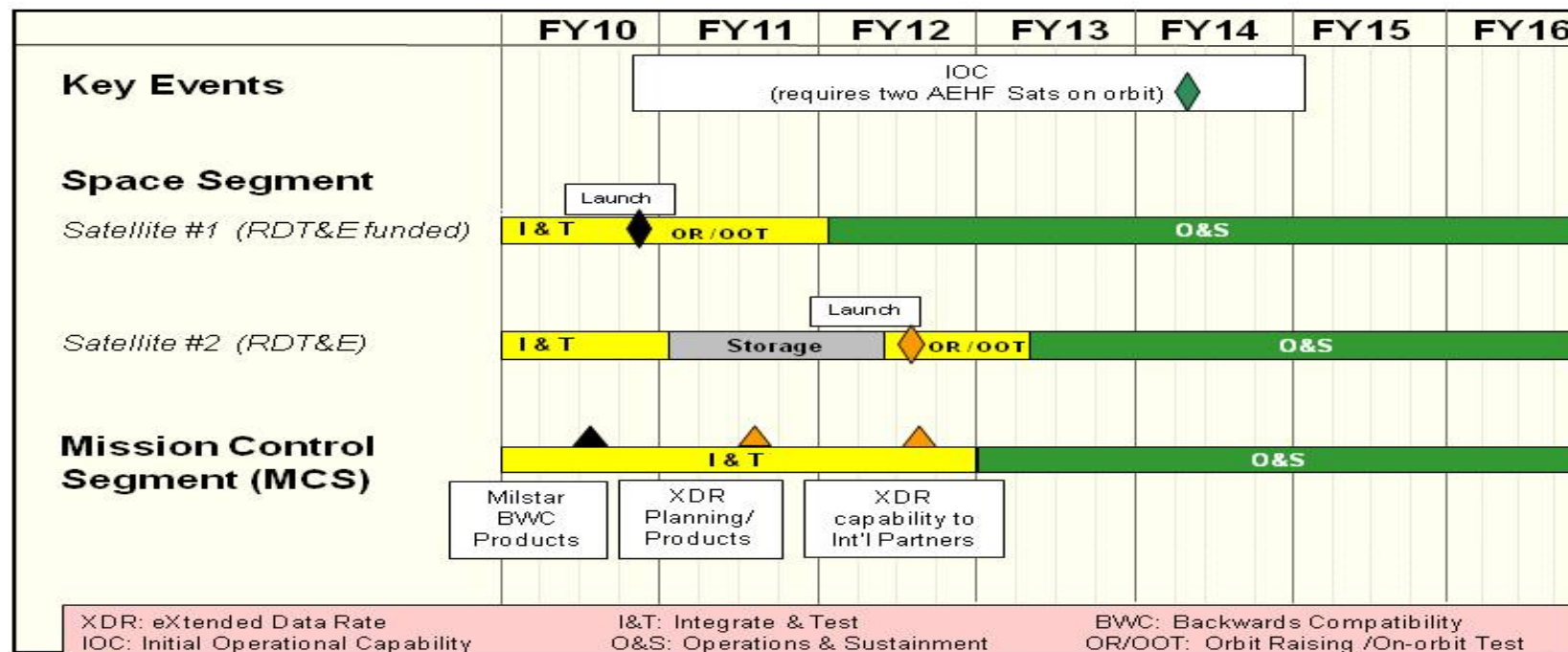
3600: Research, Development, Test & Evaluation, Air Force
BA 4: Advanced Component Development & Prototypes (ACD&P)

R-1 ITEM NOMENCLATURE

PE 0603430F: Advanced (EHF MILSATCOM
(Space)

PROJECT

644050: Advanced MILSATCOM



*Parts Obsolescence study for fourth AEHF satellite began Jan 2008. Long lead awarded July 2008.

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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603430F: <i>Advanced (EHF MILSATCOM (Space)</i>	PROJECT 644050: <i>Advanced MILSATCOM</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Field Ground Segment Software Increment 4 (World-wide Flight and Payload Control of 5 Milstar satellites and 1 AEHF satellite - BWC Products)	3	2010	3	2010
Launch first AEHF satellite	4	2010	4	2010
Field Ground Segment Software Increment 5 (eXtended Data Rate)	3	2011	3	2011
Launch second AEHF satellite	2	2012	2	2012
Field Ground Segment Software Increment 7 (eXtended Data Rate capability to International Partners)	3	2012	3	2012

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force									DATE: February 2011		
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)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
64A030: Evolved AEHF MILSATCOM	-	-	142.192	-	142.192	232.606	296.612	305.545	215.929	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

Note

The AEHF Capability and Affordability Insertion Program (CAIP) begins in FY12. Prior to the FY12PB, BPAC 64A030 funds were included in BPAC 644050.

A. Mission Description and Budget Item Justification

This project funds the AEHF Capability and Affordability Insertion Program (CAIP) which advances capability maturation for insertion in future space vehicle increments (i.e., SV 7-8) and establishes long-term, strategic innovation of advanced capabilities. CAIP supports the replenishment of AEHF satellites which will be procured through the Department of Defense (DOD) Evolutionary Acquisition for Space Efficiency (EASE) approach. EASE enables stable production, strategic sub-tier management and a capability and affordability insertion program. The AEHF satellite design has been frozen for many years and several systems with obsolete parts now require substantial redesign efforts to accommodate more modern replacements. CAIP technology refresh will be prioritized in joint coordination with the user and be incrementally implemented to mitigate schedule delivery impacts and ground mission control segment changes. The redesign will also result in improved manufacturability, fewer boxes and lower recurring costs. The FY12 funds focus on parts obsolescence (e.g., SV-6 crypto redesign). Also, the FY12 funds Protected SATCOM studies to include Broad Agency Announcements (BAA), alternative definition efforts, efforts to mature future SATCOM capabilities enhancements that may lead to a more capable protected SATCOM technology, technology demonstrations, AoA efforts, and program office and related activities. The FY11 Space Communications Layer (JSCL) Materiel Solutions Analysis (MSA) will inform risk reduction activities.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: Evolved AEHF	-	-	130.692	-	130.692
Description: AEHF parts obsolescence redesign effort and CAIP risk reduction activities.					
FY 2010 Accomplishments: Not applicable.					
FY 2011 Plans: Not applicable.					
FY 2012 Base Plans: Funds parts obsolescence redesign to include SV-6 crypto redevelopment, SV 7-8 CAIP acquisition architecture and strategy program with risk reduction activities informed by the FY11 JSCL MSA, Program Office support and other related activities, AoA efforts, Information Assurance efforts, technology demonstrations, SATCOM					

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force									DATE: February 2011		
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 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
technology needs efforts, and production and qualification of radiation-hardended components for SAF/DoD space programs. FY 2012 OCO Plans: Not applicable.											
Title: Protected MILSATCOM Architecuture studies Description: Protected MILSATCOM Enterprise architecture planning and studies FY 2010 Accomplishments: Not applicable. FY 2011 Plans: Not applicable. FY 2012 Base Plans: Funds protected MILSATCOM architecture development for next generation capability to be inserted in future AEHF block buy increments, Protected BAAs, capability enhancement studies, technology demonstration efforts and risk mitigation and alternative definitions efforts. FY 2012 OCO Plans: Not applicable.							-	-	11.500	-	11.500
Accomplishments/Planned Programs Subtotals							-	-	142.192	-	142.192
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• PE 0604436F: Next Generation MILSATCOM Technology, RDT&E	49.791	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
• PE 0303604F: Advanced EHF, MPAF	1,836.687	246.598	552.833	0.000	552.833	555.421	542.388	486.405	686.469	Continuing	Continuing
D. Acquisition Strategy											
AEHF CAIP will include parts obsolescence redesign and incremental capability upgrades for future block buys contracted with the current prime contractor. Architecture studies for next generation capabilities will include full and open competition efforts.											

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603430F: <i>Advanced (EHF MILSATCOM (Space)</i>	PROJECT 64A030: <i>Evolved AEHF MILSATCOM</i>

E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air 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-3, RDT&E Project Cost Analysis: PB 2012 Air Force										DATE: February 2011				
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)					FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Evolved AEHF Capability & Affordability Insertion Program (CAIP)	SS/TBD	Lockheed Martin:Sunnyvale, CA	-	-		45.023	Dec 2011	-		45.023	Continuing	Continuing	TBD	
AEHF Parts Obsolescence	SS/CPIF	Lockheed Martin:Sunnyvale, CA	-	-		49.800	Dec 2011	-		49.800	0.000	49.800	0.000	
Radiation Hardened Parts developers	Various	Various:,	-	-		20.000	Dec 2011	-		20.000	0.000	20.000	0.000	
Subtotal			-	-		114.823		-		114.823				
Support (\$ in Millions)					FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Technical & Analysis Support	WR	MIT/Lincoln Lab:Lexington, MA	-	-		7.800	Dec 2011	-		7.800	Continuing	Continuing	0.000	
Program Office Support & Other Related Activities	Various	Various:,	-	-		8.069	Dec 2011	-		8.069	Continuing	Continuing	0.000	
Protected MILSATCOM Architecture Studies	Various	The Aerospace Corporation:El Segundo, CA	-	-		11.500	Dec 2011	-		11.500	0.000	11.500	0.000	
Subtotal			-	-		27.369		-		27.369			0.000	
Test and Evaluation (\$ in Millions)					FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Subtotal			-	-		-		-		-	0.000	0.000	0.000	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force											DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>				R-1 ITEM NOMENCLATURE PE 0603430F: <i>Advanced (EHF MILSATCOM (Space)</i>				PROJECT 64A030: <i>Evolved AEHF MILSATCOM</i>					

Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-	0.000	0.000	0.000

	Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	-		142.192		-		142.192			

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

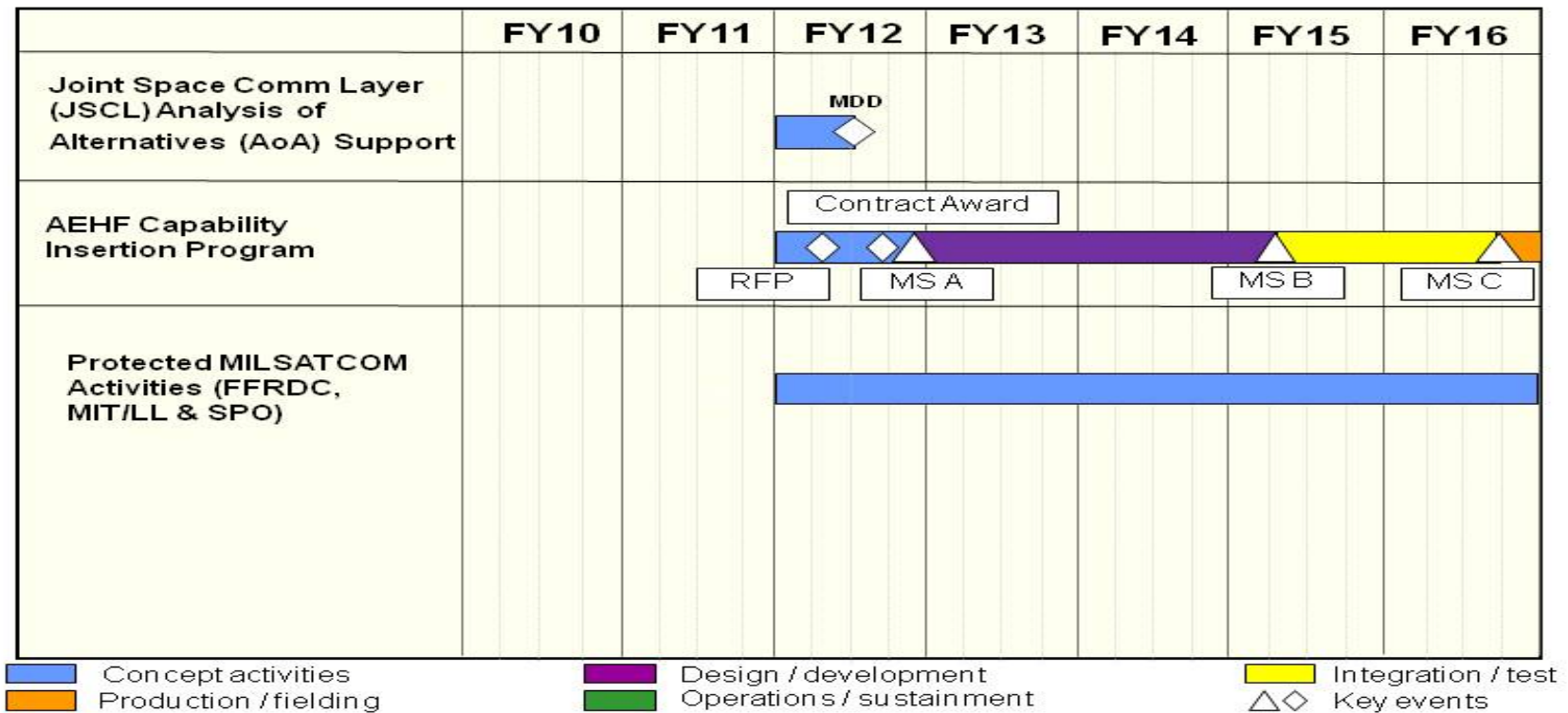
3600: Research, Development, Test & Evaluation, Air Force
BA 4: Advanced Component Development & Prototypes (ACD&P)

R-1 ITEM NOMENCLATURE

PE 0603430F: Advanced (EHF MILSATCOM
(Space)

PROJECT

64A030: Evolved AEHF MILSATCOM



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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603430F: <i>Advanced (EHF MILSATCOM (Space)</i>	PROJECT 64A030: <i>Evolved AEHF MILSATCOM</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
JCSL AoA MDD	3	2012	1	2014
AEHF SV 7-8 CAIP Contract Award	3	2012	3	2012
AEHF SV 7-8 CAIP Milestone A decision	4	2012	4	2012

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE							
3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>				PE 0603432F: <i>Polar MILSATCOM (Space)</i>							
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	246.660	164.232	122.991	-	122.991	121.419	127.770	101.202	73.359	Continuing	Continuing
644052: <i>Polar Satellite Communications</i>	246.660	164.232	122.991	-	122.991	121.419	127.770	101.202	73.359	Continuing	Continuing

Note

Totals include funding for PRCP Program Number 121, EPS.

The program funding includes Overhead reduction efficiencies that are not intended to impact program content. The efficiencies reductions total \$1.8M in FY12.

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 had 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 type host vehicle (i.e., Enhanced Polar System (EPS)). The host spacecraft and the polar communications packages require design modifications to replace obsolete components and take advantage of the more capable Advanced Extremely High Frequency (AEHF) technology including the eXtended Data Rate (XDR) waveform. The EPS Capability Development Document, Joint Requirements Oversight Council approved in September 2006, is based on a two-package, hosted XDR program with operational availability in FY15 and FY17. The EPS system is intended to be comprised of four segments: Payload, Ground Control, Gateway, and Terminal (acquired by each Service's Terminal Program Office).

FY12 funds will complete the fabrication of the two hosted EPS packages (payloads) and begin integration onto the host satellites. Due to AF priorities, the Ground Control segment and Ground Gateway segment have been scaled down to focus on continuity of service to current polar users, however; Global Information Grid (GIG) capability is being added to support other future users.

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.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603432F: <i>Polar MILSATCOM (Space)</i>
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B. Program Change Summary (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	252.071	164.232	101.086	-	101.086
Current President's Budget	246.660	164.232	122.991	-	122.991
Total Adjustments	-5.411	-	21.905	-	21.905
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-4.355	-			
• Other Adjustments	-1.056	-	21.905	-	21.905

Change Summary Explanation

FY12 funds adjusted due to revised cost estimate as EPS prepares for an FY12 Milestone B decision.

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force								DATE: February 2011			
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			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
644052: Polar Satellite Communications	246.660	164.232	122.991	-	122.991	121.419	127.770	101.202	73.359	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		
A. Mission Description and Budget Item Justification											
This program element 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 had 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 type host vehicle (i.e., Enhanced Polar System (EPS)). The host spacecraft and the polar communications packages require design modifications to replace obsolete components and take advantage of the more capable Advanced Extremely High Frequency (AEHF) technology including the eXtended Data Rate (XDR) waveform. The EPS Capability Development Document, Joint Requirements Oversight Council approved in September 2006, is based on a two-package, hosted XDR program with operational availability in FY15 and FY17. The EPS system is intended to be comprised of four segments: Payload, Ground Control, Gateway, and Terminal (acquired by each Service's Terminal Program Office).											
FY12 funds will complete the fabrication of the two hosted EPS packages (payloads) and begin integration onto the host satellites. Due to AF priorities, the Ground Control segment and Ground Gateway segment have been scaled down to focus on continuity of service to current polar users, however; Global Information Grid (GIG) capability is being added to support other future users.											
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. Accomplishments/Planned Programs (\$ in Millions)							FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: EPS							246.660	164.232	122.991	-	122.991
Description: Develop and acquire EPS MILSATCOM											
FY 2010 Accomplishments:											

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603432F: <i>Polar MILSATCOM (Space)</i>	PROJECT 644052: <i>Polar Satellite Communications</i>
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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
<p>In FY2010: Held the payload segment Critical Design Review (CDR) and began manufacturing of the engineering test bed.</p> <p><i>FY 2011 Plans:</i> In FY2011: Will acquire the payload engineering model test bed from the Developer to support intersegment testing and complete integration of both payload #1 and #2 subsystems. Will start architecture development of the Gateway and will plan the development of a scaled down ground control segment.</p> <p><i>FY 2012 Base Plans:</i> In FY2012: Deliver two payloads to the host and initiate integration of payloads onto host satellites. Will continue development of the Gateway and will begin development of the ground control segment.</p> <p><i>FY 2012 OCO Plans:</i> Not applicable</p>					
Accomplishments/Planned Programs Subtotals	246.660	164.232	122.991	-	122.991

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

<u>Line Item</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012 Base</u>	<u>FY 2012 OCO</u>	<u>FY 2012 Total</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• N/A:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

D. Acquisition Strategy

The Enhanced Polar System (EPS) is the follow-on to the currently operational Interm Polar System (IPS) and is a component of the Extremely High Frequency SATCOM architecture providing secure, protected communications to worldwide users. The EPS acquisition will consist of four segments (Payload, Ground Control, Gateway, and Terminal) acquired by separate procurement actions. The EPS payloads will be hosted on a classified satellite and acquired by the organization hosting the EPS payloads. The MILSATCOM Systems 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.

E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air 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-3, RDT&E Project Cost Analysis: PB 2012 Air Force **DATE:** February 2011

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
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Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Classified	TBD	TBD:TBD,	299.594	-		-		-		-	0.000	299.594	0.000
EPS Requirement Analyses and Design Trade Studies	Various	Various:Various,	76.187	-		-		-		-	0.000	76.187	0.000
Ground study and Emulator development	SS/CPAF	Johns Hopkins University/Applied Physics Lab:Columbia, MD	-	16.600	Jul 2011	15.000	Dec 2011	-		15.000	0.000	31.600	0.000
Gateway development	MIPR	SPAWAR:San Diego, CA	-	10.900	Jul 2011	10.000	Dec 2011	-		10.000	0.000	20.900	0.000
EPS Design/Development Contract	SS/CPAF	NGAS:Redondo Beach, CA	469.906	84.776	Dec 2010	56.615	Dec 2011	-		56.615	Continuing	Continuing	0.000
Mission Control Segment Design Trade Studies	SS/CPAF	Lockheed Martin:Sunnyvale, CA	28.882	0.600	Dec 2010	-		-		-	0.000	29.482	0.000
Cryptographic Modifications	MIPR	NSA:Camden, NJ	6.745	1.907	Dec 2010	4.525	Dec 2011	-		4.525	0.000	13.177	0.000
Subtotal			881.314	114.783		86.140		-		86.140			0.000

Remarks

Classified Contract Method/Type/Activity and Location are classified

Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Technical Support	Various	The Aerospace Corporation:El Segundo, CA	38.535	22.288	Dec 2010	15.142	Dec 2011	-		15.142	0.000	75.965	0.000
Program Office Support	Various	Linquest:Los Angeles, CA	48.299	24.561	Dec 2010	17.809	Dec 2011	-		17.809	0.000	90.669	0.000
Govt Furnished Property	Various	Various:Various,	10.957	2.600	Dec 2010	3.900	Dec 2011	-		3.900	0.000	17.457	0.000
Subtotal			97.791	49.449		36.851		-		36.851	0.000	184.091	0.000

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603432F: <i>Polar MILSATCOM (Space)</i>	PROJECT 644052: <i>Polar Satellite Communications</i>
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Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-	0.000	0.000	0.000

Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-	0.000	0.000	0.000

Remarks

TBD

	Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	979.105	164.232		122.991		-		122.991			0.000

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

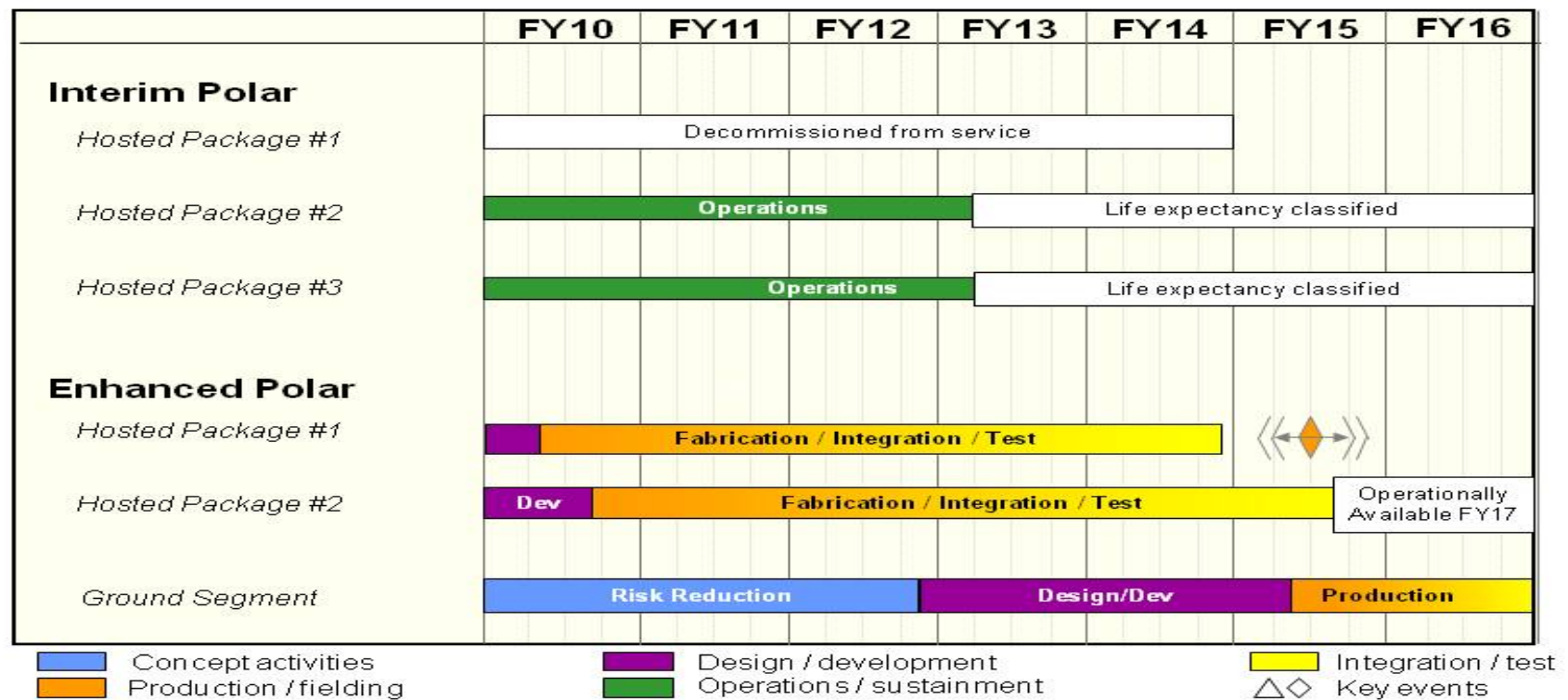
3600: Research, Development, Test & Evaluation, Air Force
BA 4: Advanced Component Development & Prototypes (ACD&P)

R-1 ITEM NOMENCLATURE

PE 0603432F: Polar MILSATCOM (Space)

PROJECT

644052: Polar Satellite Communications



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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603432F: <i>Polar MILSATCOM (Space)</i>	PROJECT 644052: <i>Polar Satellite Communications</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Begin fabrication of first Enhanced Polar package	2	2010	2	2010
Begin fabrication of second Enhanced Polar package	3	2010	3	2010
Ground Control and Gateway System Design Review	2	2011	2	2011
Deliver payloads and begin integration onto host satellites	2	2012	2	2012
Ground Control and Gateway Preliminary Design Review	2	2012	2	2012
Milestone B Review	4	2012	4	2012

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE							
3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>				PE 0603438F: <i>Space Control Technology</i>							
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	99.232	61.012	45.755	-	45.755	56.121	92.402	89.715	47.756	Continuing	Continuing
642611: <i>Technology Insertion Planning and Analysis</i>	78.992	42.038	26.715	-	26.715	36.812	72.803	69.821	27.510	Continuing	Continuing
64A007: <i>Space Range</i>	20.240	18.974	19.040	-	19.040	19.309	19.599	19.894	20.246	Continuing	Continuing

Note

The program funding includes Overhead reduction efficiencies that are not intended to impact program content. The efficiencies reductions total \$0.063M in FY12.

CY funding totals include \$16.000M requested for Overseas Contingency Operations.

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 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 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. Consistent with DOD policy, the negation efforts of this program currently focus on negation technologies which have temporary, localized, and reversible effects. Command & Control efforts include identifying technology solutions to enable fusion of data for use in multi-level security environments, near-real-time data delivery and decision support to war fighter needs. Rapid Reaction Capabilities in response to immediate war fighter needs are developed within this program.

Funding in FY10/11/12 also supports the development of the technology and infrastructure for space control elements of the space range. 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.

As a result of an FY08 \$25M congressional add, the Air Force began the Self Awareness Space Situation Awareness (SASSA) technology demonstration that will build a payload to provide tactical SSA around a host satellite. SASSA is designed to demonstrate the ability to detect attacks, locate attacking sources, and communicate relevant information to the ground. SASSA will contain a suite of threat warning sensors designed to address a range of anti-satellite and environmental threats.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603438F: <i>Space Control Technology</i>
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SASSA will also have a communication package and common interface unit that eases integration and performs on-board sensor data processing. The interface unit and sensors can be configured into tailored sensing payloads for future space missions.

Spacetrack Integration Node Global Enhanced Reporting (STINGER) project converts an enhanced processing capability developed for missile warning radar to use for the space situation awareness program radars.

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.

B. Program Change Summary (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	100.951	61.012	45.907	-	45.907
Current President's Budget	99.232	61.012	45.755	-	45.755
Total Adjustments	-1.719	-	-0.152	-	-0.152
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-1.719	-	-0.152	-	-0.152

Congressional Add Details (\$ in Millions, and Includes General Reductions)

Project: 642611: *Technology Insertion Planning and Analysis*

Congressional Add: *HANDS ION*

Congressional Add: *ESP DEMO*

Congressional Add Subtotals for Project: 642611

Congressional Add Totals for all Projects

FY 2010	FY 2011
4.944	-
3.955	-
8.899	-
8.899	-

Change Summary Explanation

FY10 reductions result of FFRDC and revised economic assumptions.

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force									DATE: February 2011		
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)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
642611: Technology Insertion Planning and Analysis	78.992	42.038	26.715	-	26.715	36.812	72.803	69.821	27.510	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

This program 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 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 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. Analysis to support vulnerability and survivability studies and projects. Consistent with DOD policy, the negation efforts of this program currently focus on negation technologies which have temporary, localized, and reversible effects. Command & Control efforts include identifying technology solutions to enable fusion of data for use in multi-level security environments, near-real-time data delivery and decision support to war fighter needs. Rapid Reaction Capabilities in response to immediate war fighter needs are developed within this program.

Also supported is the development of the technology and infrastructure for space control elements of the space range. 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.

As a result of an FY08 \$25M congressional add, the Air Force began the Self Awareness Space Situation Awareness (SASSA) technology demonstration that will build a payload to provide tactical SSA around a host satellite. SASSA is designed to demonstrate the ability to detect attacks, locate attacking sources, and communicate relevant information to the ground. SASSA will contain a suite of threat warning sensors designed to address a range of anti-satellite and environmental threats. SASSA will also have a communication package and common interface unit that eases integration and performs on-board sensor data processing. The interface unit and sensors can be configured into tailored sensing payloads for future space missions.

Spacetrack Integration Node Global Enhanced Reporting (STINGER) project converts an enhanced processing capability developed for missile warning radar to use for the space situation awareness program radars.

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011			
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		
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.						
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
<p>Title: SSA</p> <p>Description: Space Situational Awareness efforts such as key space situational awareness enabling technologies, space sensor value modeling and architecture analysis.</p> <p>FY 2010 Accomplishments: Continue analysis to support proximity Indications and Warnings sensor trade space. Generating multi-community requirements sets for use in assessing solution options.</p> <p>FY 2011 Plans: Continuing optical sensor evaluations to augment the Space Surveillance Network, and Space Object Identification missions.</p> <p>FY 2012 Base Plans: SSA- Explore developing market of smallsat and cubesats for potential SSA sensor platforms. Perform technical assessments of possible sensors to augment the existing SSA capabilities of USAF.</p> <p>FY 2012 OCO Plans: Not applicable</p>		-	-	4.000	-	4.000
<p>Title: Survivability</p> <p>Description: Analysis to support vulnerability and survivability studies and projects.</p> <p>FY 2010 Accomplishments: Analysis to support vulnerability and survivability studies and projects</p> <p>FY 2011 Plans: Analysis to support vulnerability and survivability studies and projects</p> <p>FY 2012 Base Plans: Analysis to support vulnerability and survivability studies and projects</p> <p>FY 2012 OCO Plans:</p>		4.103	0.990	1.000	-	1.000
<p>Title: DCS</p>		9.404	4.554	9.528	-	9.528

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011			
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 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
<p>Description: Defensive Counterspace efforts. Continue development of key defensive counterspace enabling technologies.</p> <p>FY 2010 Accomplishments: Continuing asymmetric threat vulnerability and analysis in support of Space and Missile Center and partnered acquisition developments.</p> <p>FY 2011 Plans: Continuing proximity Indications and Warnings (I&W) sensor development. Procuring initial components for performance validation and integration and test development. Planning for follow-on qualifications and flight testing.</p> <p>FY 2012 Base Plans: DCS-Continue development of I&W sensors for determining risk to attack. Study next generation of sensors for investment. Begin development of prototype hardware for future flight demonstration.</p> <p>FY 2012 OCO Plans: Not applicable</p>						
<p>Title: SPP</p> <p>Description: Space Protection Program. Air Force/NRO partnership to leverage resources to establish and execute a program to develop an integrated space protection approach for the nation</p> <p>FY 2010 Accomplishments: Began capability-based vulnerability and susceptibility assessments of blue architectures to identify options to enhance the survivability of the overall space architecture. Established a capabilities and Interdependencies (C&I) analysis team to keep a current database to provide senior leaders with understanding of space capabilities, interdependencies and consequence of loss in support of planning an decision making.</p> <p>FY 2011 Plans: Transferred to new PE 060380F, Space Protection Program</p> <p>FY 2012 Base Plans:</p> <p>FY 2012 OCO Plans:</p>		6.820	-	-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011			
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 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Not applicable						
<p>Title: C2</p> <p>Description: Continue Counterspace C2 efforts</p> <p>FY 2010 Accomplishments: Continuing task execution, with completion expected towards the end of CY 2010. Analyzing space control mission needs for continued C2 efforts in support of ESC mission transition earlier in the year.</p> <p>FY 2011 Plans: not applicable</p> <p>FY 2012 Base Plans: Not Applicable</p> <p>FY 2012 OCO Plans: Not applicable</p>		2.208	-	-	-	-
<p>Title: Rapid Reaction Branch (RRB)</p> <p>Description: Continue to conduct prototyping, demonstration, testing, and rapid transition of technology and techniques to space control systems.</p> <p>FY 2010 Accomplishments: Developing advanced capabilities in response to warfighter JUONs. Integrating and testing for new advanced techniques and technologies. Evaluating methods and technologies to answer new USSTRACOM Evaluation Request Messages (EReqMs). Developing techniques/technologies for further expansion of current warfighter capabilities.</p> <p>FY 2011 Plans: Will develop and test quick reaction capabilities to satisfy the UONS, JUONs and EReqMs received from USSTRATCOM and other warfighting commands. Funding includes \$16M OCO request to replenish deployed assets.</p> <p>FY 2012 Base Plans:</p>		7.235	20.809	4.867	-	4.867

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011		
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 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Will develop and test quick reaction capabilities to satisfy the UONS, JUONs and EReqMs received from USSTRATCOM and other warfighting commands. FY 2012 OCO Plans:					
Title: SASSA Description: Self Awareness Space Situational Awareness (SASSA). FY 2010 Accomplishments: Continue development of the payload, integration on a bus for on-orbit demonstration of space protection capabilities. Deliver SASSA payload for beginning integration at the end of FY 2010. FY 2011 Plans: Complete SASSA integration in preparation for launch and on-orbit demonstration in FY 2012 and 2013. FY 2012 Base Plans: FY 2012 OCO Plans: Not applicable	24.160	1.537	-	-	-
Title: STINGER Description: Spacetrack Integration Node Global Enhanced Reporting (STINGER). Conversion of an enhanced processing capability developed for missile warning radar FY 2010 Accomplishments: Conversion of an enhanced processing capability developed for missile warning radar to use for the space situation awareness program radars. FY 2011 Plans: Not applicable FY 2012 Base Plans: Spacetrack Integration Node Global Enhanced Reporting (STINGER). Conversion of an enhanced processing capability developed for missile warning radar FY 2012 OCO Plans:	1.899	-	0.386	-	0.386

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011		
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 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Not applicable					
Title: Program Office Support Description: Provides Program Office Support and other technical support FY 2010 Accomplishments: Provides Program Office and Other Technical Support including System Engineering and Architectural Support. FY 2011 Plans: Provides Program Office and Other Technical Support including System Engineering and Architectural Support. FY 2012 Base Plans: Program Office and Other Technical Support including System Engineering and Architectural Support. FY 2012 OCO Plans:	14.264	14.148	6.934	-	6.934
Accomplishments/Planned Programs Subtotals	70.093	42.038	26.715	-	26.715
	FY 2010	FY 2011			
Congressional Add: HANDS ION FY 2010 Accomplishments: HANDS ION- The intent is to develop an infra red camera for a small telescope for the purpose of providing the capability of a single daylight IR tracking prototype system for geosynchronous SSA FY 2011 Plans:	4.944	-			
Congressional Add: ESP DEMO FY 2010 Accomplishments: Space Situational Awareness FY 2011 Plans:	3.955	-			
Congressional Adds Subtotals	8.899	-			

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE	PROJECT
3600: Research, Development, Test & Evaluation, Air Force BA 4: Advanced Component Development & Prototypes (ACD&P)	PE 0603438F: Space Control Technology	642611: Technology Insertion Planning and Analysis

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

Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• N/A: None	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

D. Acquisition Strategy

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.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force										DATE: February 2011			
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)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Survivability	C/CPFF	DTIC:,	4.103	0.990	Jan 2011	1.000	Jan 2012	-		1.000	0.000	6.093	0.000
HANDS ION CONGRESSIONAL ADD	SS/CPFF	OCEANIT:Kihei, HI	4.944	-		-		-		-	0.000	4.944	0.000
ESP DEMO CONGRESSIONAL ADD	MIPR	DMEA:,	6.955	-		-		-		-	0.000	6.955	0.000
SSA Development	Various	Various:Various,	22.401	-		4.000	Jan 2012	-		4.000	Continuing	Continuing	TBD
DCS Activities	Various	Various:Various,	65.862	4.554	Jan 2011	9.528	Jan 2012	-		9.528	Continuing	Continuing	TBD
Counterspace C2	Various	Various:Various,	3.406	-		-		-		-	Continuing	Continuing	TBD
Counterspace Technology Prototyping	Various	Various:Various,	81.397	20.809	Jan 2011	4.867	Jan 2012	-		4.867	Continuing	Continuing	TBD
SASSA Tech Demo	Various	Assurance Technolgy Corporation:Carlisle, MA	74.160	1.537	Jan 2011	-		-		-	4.500	80.197	40.000
STINGER	TBD	TBD:TBD,	1.896	-		0.386	Jan 2012	-		0.386	Continuing	Continuing	TBD
Space Protection Program	Various	Various:TBD,	6.821	-		-		-		-	0.000	6.821	0.000
Subtotal			271.945	27.890		19.781		-		19.781			
Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
System Engineering and Architectural Support	C/CPAF	TASC:Redondo Beach, CA	1.000	0.900	May 2011	-		-		-	Continuing	Continuing	TBD
Program Office and Other Technical Support	Various	SMC:El Segundo, CA	28.031	5.563	Jan 2011	0.501	Nov 2011	-		0.501	Continuing	Continuing	TBD
STS System Engineering	C/FFP	AT&T:El Segundo, CA	1.699	2.478	Oct 2010	1.800	Oct 2011	-		1.800	0.000	5.977	0.000
AEROSPACE SUPPORT	RO	Aerospace Corp:El Segundo, CA	5.752	5.207	Oct 2010	4.633		-		4.633	0.000	15.592	0.000
Subtotal			36.482	14.148		6.934		-		6.934			

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force											DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>				R-1 ITEM NOMENCLATURE PE 0603438F: <i>Space Control Technology</i>				PROJECT 642611: <i>Technology Insertion Planning and Analysis</i>					

Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost		Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-		0.000	0.000	0.000

Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost		Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-		0.000	0.000	0.000

	Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	308.427	42.038		26.715		-		26.715			

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

3600: Research, Development, Test & Evaluation, Air Force
BA 4: Advanced Component Development & Prototypes (ACD&P)

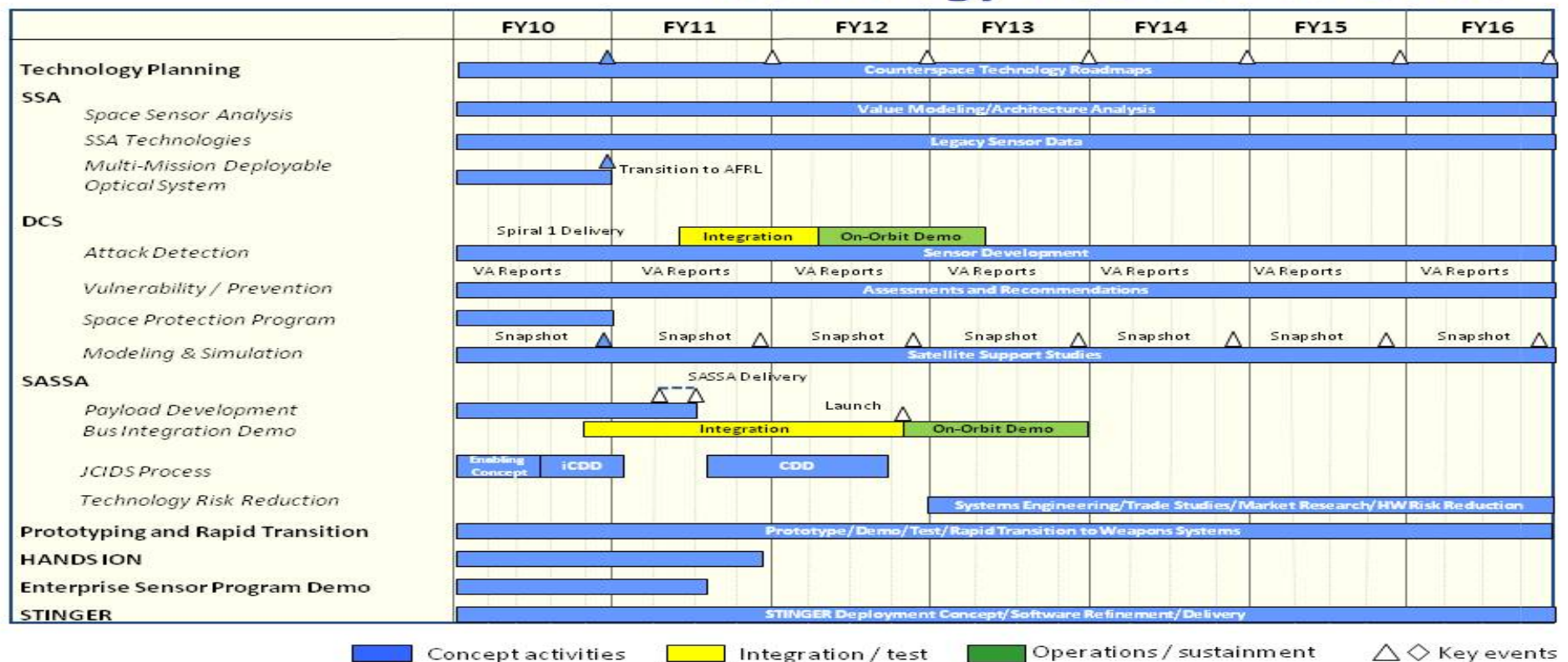
R-1 ITEM NOMENCLATURE

PE 0603438F: Space Control Technology

PROJECT

642611: Technology Insertion Planning and Analysis

SCT Technology Insertion Schedule



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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603438F: <i>Space Control Technology</i>	PROJECT 642611: <i>Technology Insertion Planning and Analysis</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Continue Technology Roadmaps & Planning	1	2010	4	2016
SSA- Continue sensor development	1	2010	4	2016
DCS - Continue DCS technology development and evaluation	1	2010	4	2016
DCS - Continue Vulnerability and threat assessment report	1	2010	4	2016
Concept Studies	1	2010	4	2016
Prototyping and Rapid Transition to Weapons Systems	1	2010	4	2016
SASSA Sensor Delivery	4	2010	1	2011
SASSA Integration	4	2010	3	2012

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force									DATE: February 2011			
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)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost	
64A007: Space Range	20.240	18.974	19.040	-	19.040	19.309	19.599	19.894	20.246	Continuing	Continuing	
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0			
A. Mission Description and Budget Item Justification												
This program supports the development of space test and training range capabilities required to support developmental and operational test, training, exercises and tactics development for Space Control systems and related architecture. 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.												
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 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: Range Control								11.559	11.763	11.932	-	11.932
Description: Range Control - Development and acquisition of mobile, transportable, and fixed range monitoring and communications capabilities for the space range												
FY 2010 Accomplishments: Transitioning from Space Range Operations Center (SROC) Test-bed into the SROC. Conducting DT/OT and preparing to make the new system operational. Transition from the SMU test-bed into fully operational COTS/GOTS system integrated inside the SROC. Deliver the first phase of Space - Center Scheduling Enterprise (S-CSE).												
FY 2011 Plans: Planning initial delivery of the SROC early in the FY. Completing additional upgrades to deliver a fully capable SROC system with deployable/transportable capability. Complete SMU integration into the SROC. Beginning the second phase of S-CSE.												
FY 2012 Base Plans:												

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011			
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 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Complete delivery of SROC. Planning initial delivery of transportable range system and signal monitoring unit. Continues second phase of S-CSE implementation. FY 2012 OCO Plans:						
Title: Bandwith Support Description: STTR Leased Bandwith FY 2010 Accomplishments: 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 2011 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 2012 Base 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 2012 OCO Plans:		3.000	3.040	3.100	-	3.100
Title: Program Office Support Description: Provides program office and other technical support including systems engineering and architectural support. FY 2010 Accomplishments: Provides program office and other technical support including systems engineering and architectural support. FY 2011 Plans: Provides program office and other technical support including systems engineering and architectural support. FY 2012 Base Plans: Provides program office and other technical support including systems engineering and architectural support. FY 2012 OCO Plans:		5.681	4.171	4.008	-	4.008
Accomplishments/Planned Programs Subtotals		20.240	18.974	19.040	-	19.040

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603438F: <i>Space Control Technology</i>	PROJECT 64A007: <i>Space Range</i>	

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

<u>Line Item</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u> <u>Base</u>	<u>FY 2012</u> <u>OCO</u>	<u>FY 2012</u> <u>Total</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• N/A: <i>No Additonal Funding</i>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

D. Acquisition Strategy

All contracts funded in this program 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.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force											DATE: February 2011			
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)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Leased Bandwidth	SS/FFP	DISA:Arlington, VA	6.000	3.040	Feb 2011	3.100	Feb 2012	-		3.100	Continuing	Continuing	TBD	
STTR Upgrade (Execution Test Center)	C/CPFF	Harris Corp:Melbourne, FL	9.633	-		-		-		-	9.109	18.742	9.109	
Space Range Operations Center	C/CPAF	Harris Corp:Melbourne, FL	5.603	9.760	Nov 2010	5.698	Feb 2012	-		5.698	30.000	51.061	30.000	
STTR Transportable	C/TBD	Harris Corp:Melbourne, FL	-	-		0.500	Feb 2012	-		0.500	9.000	9.500	10.000	
Signal Generation, Monitoring and Collection	C/CPFF	TBD:TBD,	4.213	1.379	Nov 2010	3.734	Nov 2011	-		3.734	15.000	24.326	15.000	
Range Scheduling Tool	SS/TBD	Various:Various,	0.892	0.400	Nov 2010	-		-		-	1.000	2.292	1.300	
Advanced Capabilities Environment (ACE)	C/CPAF	Harris Corp:Melbourne, FL	-	0.224	Nov 2010	2.000	Nov 2011	-		2.000	5.424	7.648	5.424	
MCATS II Upgrade	C/CPAF	Harris:Melbourne, FL	0.503	-		-		-		-	0.000	0.503	0.000	
Subtotal			26.844	14.803		15.032		-		15.032				
Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Program Office and Other Technical Support	Various	SMC:El Segundo, CA	22.827	4.171	Nov 2010	4.008	Nov 2011	-		4.008	Continuing	Continuing	TBD	
Subtotal			22.827	4.171		4.008		-		4.008				
Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Subtotal			-	-		-		-		-	0.000	0.000	0.000	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force											DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>				R-1 ITEM NOMENCLATURE PE 0603438F: <i>Space Control Technology</i>				PROJECT 64A007: <i>Space Range</i>					

Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-	0.000	0.000	0.000

	Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	49.671	18.974		19.040		-		19.040			

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

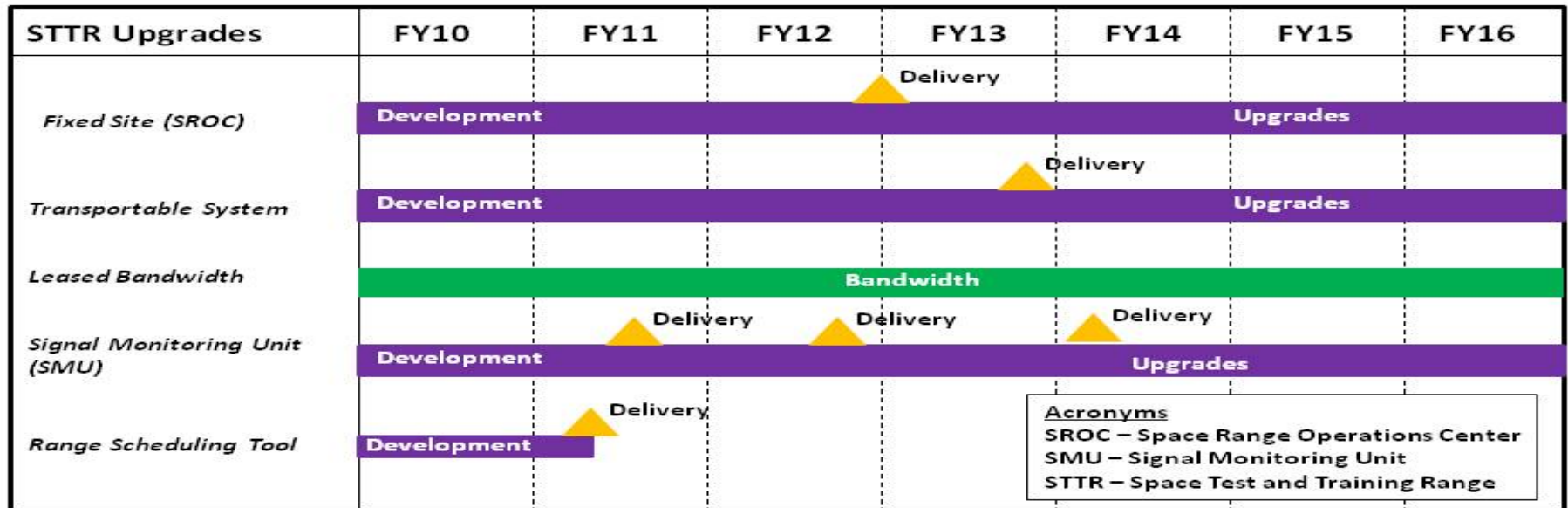
3600: Research, Development, Test & Evaluation, Air Force
BA 4: Advanced Component Development & Prototypes (ACD&P)

R-1 ITEM NOMENCLATURE

PE 0603438F: Space Control Technology

PROJECT

64A007: Space Range



On/ fielding
 Design/ development
 Operations/ Sustainment

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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603438F: <i>Space Control Technology</i>	PROJECT 64A007: <i>Space Range</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Procure Leased Assets	1	2010	4	2016
Upgrade Transportable System	2	2012	4	2016
Develop fixed-site capability (SROC)	1	2010	4	2016
Signal monitoring and collection (SMU)	1	2010	4	2016
Signal Monitoring Unit Delivery (SMU)	3	2011	3	2011
Signal Monitoring Unit Delivery 2	4	2012	4	2012
Range Scheduling Software Tool	1	2010	4	2010
Range Scheduling Software Tool Delivery	2	2011	2	2011

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force **DATE:** February 2011

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)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	27.850	26.172	38.496	-	38.496	24.683	25.052	25.411	25.858	Continuing	Continuing
642597: <i>Noncooperative Identification Subsystems</i>	24.319	23.557	36.405	-	36.405	22.836	23.178	23.512	23.926	Continuing	Continuing
642599: <i>Cooperative Identification Techniques</i>	3.531	2.615	2.091	-	2.091	1.847	1.874	1.899	1.932	Continuing	Continuing

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 System Development and Demonstration (SDD). 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 SDD decisions, the program element funds design studies, engineering analysis, non-recurring engineering, and other efforts associated with integration and modification of CID related technologies and systems 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 ID systems (radio, millimeter wave, infrared, and laser). The Laser Target Imaging Program (LTIP) is working on performance improvements, laser vibrometry development, 3-dimensional laser detection and ranging, laser radar, synthetic aperture laser (SAL) radar, 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 (Multi Sensor Enhanced ID; formerly Fusion Vision), a balanced (robust) amalgamation of sensor data from multiple sources to provide warfighters with higher confidence CID results on surface or air targets; and (4) X-Patch, a validated set of prediction codes and analysis tools that use the shooting-and-bouncing ray (SBR) method to predict 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.

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 identifying 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 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): The program element funds preliminary RDT&E for Mark XIIA, the next

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>		R-1 ITEM NOMENCLATURE PE 0603742F: <i>Combat Identification Technology</i>
<p>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 implementing air platforms. (2) Automatic Dependent Surveillance-Broadcast (ADS-B)TIP: This program element will fund preliminary RDT&E for integration of ADS-B architecture into the APX-119 Mark XIIA transponder. The ADS-B TIP will develop ADS-B "In" and "out" capability which leverages synergies between ADS-B and Mode 5 Level 2 (M5L2) to achieve M5L2 "In" capability. The ADS-B TIP specifically addresses implementing air platforms. (3) Digital IFF Control Panel: This program element is developing a Digital IFF Control Panel (DCP) to support Mode 5 and ADS-B insertion programs into Air Force platforms with an ARINC (Aeronautics Research Incorporated) 429 based avionics architecture. The DCP will provide a standard control panel for AF aircraft with growth capability for ADS-B and beyond.</p> <p>Joint Cooperative Target Identification – Ground (JCTI-G) Analysis of Alternatives (AoA). This is an OSD AT&L directed program for the services. The Army will lead the Fires on Dismount (FoD) portion and the USAF will lead the Air to Ground (A-G) portion. The Army and USAF are negotiating an MOA for the stand up of a Joint Program Office (JPO).</p> <p>Within the air-to-ground domain, development funded by this program element ensures development, integration, test and evaluation of friendly identification systems focused on reducing air-to-ground fratricide. Programs funded to meet this intent include: (1) 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 and (2) Laser Frequency Responsive Tape: A low cost, un- powered passive device to aid in the detection of friendly ground forces via airborne electro-optical sensors.</p> <p>This program element also funds the Air Traffic Control Beacon Systems Identification Friend or Foe Mark XII/XIIA Systems (AIMS) Program Office. The DoD International AIMS PO has system level interoperability management responsibilities for the present Mark XII system, development and integration of Mark XIIA (Mode 5) and transition to Mark XIIA Mode S systems.</p> <p>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.</p>		

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603742F: <i>Combat Identification Technology</i>
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B. Program Change Summary (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	28.799	26.172	25.920	-	25.920
Current President's Budget	27.850	26.172	38.496	-	38.496
Total Adjustments	-0.949	-	12.576	-	12.576
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-0.120	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.829	-			
• Other Adjustments	-	-	12.576	-	12.576

Congressional Add Details (\$ in Millions, and Includes General Reductions)

Project: 642597: *Noncooperative Identification Subsystems*

 Congressional Add: *Fast Steering Mirror*

Congressional Add Subtotals for Project: 642597

Congressional Add Totals for all Projects

FY 2010	FY 2011
1.590	-
1.590	-
1.590	-

Change Summary Explanation

The FY12 \$12.7M funding increase is to continue the Automatic Dependent Surveillance-Broadcast (ADS-B) capability development in the APX-119 transponder.

Beginning in FY12, funding for the ADS-B development of the APX-119 transponder will be transferred to BPAC 642599.

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>				R-1 ITEM NOMENCLATURE PE 0603742F: <i>Combat Identification Technology</i>				PROJECT 642597: <i>Noncooperative Identification Subsystems</i>			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
642597: <i>Noncooperative Identification Subsystems</i>	24.319	23.557	36.405	-	36.405	22.836	23.178	23.512	23.926	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

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 ID systems (radio, millimeter wave, infrared, and laser). The Laser Target Imaging Program (LTIP) is working on performance improvements, laser vibrometry development, 3-dimensional laser detection and ranging, laser radar, synthetic aperture laser (SAL) radar, 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 (Multi Sensor Enhanced ID; formerly Fusion Vision), a balanced (robust) amalgamation of sensor data from multiple sources to provide warfighters with higher confidence CID results on surface or air targets; and (4) X-Patch, a validated set of prediction codes and analysis tools that use the shooting-and-bouncing ray (SBR) method to predict 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.

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 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: Laser Vision	0.888	0.912	1.226	-	1.226
Description: Laser Vision, a family of EO systems that significantly increases ID ranges. Provides the demonstration and evaluation data necessary to support decisions on future EO technologies supporting CID.					
FY 2010 Accomplishments: Efforts began to put EO polarization into a targeting pod as a low cost CID discriminator.					
FY 2011 Plans: Continuing efforts to put EO polarization into a targeting pod as a low cost CID discriminator.					
FY 2012 Base Plans:					

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011				
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: Noncooperative Identification Subsystems			
B. Accomplishments/Planned Programs (\$ in Millions)			FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Advanced Concepts: Will continue to focus on emerging technologies that could be installed into platforms like targeting pods and RPAs. FY 2012 OCO Plans:							
Title: Siren Description: Provides the demonstration and evaluation data necessary to support laser vibrometry into a targeting pod as a low cost CID discriminator. FY 2010 Accomplishments: Continued efforts to put laser vibrometry capability into a targeting pod. FY 2011 Plans: Continue efforts to put laser vibrometry capability into a targeting pod. FY 2012 Base Plans: Will continue efforts to put laser vibrometry capability into a targeting pod. FY 2012 OCO Plans:			1.300	1.208	2.553	-	2.553
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. FY 2010 Accomplishments: RV increment 5 combined stationary and moving target identification efforts. Synthetic Aperture Radar (SAR) transitioned to F-35. FY 2011 Plans: RV increment 5 efforts continue. FY 2012 Base Plans: RV increment 5 efforts will complete. FY 2012 OCO Plans:			9.993	11.315	6.857	-	6.857
Title: Hydra Vision			4.604	4.976	7.921	-	7.921

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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: Noncooperative Identification Subsystems		
B. Accomplishments/Planned Programs (\$ in Millions)						
		FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
<p>Description: Hydra Vision (Multi Sensor Enhanced ID; formerly Fusion Vision) a balanced (robust) amalgamation of sensor data from multiple sources to provide warfighters with higher confidence CID results on surface or air targets.</p> <p>FY 2010 Accomplishments: Air to air moved toward a laboratory demonstration and air to ground completed the studies of multiple sensor phenomenologies for high confidence CID.</p> <p>FY 2011 Plans: Air to air efforts demonstrate feature fusion as the air to ground efforts proceed toward demonstration / development.</p> <p>FY 2012 Base Plans: Air to air efforts will demonstrate feature fusion as the air to ground efforts will proceed toward demonstration / development.</p> <p>FY 2012 OCO Plans:</p>						
<p>Title: Studies</p> <p>Description: Conduct CID-related studies/demos and conferences.</p> <p>FY 2010 Accomplishments: AFIT CID studies. Studies were conducted in alternative signature techniques for JSSD.</p> <p>FY 2011 Plans: Continue AFIT CID related projects.</p> <p>FY 2012 Base Plans: AFIT will continue to encourage CID related studies.</p> <p>FY 2012 OCO Plans:</p>		0.325	0.368	0.246	-	0.246
<p>Title: X-Patch</p> <p>Description: X-Patch consists of software code refinement based on feedback from the X-Patch user community.</p>		3.190	3.178	3.168	-	3.168

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force				DATE: February 2011		
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: Noncooperative Identification Subsystems		
B. Accomplishments/Planned Programs (\$ in Millions)						
		FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
FY 2010 Accomplishments: Continued X-Patch RDT&E sustainment.						
FY 2011 Plans: Continue X-Patch RDT&E sustainment.						
FY 2012 Base Plans: Sustainment will continue for X-Patch RDT&E.						
FY 2012 OCO Plans:						
Title: Database Development Description: Establish and develop the Target Signature (multispectral) Database Development Program. FY 2010 Accomplishments: Completed incorporation of the analysis and database developed in prior years. FY 2011 Plans: FY 2012 Base Plans: FY 2012 OCO Plans:		0.259	-	-	-	-
Title: Digital IFF Control Panel Description: This program element is developing 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. FY 2010 Accomplishments: Developed the DCP in support of the Mode 5 TIP and ADS-B TIP programs FY 2011 Plans: FY 2012 Base Plans: FY 2012 OCO Plans:		0.770	-	-	-	-
Title: JCTI-AoA		1.400	1.600	-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force				DATE: February 2011			
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: Noncooperative Identification Subsystems			
B. Accomplishments/Planned Programs (\$ in Millions)			FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
<p>Description: Joint Cooperative target Identification - Ground (JCTI-G) Analysis of Alternatives (AoA). This is an OSD AT&L directed program for the services to conduct an AoA for Fires of Dismounts (FoD) and Air to Ground (A-G). The Air Force has agreed to lead the A-G portion of the AoA.</p> <p>FY 2010 Accomplishments: Provided funds to ACC/A8S in support of the AF portion of the JCTI-G AoA.</p> <p>FY 2011 Plans: Provide funds to ACC/A8S in support of AF portion of the JCTI-G AoA.</p> <p>FY 2012 Base Plans: Will stand up a Joint Program Office for A-G per JCTI-G ADM..</p> <p>FY 2012 OCO Plans:</p>							
<p>Title: ADS-B</p> <p>Description: Automatic Dependent Surveillance-Broadcast (ADS-B) TIP: This program element will fund preliminary RDT&E for integration of ADS-B architecture into the APX-119 Mark XIIA transponder. The ADS-B TIP will develop ADS-B "In" and "out" capability which leverages synergies between ADS-B and Mode 5 Level 2(M5L2) to achieve M5L2 "In" capability. The ADS-B TIP specifically addresses implementing air platforms.</p> <p>FY 2010 Accomplishments:</p> <p>FY 2011 Plans:</p> <p>FY 2012 Base Plans: ADS-B will be inserted into the APX-119 transponder as part of the ADS-B TIP Program.</p> <p>FY 2012 OCO Plans:</p>			-	-	14.434	-	14.434
Accomplishments/Planned Programs Subtotals			22.729	23.557	36.405	-	36.405
			FY 2010	FY 2011			
Congressional Add: Fast Steering Mirror			1.590	-			

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603742F: <i>Combat Identification Technology</i>	PROJECT 642597: <i>Noncooperative Identification Subsystems</i>
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	FY 2010	FY 2011
<i>FY 2010 Accomplishments:</i> Fast mirror technology was inserted into the Litening targeting pod.		
<i>FY 2011 Plans:</i> Finish the Fast Steering Mirror technology into the Northrop Litening pod.		
Congressional Adds Subtotals	1.590	-

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

<u>Line Item</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u> <u>Base</u>	<u>FY 2012</u> <u>OCO</u>	<u>FY 2012</u> <u>Total</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• N/A:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

D. Acquisition Strategy

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.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force										DATE: February 2011			
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: Noncooperative Identification Subsystems					
Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Radar Vision - Increment 5	C/CPFF	Raytheon Company:El Segundo, CA	27.059	3.442	Nov 2010	3.646	Nov 2011	-		3.646	Continuing	Continuing	TBD
Radar Vision - Denied Target	C/CPFF	Northrop Grumman:Linthicum Heights, MD	23.962	5.142	Nov 2010	5.827	Nov 2011	-		5.827	Continuing	Continuing	TBD
Laser Vision - LTIP	C/CPFF	Northrop Grumman:Rowling Meadows, IL	15.058	-		0.826	Nov 2011	-		0.826	Continuing	Continuing	TBD
Database Development	C/CPFF	SAIC:San Diego, CA	12.087	-		-		-		-	0.000	12.087	12.087
X-Patch	C/CPFF	SAIC:Mclean, VA	3.086	3.243	Nov 2010	3.133	Nov 2011	-		3.133	Continuing	Continuing	TBD
Hydra Vision - Air to Air	C/CPFF	General Dynamics:Beavercreek, OH	3.641	1.263	Dec 2010	0.830	Dec 2011	-		0.830	Continuing	Continuing	TBD
Compase Center - Evaluation	C/CPFF	Jacobs:Ft. Walton Beach, FL	5.937	0.570	Dec 2010	0.300	Dec 2011	-		0.300	Continuing	Continuing	TBD
SIREN & Litening Study	MIPR	AFRL/RYZ:Dayton, OH	2.424	1.208	Dec 2010	2.553	Dec 2011	-		2.553	Continuing	Continuing	TBD
MVDOG	MIPR	Sandia:Albuquerque, NM	4.467	1.790	Dec 2010	1.210	Dec 2011	-		1.210	Continuing	Continuing	TBD
Studies	MIPR	AFIT, NASIC:Dayton, OH	0.590	0.100	Dec 2010	0.100	Dec 2011	-		0.100	Continuing	Continuing	TBD
Hydra Vision	C/CPFF	Ball Aerospace:Boulder, CO	0.200	-		-		-		-	0.000	0.200	0.200
Hydra Vision - Air to Ground	C/CPFF	BAE Systems:Burlington, MA	0.350	-		-		-		-	0.000	0.350	0.350
Radar Vision	C/CPAF	McAulay Brown:Dayton, OH	0.209	-		-		-		-	0.000	0.209	0.209
Mode 5	C/CPFF	Raytheon:Baltimore, MD	2.066	0.300	Mar 2011	-		-		-	Continuing	Continuing	TBD
Automatic Dependent Surveillance-Broadcast (ADS-B)	TBD	TBD:TBD,	-	-		14.313	Dec 2011	-		14.313	Continuing	Continuing	TBD
Subtotal			101.136	17.058		32.738		-		32.738			

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force											DATE: February 2011			
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: Noncooperative Identification Subsystems						
Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
SPO support	Various	ESC HSJJ:Hanscom AFB, MA	4.543	0.358	Oct 2010	0.350	Oct 2011	-		0.350	Continuing	Continuing	TBD	
Air Force Research Laboratory	MIPR	AFRL:Dayton, OH	2.787	0.340	Oct 2010	0.340	Oct 2011	-		0.340	Continuing	Continuing	TBD	
Robins AFB (X-Patch)	MIPR	402 MXW/ OBWB:Robins AFB, GA	0.400	0.400	Oct 2010	0.400	Oct 2011	-		0.400	Continuing	Continuing	0.000	
Subtotal			7.730	1.098		1.090		-		1.090				
Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Radar Vision	MIPR	46th Test Wing:Eglin, FL	6.503	0.100	Jun 2011	0.100	Jun 2012	-		0.100	Continuing	Continuing	TBD	
Test Organizations	TBD	TBD:TBD,	-	0.200	Jan 2011	0.200	Jan 2012	-		0.200	Continuing	Continuing	TBD	
MSIC/AMRDEC/RTTC	MIPR	MSIC/AMRDEC/ RTTC:Redstone Arsenal, AL	2.066	0.300	Apr 2011	0.100	Apr 2012	-		0.100	Continuing	Continuing	TBD	
Subtotal			8.569	0.600		0.400		-		0.400				
Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Program Office	Various	Jacobs, Odyssey, MITRE:Hanscom AFB, MA	15.135	2.042	Oct 2010	1.858	Sep 2011	-		1.858	Continuing	Continuing	TBD	
Air Force Research Labratory	Various	SAIC:San Diego, CA	1.950	0.310	Dec 2010	0.319	Dec 2011	-		0.319	Continuing	Continuing	TBD	
JCTI-AoA	MIPR	Booze Allen:MccLean, VA	1.400	2.449	Feb 2011	-		-		-	0.000	3.849	3.849	
Subtotal			18.485	4.801		2.177		-		2.177				

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force									DATE: February 2011					
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: Noncooperative Identification Subsystems						
				Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals				135.920	23.557		36.405		-		36.405			

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

3600: Research, Development, Test & Evaluation, Air Force
BA 4: Advanced Component Development & Prototypes (ACD&P)

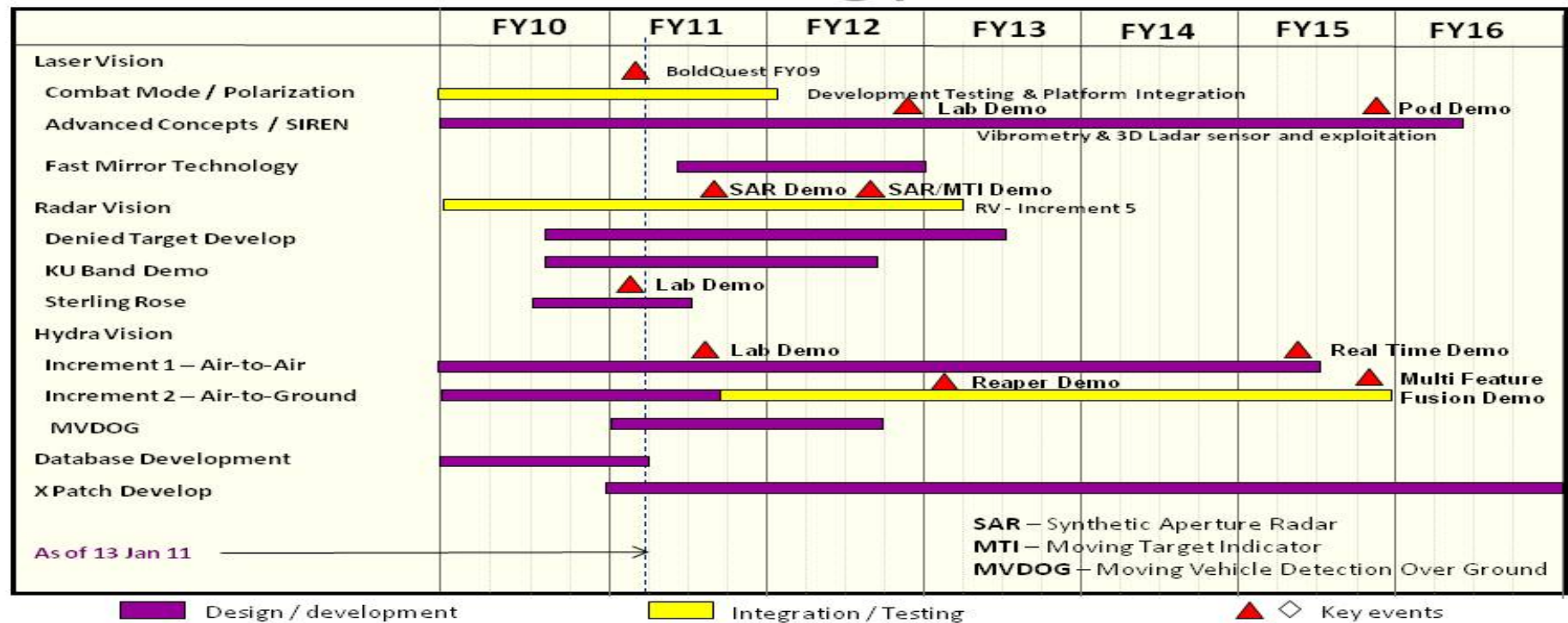
R-1 ITEM NOMENCLATURE

PE 0603742F: Combat Identification
Technology

PROJECT

642597: Noncooperative Identification
Subsystems

Non-Cooperative CID Technology Schedule



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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603742F: <i>Combat Identification Technology</i>	PROJECT 642597: <i>Noncooperative Identification Subsystems</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
LASER VISION - Combat Mode / EO Polarization	1	2010	1	2012
LASER VISION - Advanced Concepts / Siren	1	2010	2	2016
LASER VISION - Fast Mirror Technology Insertion	2	2011	4	2012
RADAR VISION - Radar Vision Spiral 5	1	2010	1	2013
RADAR VISION - Denied Target Development	3	2010	3	2013
RADAR VISION - Ku-Band Demonstration	3	2010	3	2012
RADAR VISION - Sterling Rose (formally Black Rose)	3	2010	3	2011
Hydra VISION - Spiral 1 - Air-toAir	1	2010	3	2015
Hydra VISION - Spiral 2 - Air-to-Ground	1	2010	4	2015
Hydra VISION - MVDOG	4	2010	3	2012
Database Development	1	2010	1	2011
X-Patch Development	1	2011	4	2016

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force									DATE: February 2011		
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			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
642599: Cooperative Identification Techniques	3.531	2.615	2.091	-	2.091	1.847	1.874	1.899	1.932	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

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 identifying 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 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): The program element 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 implementing air platforms. (2) Automatic Dependent Surveillance-Broadcast (ADS-B) TIP: This program element will fund preliminary RDT&E for integration of ADS-B architecture into the APX-119 Mark XIIA transponder. The ADS-B TIP will develop ADS-B "In" and "out" capability which leverages synergies between ADS-B and Mode 5 Level 2 (M5L2) to achieve M5L2 "In" capability. The ADS-B TIP specifically addresses implementing air platforms. (3) Digital IFF Control Panel: This program element is developing 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.

Joint Cooperative Target Identification – Ground (JCTI-G) Analysis of Alternatives (AoA). This is an OSD AT&L directed program for the services. The Army will lead the Fires on Dismount (FoD) portion and the USAF will lead the Air to Ground (A-G) portion. The Army and USAF are negotiating an MOA for the stand up of a Joint Program Office (JPO).

Within the air-to-ground domain, development funded by this program element ensures development, integration, test and evaluation of friendly identification systems focused on reducing air-to-ground fratricide. Programs funded to meet this intent include: (1) 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 and (2) Laser Frequency Responsive Tape: A low cost, un- powered passive device to aid in the detection of friendly ground forces via airborne electro-optical sensors.

This program element also funds the Air Traffic Control Radar Beacon Systems Identification Friend or Foe Mark XII/XIIA System (AIMS) Program Office. The DoD International AIMS PO has system level interoperability management responsibilities for the present Mark XII system, development and integration of Mark XIIA (Mode 5) and transition to Mark XIIA Mode S systems.

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011			
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		
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 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
<p>Title: Mode 5 Technology Insertion Program</p> <p>Description: Continue the Mode 5 upgrade to the APX-119 transponder, the APX-114 interrogator, and the APX-113 Combined Interrogator/Transponder (CIT).</p> <p>FY 2010 Accomplishments: Completed the testing and certification of the APX-119 and APX-114 and continued with aircraft integration support.</p> <p>FY 2011 Plans: Complete the testing and certification of the APX-113 and continue with aircraft integration support.</p> <p>FY 2012 Base Plans:</p> <p>FY 2012 OCO Plans:</p>		2.101	0.733	-	-	-
<p>Title: Radio Based Combat Identification</p> <p>Description: Radio Based Combat Identification (RBCI) Technology Insertion Program (TIP): 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.</p> <p>FY 2010 Accomplishments: RBCI flew in the Northrop Grumman Litening pod in BoldQuest 09</p> <p>FY 2011 Plans: RBCI is inserted in the Lockheed Martin sniper pod as a demonstration of RBCI in the predominant USAF targeting pod.</p> <p>FY 2012 Base Plans:</p> <p>FY 2012 OCO Plans:</p>		0.100	0.100	-	-	-
<p>Title: AIMS Program Office</p> <p>Description: Fund Air Traffic Control Radar Beacon Systems Identification Friend or Foe Mark XIIA System (AIMS)Program Office. The DoD International AIMS PO has system level interoperability management</p>		1.330	1.782	2.091	-	2.091

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force						DATE: February 2011					
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>				R-1 ITEM NOMENCLATURE PE 0603742F: <i>Combat Identification Technology</i>				PROJECT 642599: <i>Cooperative Identification Techniques</i>			
B. Accomplishments/Planned Programs (\$ in Millions)						FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	
responsibilities for the present Mark XII system, development and integration of Mark XIIA (Mode 5) and transition to Mark XIIA Mode S systems.											
<i>FY 2010 Accomplishments:</i> Continued to fund AIMS for interoperability testing, FAA liason, and support of Mode 4 / Mode 5 equipment.											
<i>FY 2011 Plans:</i> Continue to fund AIMS for interoperability testing, FAA liason, and support of Mode 4 / Mode 5 equipment.											
<i>FY 2012 Base Plans:</i> Will continue to fund AIMS for interoperability testing, FAA liason, and support of Mode 4 / Mode 5 equipment.											
<i>FY 2012 OCO Plans:</i>											
Accomplishments/Planned Programs Subtotals						3.531	2.615	2.091	-	2.091	
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• N/A:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
D. Acquisition Strategy 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.											

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force										DATE: February 2011			
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)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Mode 5	C/CPFF	Raytheon:Baltimore, MD	19.706	0.133	Dec 2010	-		-		-	Continuing	Continuing	TBD
Mode 5 Insertion Program	C/CPFF	BAE:Greenlawn, NY	10.956	0.700	Mar 2011	-		-		-	Continuing	Continuing	TBD
Subtotal			30.662	0.833		-		-		-			
Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-	0.000	0.000	0.000
Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-	0.000	0.000	0.000
Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Systems Engineering/Program Management (AIMS PO)AF 616	C/FFP	WRALC/ENT:Robins AFB, GA	3.390	1.782	Nov 2010	2.091	Nov 2011	-		2.091	Continuing	Continuing	TBD
Subtotal			3.390	1.782		2.091		-		2.091			
			Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			34.052	2.615		2.091		-		2.091			

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force						DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>			R-1 ITEM NOMENCLATURE PE 0603742F: <i>Combat Identification Technology</i>			PROJECT 642599: <i>Cooperative Identification Techniques</i>			
	Total Prior Years Cost	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract	
Remarks									

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

3600: Research, Development, Test & Evaluation, Air Force
BA 4: Advanced Component Development & Prototypes (ACD&P)

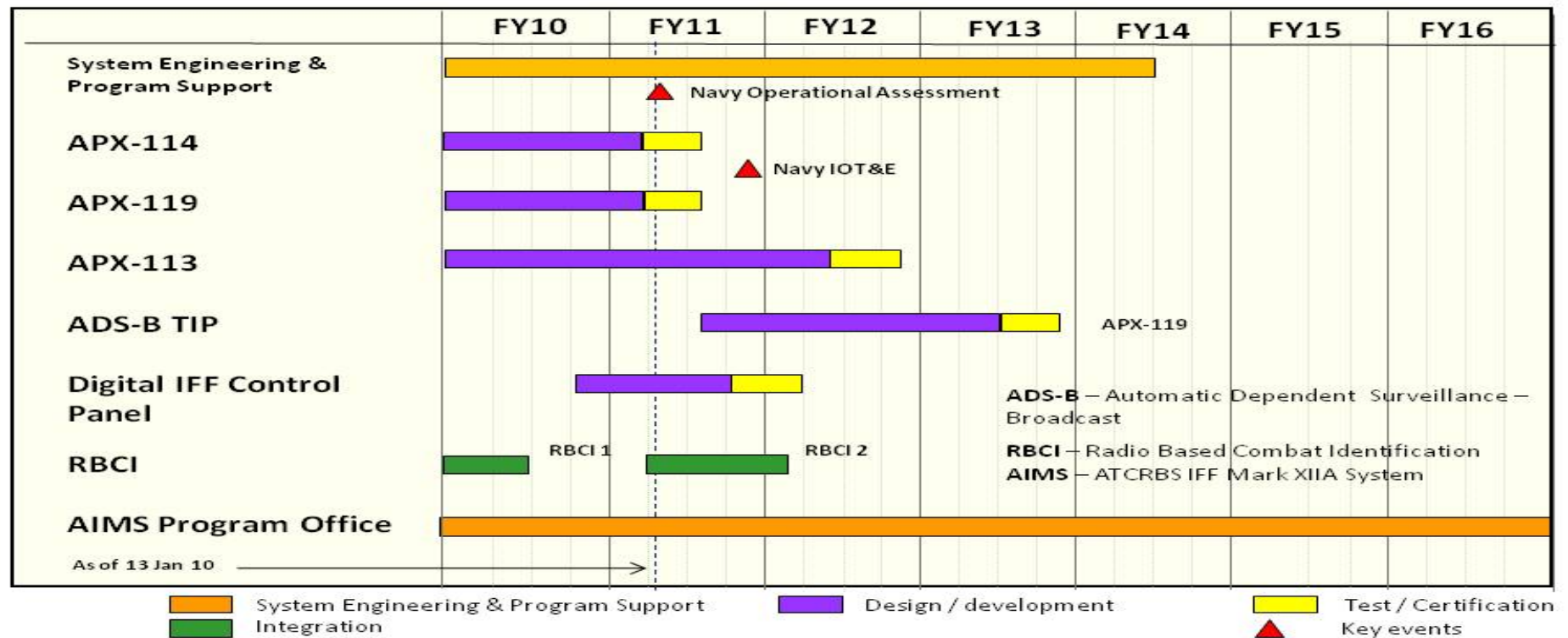
R-1 ITEM NOMENCLATURE

PE 0603742F: Combat Identification Technology

PROJECT

642599: Cooperative Identification Techniques

Cooperative CID Technology Schedule



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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603742F: <i>Combat Identification Technology</i>	PROJECT 642599: <i>Cooperative Identification Techniques</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Mode 5 System Engineering and Program Support	1	2010	2	2014
Mode 5 TIP (APX-114 Design Development / AIMS Certification)	1	2010	3	2011
Mode 5 TIP (APX-119 Design Development / AIMS Certification)	1	2010	3	2011
Mode 5 TIP (APX-113 Design Development / AIMS Certification)	1	2011	4	2012
ADS-B TIP (APX-119 Design Development)	3	2011	4	2013
Digital IFF Control Panel	4	2010	1	2012
A-G Cooperative ID (RBCI 1 Integration/Demo)	1	2010	2	2010
A-G Cooperative ID (RBCI 2 Integration/Demo)	2	2011	1	2012
AIMS Program Office Support	1	2010	4	2016

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE							
3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>				PE 0603790F: <i>NATO Cooperative R&D</i>							
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	4.243	4.372	4.424	-	4.424	4.499	4.568	4.633	4.715	Continuing	Continuing
64NATO: <i>Nato Coop R&D</i>	4.243	4.372	4.424	-	4.424	4.499	4.568	4.633	4.715	Continuing	Continuing

A. Mission Description and Budget Item Justification

These funds will be used to help implement international cooperative research, development, and acquisition (ICRD&A) agreements with North Atlantic Treaty Organization (NATO) member states, major non-NATO allies and friendly foreign countries. The program implements the provisions of Title 10 U.S. Code, Section 2350a on NATO Cooperative Research and Development (R&D). The program was established to improve cooperation among NATO nations, and later major non-NATO allies, in research, development, and acquisition. The legislation authorized funds to significantly improve United States (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. The program will be reported as required by Title 10 U.S. Code, Section 2350a(f). This program element funds the implementation of Air Force ICRD&A 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 ICRD&A 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.

B. Program Change Summary (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	4.351	4.372	4.439	-	4.439
Current President's Budget	4.243	4.372	4.424	-	4.424
Total Adjustments	-0.108	-	-0.015	-	-0.015
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-0.108	-	-0.015	-	-0.015

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force								DATE: February 2011				
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 Cooperative R&D				PROJECT 64NATO: Nato Coop R&D				
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost	
64NATO: Nato Coop R&D	4.243	4.372	4.424	-	4.424	4.499	4.568	4.633	4.715	Continuing	Continuing	
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0			
A. Mission Description and Budget Item Justification												
These funds will be used to help implement international cooperative research, development, and acquisition (ICRD&A) agreements with North Atlantic Treaty Organization (NATO) member states, major non-NATO allies and friendly foreign countries. The program implements the provisions of Title 10 U.S. Code, Section 2350a on NATO Cooperative Research and Development (R&D). The program was established to improve cooperation among NATO nations, and later major non-NATO allies, in research, development, and acquisition. The legislation authorized funds to significantly improve United States (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. The program will be reported as required by Title 10 U.S. Code, Section 2350a(f). This program element funds the implementation of Air Force ICRD&A 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 ICRD&A 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.												
B. Accomplishments/Planned Programs (\$ in Millions)								FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: Development of Animal Models to Assess the Inhalation Exposure of Engineered Nanomaterials (AFRL and Australia) Description: Development of Animal Models to Assess the Inhalation Exposure of Engineered Nanomaterials (AFRL and Australia). FY 2010 Accomplishments: Continue cooperative project to research in vivo animal research in Australia with in vitro nanotoxicology research at AFRL to address the critical lack of existing knowledge concerning potential adverse biologic/toxic effects of nanomaterials. FY 2011 Plans: FY 2012 Base Plans: FY 2012 OCO Plans:								0.100	-	-	-	-
								Title: Modulation of Immune Response by Inhaled Engineered Nanoparticles (AFRL and Sweden)				
								0.100	-	-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force				DATE: February 2011	
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 Cooperative R&D		PROJECT 64NATO: Nato Coop R&D	
B. Accomplishments/Planned Programs (\$ in Millions)					
	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Description: Modulation of Immune Response by Inhaled Engineered Nanoparticles (AFRL and Sweden).					
FY 2010 Accomplishments: Continue cooperative project to research in vivo animal research in Sweden with in vitro nanotoxicology research at AFRL addressing the critical lack of existing knowledge concerning potential adverse biologic/toxic effects of nanomaterials.					
FY 2011 Plans:					
FY 2012 Base Plans:					
FY 2012 OCO Plans:					
Title: Image Gyro (AFRL and Japan)					
Description: Image Gyro (AFRL and Japan). Cooperative project to develop a new image-based motion sensor known as the "Image Gyro".					
FY 2010 Accomplishments: Continue the Image Gyro will be a low-cost, lightweight and highly accurate device that will achieve equivalent or higher precision drift free capabilities than that of today's accurate and more expensive inertial navigation systems. In addition to GPS free precision navigation, the Image Gyro will provide capabilities such as: passive moving target indication (MTI), 3D scene reconstruction (3D structure from motion), obstacle/collision avoidance, and automatic target recognition.					
FY 2011 Plans: Continue the Image Gyro will be a low-cost, lightweight and highly accurate device that will achieve equivalent or higher precision drift free capabilities than that of today's accurate and more expensive inertial navigation systems. In addition to GPS free precision navigation, the Image Gyro will provide capabilities such as: passive moving target indication (MTI), 3D scene reconstruction (3D structure from motion), obstacle/collision avoidance, and automatic target recognition.					
FY 2012 Base Plans:					
FY 2012 OCO Plans:					
Title: Durability Assessment and Probabilistic Life Prediction of Titanium Alloys (AFRL and India)					

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force				DATE: February 2011		
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 Cooperative R&D		PROJECT 64NATO: Nato Coop R&D		
B. Accomplishments/Planned Programs (\$ in Millions)						
		FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
<p>Description: Durability Assessment and Probabilistic Life Prediction of Titanium Alloys (AFRL and India).</p> <p>FY 2010 Accomplishments: Continue cooperative project to research technical areas as related to titanium alloys: (1) Fundamental information on the microstructure of titanium alloys as affected by the conditions of their fabrication and their composition to include simulation and modeling to allow prediction of their properties. (2) Methods for life prediction of titanium alloys in service as a function of exposure conditions and fatigue, fracture and damage models in order to fully utilize those alloys for aeronautical structures and components.</p> <p>FY 2011 Plans: Continue cooperative project to research technical areas as related to titanium alloys: (1) Fundamental information on the microstructure of titanium alloys as affected by the conditions of their fabrication and their composition to include simulation and modeling to allow prediction of their properties. (2) Methods for life prediction of titanium alloys in service as a function of exposure conditions and fatigue, fracture and damage models in order to fully utilize those alloys for aeronautical structures and components.</p> <p>FY 2012 Base Plans:</p> <p>FY 2012 OCO Plans:</p>						
<p>Title: Aging Systems Materials and Process Technologies (AFRL and Australia)</p> <p>Description: Aging Systems Materials and Process Technologies (AFRL and Australia).</p> <p>FY 2010 Accomplishments: Continue cooperative project to develop and/or optimize techniques aimed at improving aircraft structural and electrical integrity. When implemented, these techniques will reduce life-cycle costs associated with legacy, emerging, and future aircraft as well as improve aircraft availability and safety. Project focus will be on bonded joints and aircraft wiring.</p> <p>FY 2011 Plans: Continue cooperative project to develop and/or optimize techniques aimed at improving aircraft structural and electrical integrity. When implemented, these techniques will reduce life-cycle costs associated with legacy,</p>		0.100	0.050	-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011		
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 Cooperative R&D	PROJECT 64NATO: Nato Coop R&D			
B. Accomplishments/Planned Programs (\$ in Millions)					
	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
emerging, and future aircraft as well as improve aircraft availability and safety. Project focus will be on bonded joints and aircraft wiring. FY 2012 Base Plans: FY 2012 OCO Plans:					
Title: Military Aircraft Survivability Through Improved Composite Structures (USAF 46th Test Wing and Germany) Description: Military Aircraft Survivability Through Improved Composite Structures (USAF 46th Test Wing and Germany). FY 2010 Accomplishments: Continue cooperative project will assess: the degradation of composite mechanical properties caused by brief fuel fires (e.g., aircraft dry-bay fires sustained during combat that are extinguished within seconds of initiation) and the damage resistance of aircraft skin-spar joints when subjected to high strain rate loading conditions. FY 2011 Plans: FY 2012 Base Plans: FY 2012 OCO Plans:	0.376	-	-	-	-
Title: Flapping Wing Micro Air Vehicle Collaborative Development (AFRL and Korea) Description: Flapping Wing Micro Air Vehicle Collaborative Development (AFRL and Korea). FY 2010 Accomplishments: Cooperative project to design, develop and test a prototype micro air vehicle. FY 2011 Plans: Continue cooperative project to design, develop and test a prototype micro air vehicle. FY 2012 Base Plans: FY 2012 OCO Plans:	0.300	0.100	-	-	-
Title: Ultrahigh Temperature Ceramics (AFRL and UK)	0.300	0.250	-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011			
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 Cooperative R&D	PROJECT 64NATO: Nato Coop R&D				
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Description: Ultrahigh Temperature Ceramics (AFRL and UK). FY 2010 Accomplishments: Cooperative project to accelerate understanding and development of ultrahigh temperature ceramic materials for system transition. FY 2011 Plans: Continue cooperative project to accelerate understanding and development of ultrahigh temperature ceramic materials for system transition. FY 2012 Base Plans: FY 2012 OCO Plans:						
Title: Compact Penetrating Weapons for the Defeat of Hardened Targets (AFRL - UK) Description: Compact Penetrating Weapons for the Defeat of Hardened Targets (AFRL - UK). FY 2010 Accomplishments: Cooperative project to improve maximum penetration and lethal effectiveness capability in weapons for use with advanced fighter aircraft and other aircraft. FY 2011 Plans: Cooperative project to improve maximum penetration and lethal effectiveness capability in weapons for use with advanced fighter aircraft and other aircraft. FY 2012 Base Plans: FY 2012 OCO Plans:		0.300	0.400	-	-	-
Title: Dynamic Network Visualization Techniques for Cyberspace (AFRL - Singapore) Description: Dynamic Network Visualization Techniques for Cyberspace (AFRL - Singapore). FY 2010 Accomplishments: Cooperative project to develop visualization and interaction techniques for showing dynamic network information for cyberspace operations. FY 2011 Plans:		0.300	0.400	-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011			
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 Cooperative R&D	PROJECT 64NATO: Nato Coop R&D				
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Cooperative project to develop visualization and interaction techniques for showing dynamic network information for cyberspace operations. FY 2012 Base Plans: FY 2012 OCO Plans:						
Title: Assessment of Military Operations in Urban Terrain (AFRL - Germany) Description: Assessment of Military Operations in Urban Terrain (AFRL - Germany). FY 2010 Accomplishments: Cooperative project to investigate the lethality of an array of munitions against military operations against urban terrain targets. FY 2011 Plans: Cooperative project to investigate the lethality of an array of munitions against military operations against urban terrain targets. FY 2012 Base Plans: FY 2012 OCO Plans:		0.300	0.300	-	-	-
Title: Thermal Barrier Coating Health and Turbine Temperature Sensing (AFRL and UK). Description: Thermal Barrier Coating Health and Turbine Temperature Sensing (AFRL and UK). FY 2010 Accomplishments: Cooperative project to test thermal barrier coating in suitable environments where common nomenclature, test specification, data format, standardization, and interoperability can be established. FY 2011 Plans: Cooperative project to test thermal barrier coating in suitable environments where common nomenclature, test specification, data format, standardization, and interoperability can be established. FY 2012 Base Plans: FY 2012 OCO Plans:		0.300	0.350	-	-	-
Title: Efficacy of Vibrotactile Stimulation in Simulated Operational Conditions (AFRL and The Netherlands)		0.300	-	-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force				DATE: February 2011	
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 Cooperative R&D		PROJECT 64NATO: Nato Coop R&D	
B. Accomplishments/Planned Programs (\$ in Millions)					
	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Description: Efficacy of Vibrotactile Stimulation in Simulated Operational Conditions (AFRL and The Netherlands). FY 2010 Accomplishments: Cooperative project to validate the efficacy of a vibrotactile landing aid for helicopter pilots under simulated operational conditions, i.e. after prolonged time-on-task and wearing full garment in a warm environment. FY 2011 Plans: FY 2012 Base Plans: FY 2012 OCO Plans:					
Title: Next Generation Advanced Composite Processing Science (AFRL and Canada) Description: Next Generation Advanced Composite Processing Science (AFRL and Canada). FY 2010 Accomplishments: Cooperative project to develop and validate the next generation process models to aid in the manufacturing of advanced polymer matrix composite and hybrid materials in an effort to maximize their affordable and efficient use for aerospace applications. FY 2011 Plans: Cooperative project to develop and validate the next generation process models to aid in the manufacturing of advanced polymer matrix composite and hybrid materials in an effort to maximize their affordable and efficient use for aerospace applications. FY 2012 Base Plans: FY 2012 OCO Plans:		0.300	0.050	-	-
Title: Command and Control Interoperability Program (AFRL and UK) Description: Command and Control Interoperability Program (AFRL and UK). FY 2010 Accomplishments:		0.617	0.300	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011		
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 Cooperative R&D		PROJECT 64NATO: Nato Coop R&D	
B. Accomplishments/Planned Programs (\$ in Millions)					
	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Cooperative project to develop, experiment, demonstrate and provide a report into a capability to effectively, efficiently and seamlessly exchange space planning, replanning and information products between and amongst coalition warfighters. FY 2011 Plans: Cooperative project to develop, experiment, demonstrate and provide a report into a capability to effectively, efficiently and seamlessly exchange space planning, replanning and information products between and amongst coalition warfighters. FY 2012 Base Plans: FY 2012 OCO Plans:					
Title: Machine Translation for International Security Assistance Force (711 HPW/RHX). Description: Machine Translation for International Security Assistance Force (711 HPW/RHX). FY 2010 Accomplishments: FY 2011 Plans: Cooperative project to build prototype machine translation system for English and German to Dari to support coalition operations in Afghanistan. FY 2012 Base Plans: Continuation of cooperative project to build prototype machine translation system for English and German to Dari to support coalition operations in Afghanistan. FY 2012 OCO Plans:	-	0.100	0.100	-	0.100
Title: Live, Virtual and Constructive Immersive Decision Making Environments (711 HPW/RHA and Canada) Description: Live, Virtual and Constructive Immersive Decision Making Environments (711 HPW/RHA and Canada). FY 2010 Accomplishments: FY 2011 Plans:	-	0.300	0.300	-	0.300

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011			
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 Cooperative R&D	PROJECT 64NATO: Nato Coop R&D				
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Cooperative project to significantly improve cost and effectiveness of LVC technology, focusing on UAV, Homeland Defense and Electronic Warfare training, rehearsal and advanced threat modeling. FY 2012 Base Plans: Continuation of cooperative project to significantly improve cost and effectiveness of LVC technology, focusing on UAV, Homeland Defense and Electronic Warfare training, rehearsal and advanced threat modeling. FY 2012 OCO Plans:						
Title: Robust Solid State Materials for Optical Sensors Protection (AFRL and Sweden) Description: Robust Solid State Materials for Optical Sensors Protection (AFRL and Sweden). FY 2010 Accomplishments: FY 2011 Plans: Cooperative project will develop solid state glassy solids for sensor protection against threat pulsed laser radiation. Will measure limiting performance by a battery of characterization techniques and deliver a series of solids to be placed in optical system platforms. FY 2012 Base Plans: Continuation of cooperative project will develop solid state glassy solids for sensor protection against threat pulsed laser radiation. Will measure limiting performance by a battery of characterization techniques and deliver a series of solids to be placed in optical system platforms. FY 2012 OCO Plans:		-	0.200	0.200	-	0.200
Title: Common Coalition Airborne Access Portal (551 ELSW and NATO). Description: Common Coalition Airborne Access Portal (551 ELSW and NATO). FY 2010 Accomplishments: FY 2011 Plans: Cooperative project will connect US/European lab sites and airborne IP networks via a common access portal that provides interoperability and mulitnational security. FY 2012 Base Plans:		-	0.295	0.400	-	0.400

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011			
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 Cooperative R&D	PROJECT 64NATO: Nato Coop R&D				
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Continuation of cooperative project will connect US/European lab sites and airborne IP networks via a common access portal that provides interoperability and mulitnational security. FY 2012 OCO Plans:						
Title: Radio Frequency (RF) Modeling and Simulation Experimentation for Distributed Electronic Warfare, Situational Awareness and Response (DEWSAR) Project (AFRL/RY and Australia) Description: Radio Frequency (RF) Modeling and Simulation Experimentation for Distributed Electronic Warfare, Situational Awareness and Response (DEWSAR) Project (AFRL/RY and Australia). FY 2010 Accomplishments: FY 2011 Plans: Cooperative project will evaluate distributed electronic support and electronic attack architectures. FY 2012 Base Plans: Continuation of cooperative project will evaluate distributed electronic support and electronic attack architectures. FY 2012 OCO Plans:		-	0.294	0.400	-	0.400
Title: Advanced Ladar Imaging Analysis System (AFRL and France) Description: Advanced Ladar Imaging Analysis System (AFRL and France). FY 2010 Accomplishments: FY 2011 Plans: Cooperative project will develop techniques for enhanced imaging for combat identification. The effort will focus on the development, test and evaluation of algorithms for 3-D laser, advanced ladar modes and coherent aperture synthesis. FY 2012 Base Plans: Continuation of cooperative project will develop techniques for enhanced imaging for combat identification. The effort will focus on the development, test and evaluation of algorithms for 3-D laser, advanced ladar modes and coherent aperture synthesis. FY 2012 OCO Plans:		-	0.150	0.150	-	0.150

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011			
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 Cooperative R&D	PROJECT 64NATO: Nato Coop R&D				
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: Molecular Basis of Stress Responses Using In Vitro Neuronal Models (AFRL and India) Description: Molecular Basis of Stress Responses Using In Vitro Neuronal Models (AFRL and India). FY 2010 Accomplishments: FY 2011 Plans: Cooperative project will enhance warfighter performance optimization through the controlling and monitoring of molecular analytes corresponding to cognitive function and its stressors. FY 2012 Base Plans: Continuation of cooperative project will enhance warfighter performance optimization through the controlling and monitoring of molecular analytes corresponding to cognitive function and its stressors. FY 2012 OCO Plans:		-	0.050	0.050	-	0.050
Title: Synthesis, Formulation and Characterization of Structural Nano-Energetics (AFRL and Singapore) Description: Synthesis, Formulation and Characterization of Structural Nano-Energetics (AFRL and Singapore). FY 2010 Accomplishments: FY 2011 Plans: Cooperative project will develop structural nano-energetic material to transition for replacement of current structural components on micro-munitions and UAVs and enhanced blast effects. FY 2012 Base Plans: Continuation of cooperative project will develop structural nano-energetic material to transition for replacement of current structural components on micro-munitions and UAVs and enhanced blast effects. FY 2012 OCO Plans:		-	0.300	0.400	-	0.400
Title: Monitoring and Controlling Multiple Assets Within Complex Environments (AFRL, Australia and UK) Description: Cooperative project to design, develop, and evaluate new methods of visualizing the operational environment and controlling sensor inputs leveraging automation where best applicable. FY 2010 Accomplishments: FY 2011 Plans:		-	-	0.200	-	0.200

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011			
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 Cooperative R&D	PROJECT 64NATO: Nato Coop R&D				
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
FY 2012 Base Plans: Cooperative project to design, develop, and evaluate new methods of visualizing the operational environment and controlling sensor inputs leveraging automation where best applicable.						
FY 2012 OCO Plans: Title: Closed Loop Alternative Navigation Demonstration (AFRL and Australia) Description: Cooperative project to develop an integrated estimation and control vision based navigation system and integrate the closed-loop vision-based navigation system into an unmanned aerial vehicle (UAV).		-	-	0.200	-	0.200
FY 2010 Accomplishments: FY 2011 Plans: FY 2012 Base Plans: Cooperative project to develop an integrated estimation and control vision based navigation system and integrate the closed-loop vision-based navigation system into an unmanned aerial vehicle (UAV).						
FY 2012 OCO Plans: Title: Joint and Coalition Training, Rehearsal, and Exercise Research (AFRL and Australia, Canada, New Zealand, and UK) Description: Cooperative project to enhance technologies, processes, and strategies for routing, persistent, and seamless Live, Virtual, and Constructive (LVC) simulations, and distributed, collaborative methods for joint and coalition training		-	-	0.250	-	0.250
FY 2010 Accomplishments: FY 2011 Plans: FY 2012 Base Plans: Cooperative project to enhance technologies, processes, and strategies for routing, persistent, and seamless Live, Virtual, and Constructive (LVC) simulations, and distributed, collaborative methods for joint and coalition training						
FY 2012 OCO Plans: Title: Life Prediction for Metallic Aircraft Structure (AFRL and France)		-	-	0.300	-	0.300

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011			
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 Cooperative R&D		PROJECT 64NATO: Nato Coop R&D		
B. Accomplishments/Planned Programs (\$ in Millions)						
		FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Description: Cooperative project to develop and demonstrate state-of-the-art life prediction approaches suitable for use in aging aircraft applications allowing for more effective system sustainment leading to improved asset availability, reduced maintenance and manpower requirements, and the elimination of technical surprise driven by unanticipated structural deficiencies.						
FY 2010 Accomplishments:						
FY 2011 Plans:						
FY 2012 Base Plans: Cooperative project to develop and demonstrate state-of-the-art life prediction approaches suitable for use in aging aircraft applications allowing for more effective system sustainment leading to improved asset availability, reduced maintenance and manpower requirements, and the elimination of technical surprise driven by unanticipated structural deficiencies.						
FY 2012 OCO Plans:						
Title: Aero Advisory and NOTAMS tools (AMC and Canada)		-	-	0.250	-	0.250
Description: Cooperative project to provide the ability to visualize airspace advisories in tabular or graphic format relevant to route of flight for mission planning purposes.						
FY 2010 Accomplishments:						
FY 2011 Plans:						
FY 2012 Base Plans: Cooperative project to provide the ability to visualize airspace advisories in tabular or graphic format relevant to route of flight for mission planning purposes.						
FY 2012 OCO Plans:						
Title: Cultural Radar for Human Terrain Effects (AFRL and Canada)		-	-	0.100	-	0.100
Description: Cooperative project to develop mathematical/computational models of information diffusion to characterize how information flows through a population with various types of connectivity, communication patterns, and population characteristics.						

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force				DATE: February 2011	
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 Cooperative R&D		PROJECT 64NATO: Nato Coop R&D	
B. Accomplishments/Planned Programs (\$ in Millions)					
	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
FY 2010 Accomplishments: FY 2011 Plans: FY 2012 Base Plans: Cooperative project to develop mathematical/computational models of information diffusion to characterize how information flows through a population with various types of connectivity, communication patterns, and population characteristics. FY 2012 OCO Plans:					
Title: Computational Multi-Scale Modeling of Explosives (AFRL and Germany) Description: Cooperative project to develop techniques to incorporate grain level damage mechanisms into modeling the thermo-mechanical behavior of explosive composites. FY 2010 Accomplishments: FY 2011 Plans: FY 2012 Base Plans: Cooperative project to develop techniques to incorporate grain level damage mechanisms into modeling the thermo-mechanical behavior of explosive composites. FY 2012 OCO Plans:					
	-	-	0.390	-	0.390
Title: High Speed Penetrator Cases (AFRL and Germany) Description: Cooperative project to investigate High Speed Penetrators to determine the best means to defeat Hard and Deeply Buried Targets (HDBTs), develop and/or validate modeling and simulation tools for the analysis of weapons concepts and issues appropriate for HDBTs, and conduct research to address new warhead technologies to yield performance enhancements to warheads for penetration and survivability. FY 2010 Accomplishments: FY 2011 Plans: FY 2012 Base Plans:					
	-	-	0.435	-	0.435

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force							DATE: February 2011				
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 Cooperative R&D			PROJECT 64NATO: Nato Coop R&D					
B. Accomplishments/Planned Programs (\$ in Millions)							FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Cooperative project to investigate High Speed Penetrators to determine the best means to defeat Hard and Deeply Buried Targets (HDBTs), develop and/or validate modeling and simulation tools for the analysis of weapons concepts and issues appropriate for HDBTs, and conduct research to address new warhead technologies to yield performance enhancements to warheads for penetration and survivability. FY 2012 OCO Plans:											
Title: Team Based Metric Development in Distributed Net-Centric Operations (AFRL and UK Description: Cooperative project to develop conceptual software applications which would allow the monitoring, management, and mitigation of distributed team workload and situational awareness. FY 2010 Accomplishments: FY 2011 Plans: FY 2012 Base Plans: Cooperative project to develop conceptual software applications which would allow the monitoring, management, and mitigation of distributed team workload and situational awareness. FY 2012 OCO Plans:							-	-	0.299	-	0.299
Accomplishments/Planned Programs Subtotals							4.243	4.372	4.424	-	4.424
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• N/A: Not Applicable.	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
D. 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 conventional defense R&D. This program element provides the critical funding incentive needed to pursue 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 and approved by the USD(AT&L). 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											

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force

DATE: February 2011

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 Cooperative R&D

PROJECT

64NATO: *Nato Coop R&D*

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.

E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air 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-3, RDT&E Project Cost Analysis: PB 2012 Air Force											DATE: February 2011			
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 Cooperative R&D				PROJECT 64NATO: Nato Coop R&D						
Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Subtotal			-	-		-		-		-	0.000	0.000	0.000	
Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
AFRL/RV	Various	AFRL/RV:Hanscom AFB, MA	0.100	-		-		-		-	0.000	0.100	0.000	
AFRL/RW	Various	AFRL/RW:Eglin AFB, FL	0.400	0.800	Dec 2010	0.900	Feb 2011	-		0.900	0.000	2.100	0.000	
ESC - Hanscom	Various	ESC:Hanscom AFB, MA	0.400	0.600	Dec 2010	0.450	Feb 2011	-		0.450	0.000	1.450	0.000	
AFRL/RZ	Various	AFRL/RZ:Edwards AFB, CA	0.400	-		0.108	Feb 2011	-		0.108	0.000	0.508	0.000	
46 TW	Various	46TW:Eglin AFB, FL	0.300	0.100	Dec 2010	0.150	Feb 2011	-		0.150	0.000	0.550	0.000	
AFRL/RX	Various	AFRL/RX:Tyndall AFB, FL	0.400	0.300	Dec 2010	0.325	Feb 2011	-		0.325	0.000	1.025	0.000	
AFRL/RH	Various	AFRL/RH:Mesa, AZ	0.400	-		0.720	Feb 2011	-		0.720	0.000	1.120	0.000	
AFRL/RY	Various	AFRL/RY:Rome, NY	0.400	0.100	Dec 2010	-		-		-	0.000	0.500	0.000	
AFRL/ML	Various	AFRL/ML:WPAFB, OH	0.892	1.989	Dec 2010	1.045	Feb 2010	-		1.045	0.000	3.926	0.000	
AMC/AQ5	Various	AMC/A5:Scott AFB, IL	-	-		0.300	Feb 2011	-		0.300	0.000	0.300	0.000	
Subtotal			3.692	3.889		3.998		-		3.998	0.000	11.579	0.000	
Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Air Armaments Center	Various	AAC:Eglin AFB, FL	0.400	0.483	Dec 2010	0.426	Feb 2011	-		0.426	0.000	1.309	0.000	
Arnold Engineering Development Center	Various	AEDC:Tullahoma, TN	0.151	-		-		-		-	0.000	0.151	0.000	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force											DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>				R-1 ITEM NOMENCLATURE PE 0603790F: <i>NATO Cooperative R&D</i>				PROJECT 64NATO: <i>Nato Coop R&D</i>					

Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			0.551	0.483		0.426		-		0.426	0.000	1.460	0.000

Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-	0.000	0.000	0.000

	Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	4.243	4.372		4.424		-		4.424	0.000	13.039	0.000

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force			DATE: February 2011	
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 Cooperative R&D	PROJECT 64NATO: Nato Coop R&D		
Project Title	Start		End	
Development of Animal Models to Assess the Inhalation Exposure of Engineered Nanomaterials				
- Signed Agreement	1Q	2009	1Q	2009
- Research, Development, Test and Evaluation	2Q	2009	3Q	2011
- Final Report	3Q	2011	4Q	2011
Modulation of Immune Response by Inhaled Engineered Nanoparticles				
- Signed Agreement	1Q	2009	1Q	2009
- Research, Development, Test and Evaluation	2Q	2009	3Q	2011
- Final Report	3Q	2011	4Q	2011
Image Gyro				
- Signed Agreement	1Q	2009	1Q	2009
- Research, Development, Test and Evaluation	2Q	2009	3Q	2013
- Final Report	3Q	2013	4Q	2013
Durability Assessment and Probabilistic Life Prediction of Titanium Alloys				
- Signed Agreement	1Q	2009	1Q	2009
- Research, Development, Test and Evaluation	2Q	2009	3Q	2012
- Final Report	3Q	2012	4Q	2012
Aging Systems Materials and Process Technologies				
- Signed Agreement	1Q	2009	1Q	2009
- Research, Development, Test and Evaluation	2Q	2009	3Q	2013
- Final Report	3Q	2013	4Q	2013

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force			DATE: February 2011	
APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE		PROJECT	
3600: Research, Development, Test & Evaluation, Air Force	PE 0603790F: NATO Cooperative R&D		64NATO: Nato Coop R&D	
BA 4: Advanced Component Development & Prototypes (ACD&P)				
Military Aircraft Survivability Through Improved Composite Structures				
- Signed Agreement	1Q	2010	1Q	2010
- Research, Development, Test and Evaluation	2Q	2010	3Q	2012
- Final Report	3Q	2012	4Q	2012
Flapping Wing Micro Air Vehicle Collaborative Development				
- Signed Agreement	1Q	2010	1Q	2010
- Research, Development, Test and Evaluation	2Q	2010	3Q	2014
- Final Report	3Q	2014	4Q	2014
Ultrahigh Temperature Ceramics				
- Signed Agreement	1Q	2010	1Q	2010
- Research, Development, Test and Evaluation	2Q	2010	3Q	2013
- Final Report	3Q	2013	4Q	2013
Compact Penetrating Weapons for the Defeat of Hardened Targets				
- Signed Agreement	1Q	2010	1Q	2010
- Research, Development, Test and Evaluation	2Q	2010	3Q	2014
- Final Report	3Q	2014	4Q	2014
Dynamic Network Visualization Techniques for Cyberspace				
- Signed Agreement	1Q	2010	1Q	2010
- Research, Development, Test and Evaluation	2Q	2010	3Q	2013
- Final Report	3Q	2013	4Q	2013
Assessment of Military Operations in Urban Terrain				
- Signed Agreement	1Q	2010	1Q	2010
- Research, Development, Test and Evaluation	2Q	2010	3Q	2016
- Final Report	3Q	2016	4Q	2016
Thermal Barrier Coating Health and Turbine Temperature Sensing				
- Signed Agreement	1Q	2010	1Q	2010
- Research, Development, Test and Evaluation	2Q	2010	3Q	2012
- Final Report	3Q	2012	4Q	2012

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force			DATE: February 2011	
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 Cooperative R&D	PROJECT 64NATO: Nato Coop R&D		
Efficacy of Vibrotactile Stimulation in Simulated Operational Conditions				
- Signed Agreement	1Q	2010	1Q	2010
- Research, Development, Test and Evaluation	2Q	2010	3Q	2011
- Final Report	3Q	2011	4Q	2011
Next Generation Advanced Composite Processing Science				
- Signed Agreement	1Q	2010	1Q	2010
- Research, Development, Test and Evaluation	3Q	2010	3Q	2013
- Final Report	3Q	2013	4Q	2013
Machine Translation for International Security Assistance Force				
- Signed Agreement	1Q	2011	1Q	2011
- Research, Development, Test and Evaluation	3Q	2011	3Q	2012
- Final Report	3Q	2012	4Q	2012
Live, Virtual and Constructive Immersive Decision Making Environments				
- Signed Agreement	1Q	2011	1Q	2011
- Research, Development, Test and Evaluation	2Q	2011	3Q	2016
- Final Report	3Q	2016	4Q	2016
Robust Solid State Materials for Optical Sensors Protection				
- Signed Agreement	1Q	2011	1Q	2011
- Research, Development, Test and Evaluation	2Q	2011	3Q	2012
- Final Report	3Q	2012	4Q	2012
Common Coalition Airborne Access Portal				
- Signed Agreement	1Q	2011	1Q	2011
- Research, Development, Test and Evaluation	2Q	2011	3Q	2013
- Testing and Evaluation	3Q	2013	4Q	2013

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force			DATE: February 2011	
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 Cooperative R&D	PROJECT 64NATO: Nato Coop R&D		
Rado Frequency Modeling and Simulation for Distributed Electronic Warfare, Situational Awareness and Response				
- Signed Agreement	1Q	2011	1Q	2011
- Research, Development, Test and Evaluation	2Q	2011	3Q	2014
- Testing and Evaluation	3Q	2014	4Q	2014
Advanced Ladar and Imaging Analysis System				
- Signed Agreement	1Q	2011	1Q	2011
- Research, Development, Test and Evaluation	2Q	2011	3Q	2016
- Testing and Evaluation	3Q	2016	4Q	2016
Molecular Basis of Stress Responses Using In Vitro Neuronal Models				
- Signed Agreement	1Q	2011	1Q	2011
- Research, Development, Test and Evaluation	2Q	2011	3Q	2013
- Testing and Evaluation	3Q	2013	4Q	2013
Synthesis, Formulation and Characterization of Structural Nano-Energetics				
- Signed Agreement	1Q	2011	1Q	2011
- Research, Development, Test and Evaluation	2Q	2011	3Q	2016
- Testing and Evaluation	3Q	2016	4Q	2016

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force

DATE: February 2011

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 Cooperative R&D

PROJECT

64NATO: Nato Coop R&D

Monitoring and Controlling Multiple Assets Within Complex Environments				
-Signed Agreement	1Q	2012	1Q	2012
- Testing and Evaluation	2Q	2012	2Q	2015
- Final Report	3Q	2015	4Q	2015
Closed Loop Alternative Navigation Demonstration				
-Signed Agreement	1Q	2012	1Q	2012
- Testing and Evaluation	2Q	2012	2Q	2015
- Final Report	3Q	2015	4Q	2015
Joint and Coalition Training, Rehearsal, and Exercise Research				
-Signed Agreement	1Q	2012	1Q	2012
- Testing and Evaluation	2Q	2012	2Q	2017
- Final Report	3Q	2017	4Q	2017
Life Prediction for Metallic Aircraft Structure				
-Signed Agreement	1Q	2012	1Q	2012
- Testing and Evaluation	2Q	2012	2Q	2013
- Final Report	3Q	2013	4Q	2013
Aero Advisory and NOTAMS tools				
-Signed Agreement	1Q	2012	1Q	2012
- Testing and Evaluation	2Q	2012	2Q	2014
- Final Report	3Q	2014	4Q	2014

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force

DATE: February 2011

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 Cooperative R&D*

PROJECT

64NATO: *Nato Coop R&D*

Cultural Radar for Human Terrain Effects				
-Signed Agreement	1Q	2012	1Q	2012
- Testing and Evaluation	2Q	2012	2Q	2016
- Final Report	3Q	2016	4Q	2016
Computational Multi-Scale Modeling of Explosives				
-Signed Agreement	1Q	2012	1Q	2012
- Testing and Evaluation	2Q	2012	2Q	2016
- Final Report	3Q	2016	4Q	2016
High Speed Penetrator Cases				
-Signed Agreement	1Q	2012	1Q	2012
- Testing and Evaluation	2Q	2012	2Q	2016
- Final Report	3Q	2016	4Q	2016
Team Based Metric Development in Distributed Net-Centric Operations				
-Signed Agreement	1Q	2012	1Q	2012
- Testing and Evaluation	2Q	2012	2Q	2016
- Final Report	3Q	2016	4Q	2016

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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603790F: <i>NATO Cooperative R&D</i>	PROJECT 64NATO: <i>Nato Coop R&D</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Development of Animal Models to Assess the Inhalation Exposure of Engineered Nanomaterials	1	2010	1	2016
Signed Agreement	2	2010	2	2016
- Testing and Analysis	2	2010	2	2010
Final Report	3	2010	4	2010
Modulation of Immune Response by Inhaled Engineered Nanoparticles	1	2010	1	2016
- Signed Agreement	2	2010	2	2016
- Testing and Analysis (1)	2	2010	2	2010
- Final Report	3	2010	4	2010
Image Gyro	1	2010	1	2016
- Signed Agreement (1)	2	2010	2	2016
- Testing and Analysis (2)	2	2010	2	2010
- Final Report (1)	3	2010	4	2010
Durability Assessment and Probabilistic Life Prediction of Titanium Alloys	1	2010	1	2016
- Signed Agreement (2)	2	2010	2	2016
- Testing and Analysis (3)	2	2010	2	2010
- Final Report (2)	3	2010	4	2010
Aging Systems Materials and Process Technologies	1	2010	1	2016
- Signed Agreement (3)	2	2010	2	2016
- Testing and Analysis (4)	2	2010	2	2010
- Final Report (3)	3	2010	4	2010
Military Aircraft Survivability Through Improved Composite Structures	1	2010	1	2010
- Signed Agreement (4)	2	2010	2	2010

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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603790F: <i>NATO Cooperative R&D</i>	PROJECT 64NATO: <i>Nato Coop R&D</i>	

Events	Start		End	
	Quarter	Year	Quarter	Year
- Testing and Analysis (5)	2	2010	2	2011
- Final Report (4)	3	2011	4	2011
Flapping Wing Micro Air Vehicle Collaborative Development	1	2010	1	2010
- Signed Agreement (5)	2	2010	2	2010
- Testing and Analysis (6)	2	2010	2	2011
- Final Report (5)	3	2011	4	2011
Ultrahigh Temperature Ceramics	1	2010	1	2010
- Signed Agreement (6)	2	2010	2	2010
- Testing and Analysis (7)	2	2010	2	2011
- Final Report (6)	3	2011	4	2011
Compact Penetrating Weapons for the Defeat of Hardened Targets	1	2010	1	2010
- Signed Agreement (7)	2	2010	2	2010
- Testing and Analysis (8)	2	2010	2	2011
- Final Report (7)	3	2011	4	2011
Dynamic Network Visualization Techniques for Cyberspace	1	2010	1	2010
- Signed Agreement (8)	2	2010	2	2010
- Testing and Analysis (9)	2	2010	2	2011
- Final Report (8)	3	2011	4	2011
Assessment of Military Operations in Urban Terrain	1	2010	1	2010
- Signed Agreement (9)	2	2010	2	2010
- Testing and Analysis (10)	2	2010	2	2011
- Final Report (9)	3	2011	4	2011
Thermal Barrier Coating Health and Turbine Temperature Sensing	1	2010	1	2010
- Signed Agreement (10)	2	2010	2	2010

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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603790F: <i>NATO Cooperative R&D</i>	PROJECT 64NATO: <i>Nato Coop R&D</i>	

Events	Start		End	
	Quarter	Year	Quarter	Year
- Testing and Analysis (11)	2	2010	2	2011
- Final Report (10)	3	2011	4	2011
Efficacy of Vibrotactile Stimulation in Simulated Operational Conditions	1	2010	1	2010
- Signed Agreement (11)	2	2010	2	2010
- Testing and Analysis (12)	2	2010	2	2011
- Final Report (11)	3	2011	4	2011
Next Generation Advanced Composite Processing Science	1	2010	1	2010
- Signed Agreement (12)	2	2010	2	2010
- Testing and Analysis (13)	3	2010	2	2011
- Final Report (12)	3	2011	4	2011
Machine Translation for International Security Assistance Force	1	2011	1	2011
- Signed Agreement (13)	2	2011	2	2011
Live, Virtual and Constructive Immersive Decision Making Environments	1	2011	1	2011
- Signed Agreement (14)	2	2011	2	2011
- Test and Evaluation	2	2011	4	2011
Robust Solid State Materials for Optical Sensors Protection	1	2011	1	2011
- Signed Agreement (15)	2	2011	2	2011
- Testing and Evaluation	2	2011	4	2011
Common Coalition Airborne Access Portal	1	2011	1	2011
- Signed Agreement (16)	2	2011	2	2011
- Testing and Evaluation (1)	2	2011	4	2011
Rado Frequency Modeling and Simulation for Distributed Electronic Warfare, Situational Awareness and Response	1	2011	1	2011
- Signed Agreement (17)	2	2011	2	2011

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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603790F: <i>NATO Cooperative R&D</i>	PROJECT 64NATO: <i>Nato Coop R&D</i>	

Events	Start		End	
	Quarter	Year	Quarter	Year
- Test and Evaluation (1)	2	2011	4	2011
Advanced Ladar and Imaging Analysis System	1	2011	1	2011
- Signed Agreement (18)	2	2011	2	2011
- Testing and Evaluation (2)	2	2011	4	2011
Molecular Basis of Stress Responses Using In Vitro Neuronal Models	1	2011	1	2011
- Signed Agreement (19)	2	2011	2	2011
- Testing and Evaluation (3)	2	2011	4	2011
Synthesis, Formulation and Characterization of Structural Nano-Energetics	1	2011	1	2011
- Signed Agreement (20)	2	2011	2	2011
- Testing and Evaluation (4)	2	2011	4	2011
Monitoring and Controlling Multiple Assets Within Complex Environments	1	2012	4	2015
Closed Loop Alternative Navigation Demonstration	1	2012	4	2015
Joint and Coalition Training, Rehearsal, and Exercise Research	1	2012	4	2016
Life Prediction for Metallic Aircraft Structure	1	2012	4	2013
Aero Advisory and NOTAMS tools	1	2012	4	2014
Cultural Radar for Human Terrain Effects	1	2012	4	2016
Computational Multi-Scale Modeling of Explosives	1	2012	4	2016
High Speed Penetrator Cases	1	2012	4	2016
Team Based Metric Development in Distributed Net-Centric Operations	1	2012	4	2016

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE							
3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>				PE 0603791F: <i>International Space Cooperative R&D</i>							
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	0.609	0.635	0.642	-	0.642	0.651	0.661	0.670	0.681	Continuing	Continuing
645035: <i>Intl Space Coop R&D</i>	0.609	0.635	0.642	-	0.642	0.651	0.661	0.670	0.681	Continuing	Continuing

A. Mission Description and Budget Item Justification

These funds will be used to help implement space-related international cooperative research, development, and acquisition (ICRD&A) agreements with North Atlantic Treaty Organization (NATO) member states and major non-NATO allies and friendly foreign countries. The program implements the provisions of Title 10 U.S. Code, Section 2350a on NATO Cooperative Research and Development (R&D). The program was established to improve cooperation among NATO nations, and later major non-NATO allies, in research, development, and acquisition. The legislation authorized funds to significantly improve United States (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. The program will be reported as required by Title 10 U.S. Code, Section 2350a(f). This program element funds the implementation of space-related Air Force ICRD&A 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 ICRD&A 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.

B. Program Change Summary (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	0.632	0.635	0.644	-	0.644
Current President's Budget	0.609	0.635	0.642	-	0.642
Total Adjustments	-0.023	-	-0.002	-	-0.002
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.023	-			
• Other Adjustments	-	-	-0.002	-	-0.002

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force									DATE: February 2011		
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			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
645035: Intl Space Coop R&D	0.609	0.635	0.642	-	0.642	0.651	0.661	0.670	0.681	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

These funds will be used to help implement space-related international cooperative research, development, and acquisition (ICRD&A) agreements with North Atlantic Treaty Organization (NATO) member states and major non-NATO allies and friendly foreign countries. The program implements the provisions of Title 10 U.S. Code, Section 2350a on NATO Cooperative Research and Development (R&D). The program was established to improve cooperation among NATO nations, and later major non-NATO allies, in research, development, and acquisition. The legislation authorized funds to significantly improve United States (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. The program will be reported as required by Title 10 U.S. Code, Section 2350a(f). This program element funds the implementation of space-related Air Force ICRD&A 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 ICRD&A 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.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: Energy Transport by Neutral Winds During Magnetic Storms	0.609	0.285	-	-	-
Description: Energy Transport by Neutral Winds During Magnetic Storms (AFRL and France).					
FY 2010 Accomplishments: Continuation of cooperative project with France for the development of a database of neutral wind values in the Ionosphere-Thermosphere, using the Neutral Wind Meter on Comm/Nav Outage Forecast System together with the STAR accelerometers on the CHAMP and GRACE spacecraft. This cooperative effort will establish a set of unprecedented neutral wind values and allow for the first reliable estimate of neutral energy transport during storms.					
FY 2011 Plans: Continuation of cooperative project with France for the development of a database of neutral wind values in the Ionosphere-Thermosphere, using the Neutral Wind Meter on Comm/Nav Outage Forecast System together with the STAR accelerometers on the CHAMP and GRACE spacecraft. This cooperative effort will establish a set					

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011				
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			
B. Accomplishments/Planned Programs (\$ in Millions)			FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
of unprecedented neutral wind values and allow for the first reliable estimate of neutral energy transport during storms. FY 2012 Base Plans: FY 2012 OCO Plans:							
Title: Post Mission Analysis of High Frequency (HF) Radar Description: Post Mission Analysis of High Frequency (HF) Radar (AFSPC and Australia). FY 2010 Accomplishments: FY 2011 Plans: Cooperative project with Australia to demonstrate the potential of improved Ballistic Missile Defense and warning applications by fusing Overhead Persistent Infrared Radar data and Australia's High Frequency Radar component technologies/data. FY 2012 Base Plans: Continuation of cooperative project with Australia to demonstrate the potential of improved Ballistic Missile Defense and warning applications by fusing Overhead Persistent Infrared Radar data and Australia's High Frequency Radar component technologies/data. FY 2012 OCO Plans:			-	0.350	0.333	-	0.333
Title: Ionospheric Effects on Intel, Surveillance and Reconnaissance, Space Situational Awareness and Defensive Counterspace Description: Ionospheric Effects on Intel, Surveillance and Reconnaissance, Space Situational Awareness and Defensive Counterspace (AFSPC and UK) FY 2010 Accomplishments: FY 2011 Plans: FY 2012 Base Plans:			-	-	0.309	-	0.309

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force				DATE: February 2011	
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>		R-1 ITEM NOMENCLATURE PE 0603791F: <i>International Space Cooperative R&D</i>		PROJECT 645035: <i>Intl Space Coop R&D</i>	

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Cooperative effort with the United Kingdom to increase capabilities to users of current and future military systems adversely affected by the ionosphere					
<i>FY 2012 OCO Plans:</i>					
Accomplishments/Planned Programs Subtotals	0.609	0.635	0.642	-	0.642

C. Other Program Funding Summary (\$ in Millions)												
	<u>Line Item</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012 Base</u>	<u>FY 2012 OCO</u>	<u>FY 2012 Total</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• N/A:		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

D. Acquisition Strategy

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 and approved by the USD(AT&L). 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.

E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air 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-3, RDT&E Project Cost Analysis: PB 2012 Air Force											DATE: February 2011			
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)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Subtotal			-	-		-		-		-	0.000	0.000	0.000	
Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
AFRL, WPAFB	Various	AFRL:Dayton, OH	0.120	0.200	Dec 2010	-		-		-	0.000	0.320	0.000	
AFRL, Edwards AFB	Various	AFRL:Edwards, CA	0.389	0.100	Dec 2010	-		-		-	0.000	0.489	0.000	
Space Systems Center	Various	SMC:Los Angeles, CA	-	0.200	Dec 2010	0.542	Feb 2011	-		0.542	0.000	0.742	0.000	
Subtotal			0.509	0.500		0.542		-		0.542	0.000	1.551	0.000	
Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
AFRL	Various	AFRL:Edwards, CA	0.100	0.135	Dec 2010	-		-		-	0.000	0.235	0.000	
Space Systems Center	Various	SMC:Los Angeles, CA	-	-		0.100	Jul 2011	-		0.100	0.000	0.100	0.000	
Subtotal			0.100	0.135		0.100		-		0.100	0.000	0.335	0.000	
Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Subtotal			-	-		-		-		-	0.000	0.000	0.000	
			Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract	
Project Cost Totals			0.609	0.635		0.642		-		0.642	0.000	1.886	0.000	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force						DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>			R-1 ITEM NOMENCLATURE PE 0603791F: <i>International Space Cooperative R&D</i>			PROJECT 645035: <i>Intl Space Coop R&D</i>			
	Total Prior Years Cost	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract	
Remarks									

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603791F: <i>International Space Cooperative R&D</i>	PROJECT 645035: <i>Intl Space Coop R&D</i>
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ICR&D Project	Fiscal Year	Start Date	End IA	PE
Energy Transport by Neutral Winds During Magnetic Storms (AFRL and France).	FY10	2010	2015	63791F
Post Mission Analysis of High Frequency (HF) Radar (AFSPC and Australia).	FY11	2011	2015	63791F
Ionospheric Effects on Intel, Surveillance and Reconnaissance, Space Situational Awareness and Defensive Counterspace (AFSPC and UK)	FY12	2012	2017	63791F

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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603791F: <i>International Space Cooperative R&D</i>	PROJECT 645035: <i>Intl Space Coop R&D</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Energy Transport by Neutral Winds During Magnetic Storms	1	2010	1	2010
- Technical Development	1	2010	4	2010
- Test and analysis	1	2011	4	2011
Post Mission Analysis of High Frequency Radar - Overhead Persistent Infrared Data Fusion Experiments for Early Launch Detection and Tracking	1	2011	1	2011
- Technical Development (1)	1	2011	4	2011
Ionospheric Effects on Intel, Surveillance and Reconnaissance, Space Situational Awareness and Defensive Counterspace	1	2012	4	2016
-Signed Agreement	1	2012	1	2012
-Research, Development, Test, and Evaluation	2	2012	3	2016
Final Report	3	2010	4	2016

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force **DATE:** February 2011

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*

COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	-	8.349	9.819	-	9.819	10.410	11.464	12.417	12.637	Continuing	Continuing
64A025: <i>Space Protection Program</i>	-	8.349	9.819	-	9.819	10.410	11.464	12.417	12.637	Continuing	Continuing

Note

In order to better clarify program efforts/deliverables and directly correlate these activities to specific strategies, measures and objectives which support overarching AF and AFSPC objectives, SPP is transitioning from a task-based to an objective-based construct. Program mission and content remains unchanged.

A. Mission Description and Budget Item Justification

Growing dependence on space and demonstrated vulnerabilities have highlighted the need to actively plan and respond to threats against national security space effects and deliver informed options to national leaders and system acquirers. Public Law 110-181 mandated development of a DoD space protection strategy and the recent "Sense of Congress" has been that "the United States should place greater priority on the protection of national security space systems." In response to these needs, concerns and direction, the Air Force (AF) and National Reconnaissance Office (NRO) formed a partnership and leveraged a combination of Department of Defense (DoD) and Office of the Director of National Intelligence (ODNI) resources in March 2008 to establish and execute the Space Protection Program (SPP); a joint, enduring program to develop an integrated protection approach for the nation covering all defense, intelligence, civil, commercial and allied space systems. In the absence of a SPP-specific construct or Program Element Code (PEC), the DoD portion of the SPP was budgeted and executed under existing program/mission areas in FY08-FY10. As the SPP mission matured and specific efforts were defined/directed, the activity evolved into an independent effort requiring implementation of a financial construct consistent with this evolution and emergent mission.

SPP is the foundational element of the National Space Protection Strategy; unifying and integrating AF, NRO, DoD and IC activities to deliver strategic recommendations to senior leaders and inform their decisions on how best to protect our space systems and stay ahead of the threat. The SPP mission is to preserve national security space effects through an integrated strategy to articulate vulnerabilities, assess threat impacts, identify options and recommend solutions leading to comprehensive space protection capabilities.

A fully-functioning SPP effort allows for the active planning, comprehensive analysis and timely delivery of products/tools to respond to threats against national security space effects and deliver informed options to national leaders and system acquirers. As designed, the SPP is to execute an integrated strategy to articulate vulnerabilities, assess threat impacts, identify options and recommend solutions leading to comprehensive space protection capabilities. Specifically, this involves identifying and initiating protection-focused architectural decisions, generating comprehensive products to identify national capabilities and interdependencies, delivering tailored decision aids to operations centers, instituting key defense initiatives to address vulnerabilities in multiple orbit regimes, integrating cyberspace into the National Infrastructure Protection Framework, and continuing specific tasks to implement the Space Protection Strategy.

SPP will identify, prioritize, and develop recommendations for space protection options to preserve national space capabilities and guide future Science and Technology (S&T) research and investment focus areas. As part of this effort, SPP will conduct capability-based vulnerability and susceptibility assessments of blue

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603830F: <i>Space Protection Program</i>
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architectures to identify options to enhance the survivability of the overall architectures. These assessments will deliver comprehensive technically justified set of space protection recommendations.

SPP will update and maintain a capabilities and interdependencies (C&I) analysis capability for our nation by operating a C&I analysis team and continuously updating a C&I database. This capability provides senior leaders and our nation's space operational command centers with understanding of space capabilities, interdependencies, and consequence of loss in support of planning and decision making that impact the economic and physical security of the United States. In coordination with USTRATCOM and Joint Functional Component Command-Space, SPP will provide Combatant Commanders a specific C&I product capturing theater space services dependencies, reliance on those services, and the consequence of the loss of those services. This product will be tailored to highlight space service reliance in each phase of the theater OPLANS/CONPLANS and have the capability to export data for use in other tools (e.g. visualization tools). Additionally, SPP will develop and maintain a future space architecture identifying the future on-orbit space architecture for the current year through additional 12 years focusing on DoD, Intelligence Community, Civil, Commercial-leased, and Friends & Allies space systems. This effort also includes participation in wargames and exercises; ensuring that SPP C&I products and analysis are leveraged to improve strategy development at the strategic and operational levels.

SPP will provide insight to senior space leaders on how their space activities shape the strategic environment, and will be directly responsible to develop and coordinate Strategic Communication strategies on space protection across DoD and IC agencies. These strategies focus on space mission areas, architectures, programs and significant space and cyber events and how it relates to the overarching space protection strategy. SPP will develop protection policy and strategy recommendations to include the development and implementation of the SECDEF and DNI approved National Space Protection Strategy for the nation. This strategy must be updated every 2 years.

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)	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012 Base</u>	<u>FY 2012 OCO</u>	<u>FY 2012 Total</u>
Previous President's Budget	-	8.349	9.852	-	9.852
Current President's Budget	-	8.349	9.819	-	9.819
Total Adjustments	-	-	-0.033	-	-0.033
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-	-	-0.033	-	-0.033

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603830F: <i>Space Protection Program</i>	
<p><u>Change Summary Explanation</u></p> <p>FY 2011: No significant Program changes. FY 2012: No significant program changes.</p>		

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>				R-1 ITEM NOMENCLATURE PE 0603830F: <i>Space Protection Program</i>				PROJECT 64A025: <i>Space Protection Program</i>		
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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
64A025: <i>Space Protection Program</i>	-	8.349	9.819	-	9.819	10.410	11.464	12.417	12.637	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

Note

In order to better clarify program efforts/deliverables and directly correlate these activities to specific strategies, measures and objectives which support overarching AF and AFSPC objectives, SPP is transitioning from a task-based to an objective-based construct. Program mission and content remains unchanged.

A. Mission Description and Budget Item Justification

Growing dependence on space and demonstrated vulnerabilities have highlighted the need to actively plan and respond to threats against national security space effects and deliver informed options to national leaders and system acquirers. Public Law 110-181 mandated development of a DoD space protection strategy and the recent "Sense of Congress" has been that "the United States should place greater priority on the protection of national security space systems." In response to these needs, concerns and direction, the Air Force (AF) and National Reconnaissance Office (NRO) formed a partnership and leveraged a combination of Department of Defense (DoD) and Office of the Director of National Intelligence (ODNI) resources in March 2008 to establish and execute the Space Protection Program (SPP); a joint, enduring program to develop an integrated protection approach for the nation covering all defense, intelligence, civil, commercial and allied space systems. In the absence of a SPP-specific construct or Program Element Code (PEC), the DoD portion of the SPP was budgeted and executed under existing program/mission areas in FY08-FY10. As the SPP mission matured and specific efforts were defined/directed, the activity evolved into an independent effort requiring implementation of a financial construct consistent with this evolution and emergent mission.

SPP is the foundational element of the National Space Protection Strategy; unifying and integrating AF, NRO, DoD and IC activities to deliver strategic recommendations to senior leaders and inform their decisions on how best to protect our space systems and stay ahead of the threat. The SPP mission is to preserve national security space effects through an integrated strategy to articulate vulnerabilities, assess threat impacts, identify options and recommend solutions leading to comprehensive space protection capabilities.

A fully-functioning SPP effort allows for the active planning, comprehensive analysis and timely delivery of products/tools to respond to threats against national security space effects and deliver informed options to national leaders and system acquirers. As designed, the SPP is to execute an integrated strategy to articulate vulnerabilities, assess threat impacts, identify options and recommend solutions leading to comprehensive space protection capabilities. Specifically, this involves identifying and initiating protection-focused architectural decisions, generating comprehensive products to identify national capabilities and interdependencies, delivering tailored decision aids to operations centers, instituting key defense initiatives to address vulnerabilities in multiple orbit regimes, integrating cyberspace into the National Infrastructure Protection Framework, and continuing specific tasks to implement the Space Protection Strategy.

SPP will identify, prioritize, and develop recommendations for space protection options to preserve national space capabilities and guide future Science and Technology (S&T) research and investment focus areas. As part of this effort, SPP will conduct capability-based vulnerability and susceptibility assessments of blue

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011		
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		PROJECT 64A025: Space Protection Program	
B. Accomplishments/Planned Programs (\$ in Millions)					
	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
capabilities (current and future) for decision makers. Develop alternative futures support to provide senior space leaders insights and recommendations on how space activities shape the strategic environment. FY 2012 Base Plans: Identify, prioritize, and develop recommendations for space protection options to guide future Science and Technology (S&T) research and investment focus areas. Compile and analyze US National Security systems/ capabilities (current and future) for decision makers. Develop alternative futures support to provide senior space leaders insights and recommendations on how space activities shape the strategic environment. FY 2012 OCO Plans: Not applicable					
Title: Oversight/advisory Support Description: Provide oversight, advisory and other technical support to the Space Protection Program. FY 2010 Accomplishments: Not applicable FY 2011 Plans: Provide oversight, advisory and other technical support to the Space Protection Program. FY 2012 Base Plans: Provide oversight, advisory and other technical support to the Space Protection Program. FY 2012 OCO Plans: Not applicable	-	1.761	1.973	-	1.973
Title: Program support/infrastructure Description: Provide program support and infrastructure. FY 2010 Accomplishments: Not applicable FY 2011 Plans: Provide program support and infrastructure. FY 2012 Base Plans:	-	0.803	0.835	-	0.835

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force						DATE: February 2011						
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>			R-1 ITEM NOMENCLATURE PE 0603830F: <i>Space Protection Program</i>			PROJECT 64A025: <i>Space Protection Program</i>						
B. Accomplishments/Planned Programs (\$ in Millions)												
						FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total		
Provide program support and infrastructure.												
<i>FY 2012 OCO Plans:</i> Not applicable												
Accomplishments/Planned Programs Subtotals						-	8.349	9.819	-	9.819		
C. Other Program Funding Summary (\$ in Millions)												
Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost	
• PE 0603438F: <i>Space Control Technology, AF RDT&E</i>	6.032	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing	
• PE 0305940F: <i>Space Situational Awareness, OMAF</i>	2.400	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing	
D. Acquisition Strategy All contracts funded in this program element will be awarded using competitive procedures to the maximum extent possible. The 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.												

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force											DATE: February 2011			
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				PROJECT 64A025: Space Protection Program						
Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Assessment and Analysis Projects	Various	Various:Various,	-	5.785	Dec 2010	7.011	Dec 2011	-		7.011	Continuing	Continuing	TBD	
Subtotal			-	5.785		7.011		-		7.011				
Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Program Support and Infrastructure	Various	Various:Various,	-	0.803	Dec 2010	0.835	Dec 2011	-		0.835	Continuing	Continuing	TBD	
Subtotal			-	0.803		0.835		-		0.835				
Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Subtotal			-	-		-		-		-	0.000	0.000	0.000	
Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Oversight, Advisory and other Technical Support	Various	Various:Various,	-	1.761	Dec 2010	1.973	Dec 2011	-		1.973	Continuing	Continuing	TBD	
Subtotal			-	1.761		1.973		-		1.973				
			Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract	
Project Cost Totals			-	8.349		9.819		-		9.819				

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force							DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY			R-1 ITEM NOMENCLATURE			PROJECT			
3600: Research, Development, Test & Evaluation, Air Force BA 4: Advanced Component Development & Prototypes (ACD&P)			PE 0603830F: Space Protection Program			64A025: Space Protection Program			
	Total Prior Years Cost	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract	
Remarks									

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

3600: Research, Development, Test & Evaluation, Air Force
BA 4: Advanced Component Development & Prototypes (ACD&P)

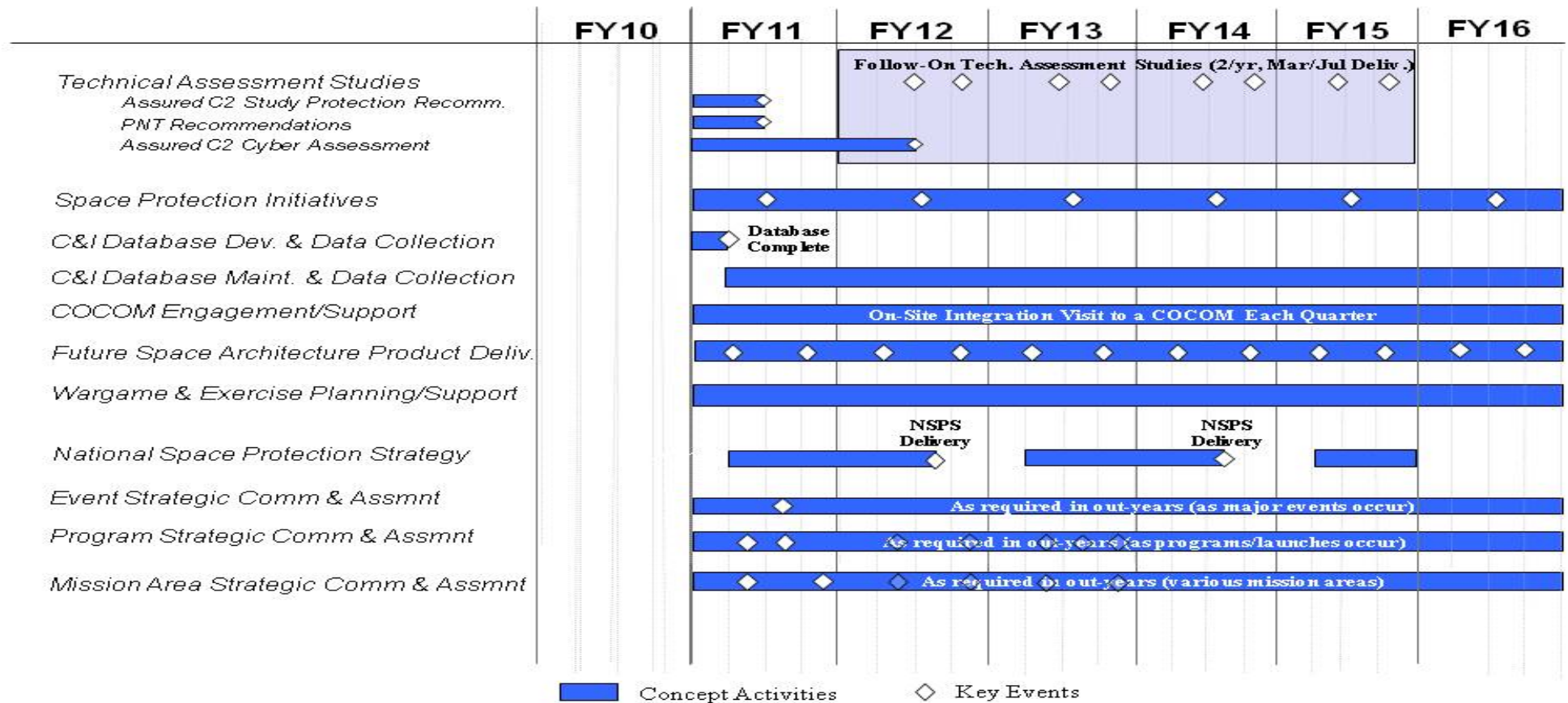
R-1 ITEM NOMENCLATURE

PE 0603830F: Space Protection Program

PROJECT

64A025: Space Protection Program

SPACE PROTECTION PROGRAM (SPP) Schedule



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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603830F: <i>Space Protection Program</i>	PROJECT 64A025: <i>Space Protection Program</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Assured C2 Study Protection Recommendations	1	2011	3	2011
Position, Navigation, Timing Recommendations	1	2011	3	2011
Assured C2 Cyber Assessment	1	2011	2	2012
Space Protection Initiatives	1	2011	4	2016
C&I Database Development & Data Collection	1	2011	1	2011
C&I Database Maintenance & Data Collection	2	2011	4	2016
COCOM Engagement/Support	1	2011	4	2016
Future Space Architecture Product Deliverables	1	2011	4	2016
Wargame & Exercise Planning/Support	1	2011	4	2016
Event Strategic Communication and Assessment	1	2011	4	2016
Program Strategic Communication and Assessment	1	2011	4	2016
Mission Area Strategic Communication and Assessment	1	2011	4	2016

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE							
3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>				PE 0603850F: <i>Integrated Broadcast Service (DEM/VAL)</i>							
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	24.438	20.580	20.046	-	20.046	19.901	20.389	20.674	20.919	Continuing	Continuing
644778: <i>Integrated Broadcast Service</i>	24.438	20.580	20.046	-	20.046	19.901	20.389	20.674	20.919	Continuing	Continuing

Note

The program funding includes reductions for Overhead Reduction efficiencies that are not intended to impact program content. The efficiencies reductions total \$0.085M in FY12.

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/has 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 that receive data from each theater and integrate this data into a worldwide picture available to all network/broadcast users.
 - Four regional TINs, where out-of-theater (and local) users not directly receiving the broadcast can receive the information broadcast on the CIB. Additionally, the TIN will receive and inject data into the CIB for producers without access to the theater CIB.
- An XML-based Common Message Format (CMF) Data Element Dictionary (DED) that defines IBS messages for broadcast of IBS information over available communications paths including the CIB and other Global Information Grid (GIG) networks.
- A Modular Advanced TRanslation Interchange with XML (MATRIX) Reformatter that provides a modular, platform-independent, multi-use translator to support migration with legacy radios and provide a long term solution for IBS Full Operational Capability (FOC) radio users.

Funds the development of an 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.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603850F: <i>Integrated Broadcast Service (DEM/VAL)</i>
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B. Program Change Summary (\$ in Millions)	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012 Base</u>	<u>FY 2012 OCO</u>	<u>FY 2012 Total</u>
Previous President's Budget	20.739	20.580	20.198	-	20.198
Current President's Budget	24.438	20.580	20.046	-	20.046
Total Adjustments	3.699	-	-0.152	-	-0.152
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	3.786	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-0.087	-	-0.152	-	-0.152

Change Summary Explanation

The program funding includes reductions for Overhead Reduction efficiencies that are not intended to impact program content. The efficiencies reductions total \$0.085M in FY12.

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force									DATE: February 2011		
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			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
644778: Integrated Broadcast Service	24.438	20.580	20.046	-	20.046	19.901	20.389	20.674	20.919	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

The Integrated 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/has 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 that receive data from each theater and integrate this data into a worldwide picture available to all network/broadcast users.
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- An XML-based Common Message Format (CMF) Data Element Dictionary (DED) that defines IBS messages for broadcast of IBS information over available communications paths including the CIB and other Global Information Grid (GIG) networks.
- A Modular Advanced TRanslation Interchange with XML (MATRIX) Reformatter that provides a modular, platform-independent, multi-use translator to support migration with legacy radios and provide a long term solution for IBS Full Operational Capability (FOC) radio users.

Funds the development of an 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.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: Systems Engineering	1.299	0.519	0.525	-	0.525
Description: Continue systems engineering and development of architectures.					

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force		DATE: February 2011				
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		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
FY 2010 Accomplishments: Continue systems engineering and development of architectures.						
FY 2011 Plans: Continue systems engineering and development of architectures.						
FY 2012 Base Plans: Continue systems engineering and development of architectures.						
FY 2012 OCO Plans:						
Title: IBS-NS Development		20.120	16.682	15.735	-	15.735
Description: Continue the Phase II/System Development and Demonstration of the GINS and TINs						
FY 2010 Accomplishments: Continue the Phase II/System Development and Demonstration of the GINS and TINs						
FY 2011 Plans: Continue the Phase II/System Development and Demonstration of the GINS and TINs						
FY 2012 Base Plans: Continue the Phase II/System Development and Demonstration of the GINS and TINs						
FY 2012 OCO Plans:						
Title: Test & Evaluation		0.887	1.079	1.361	-	1.361
Description: Continue Test & Evaluation						
FY 2010 Accomplishments: Continue Test & Evaluation						
FY 2011 Plans: Continue Test & Evaluation						
FY 2012 Base Plans: Continue Test & Evaluation						
FY 2012 OCO Plans:						

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force									DATE: February 2011		
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			
B. Accomplishments/Planned Programs (\$ in Millions)							FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: Enterprise Systems Eng							0.700	0.700	0.700	-	0.700
Description: Enterprise Systems Engineering/CMF Integration/CIB Integration											
FY 2010 Accomplishments: Enterprise Systems Engineering/CMF Integration/CIB Integration											
FY 2011 Plans: Enterprise Systems Engineering/CMF Integration/CIB Integration											
FY 2012 Base Plans: Enterprise Systems Engineering/CMF Integration/CIB Integration											
FY 2012 OCO Plans:											
Title: System Program Office							1.432	1.600	1.725	-	1.725
Description: Maintain a Program Mgmt Office, including program supervision, finance and acquisition strategy execution.											
FY 2010 Accomplishments: Maintain a Program Mgmt Office, including program supervision, finance and acquisition strategy execution.											
FY 2011 Plans: Maintain a Program Mgmt Office, including program supervision, finance and acquisition strategy execution.											
FY 2012 Base Plans: Maintain a Program Mgmt Office, including program supervision, finance and acquisition strategy execution.											
FY 2012 OCO Plans:											
Accomplishments/Planned Programs Subtotals							24.438	20.580	20.046	-	20.046
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• PE 0305179F: Integrated Broadcast Service (IBS), WSC	12.434	12.612	9.993	0.000	9.993	9.805	10.121	11.082	11.064	Continuing	Continuing

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force									DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE				PROJECT			
3600: Research, Development, Test & Evaluation, Air Force BA 4: Advanced Component Development & Prototypes (ACD&P)				PE 0603850F: Integrated Broadcast Service (DEM/VAL)				644778: Integrated Broadcast Service			
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
832070 Intelligence Comm Equipment, OPAF											
• PE 0305179F (1): IBS, WSC	16.589	17.996	21.070	0.000	21.070	19.828	19.798	19.299	19.239	Continuing	Continuing
832070 Intelligence Comm Equipment, O&M											
D. Acquisition Strategy											
IBS used an evolutionary acquisition approach with a Program Definition/Risk Reduction phase (Spiral 1), followed by a full and open competition award to BTG/Titan/ L-3Comm/L-3 Stratis to complete the Engineering, Manufacturing and Development (EMD) phase (Spiral 2-4).											
E. Performance Metrics											
Please refer to the Performance Base Budget Overview Book for information on how Air 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-3, RDT&E Project Cost Analysis: PB 2012 Air Force											DATE: February 2011			
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)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Phase 2 Spiral 2 - 4	C/CPAF	BTG, Inc./Titan/L-3 Comm:Reston, VA	20.120	16.682	Nov 2010	15.735	Nov 2011	-		15.735	Continuing	Continuing	TBD	
Subtotal			20.120	16.682		15.735		-		15.735				
Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Subtotal			-	-		-		-		-	0.000	0.000	0.000	
Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Interoperability and Developmental Testing	MIPR	JITC:Ft Huachuca, AZ	0.504	0.700	Jan 2011	0.675	Jan 2012	-		0.675	Continuing	Continuing	TBD	
Responsible Test Organization (RTO)	PO	46th Test Squadron:Eglin AFB, FL	0.383	0.368	Mar 2011	0.675	Mar 2012	-		0.675	0.000	1.426	0.000	
Subtotal			0.887	1.068		1.350		-		1.350				
Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
SPO/Professional Acquisition Support Services (PASS), Engineering and Technical Acquisition Support Service (ETASS), Specialized Cost Service (SCS)	C/TBD	Various:Bedford, MA	1.432	1.611	Feb 2011	1.736	Feb 2012	-		1.736	Continuing	Continuing	TBD	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603850F: <i>Integrated Broadcast Service (DEM/VAL)</i>	PROJECT 644778: <i>Integrated Broadcast Service</i>
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Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Systems Engineering	SS/CPFF	MITRE:Bedford, MA	1.299	0.519	Oct 2010	0.525	Oct 2011	-		0.525	Continuing	Continuing	TBD
Enterprise Engineering/CMF Integration/CIB Integration	SS/CPFF	L-3 Comm, IS:Greenville, TX	0.700	0.700	Mar 2011	0.700	Mar 2012	-		0.700	Continuing	Continuing	TBD
Subtotal			3.431	2.830		2.961		-		2.961			
			Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			24.438	20.580		20.046		-		20.046			

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

3600: Research, Development, Test & Evaluation, Air Force
BA 4: Advanced Component Development & Prototypes (ACD&P)

R-1 ITEM NOMENCLATURE

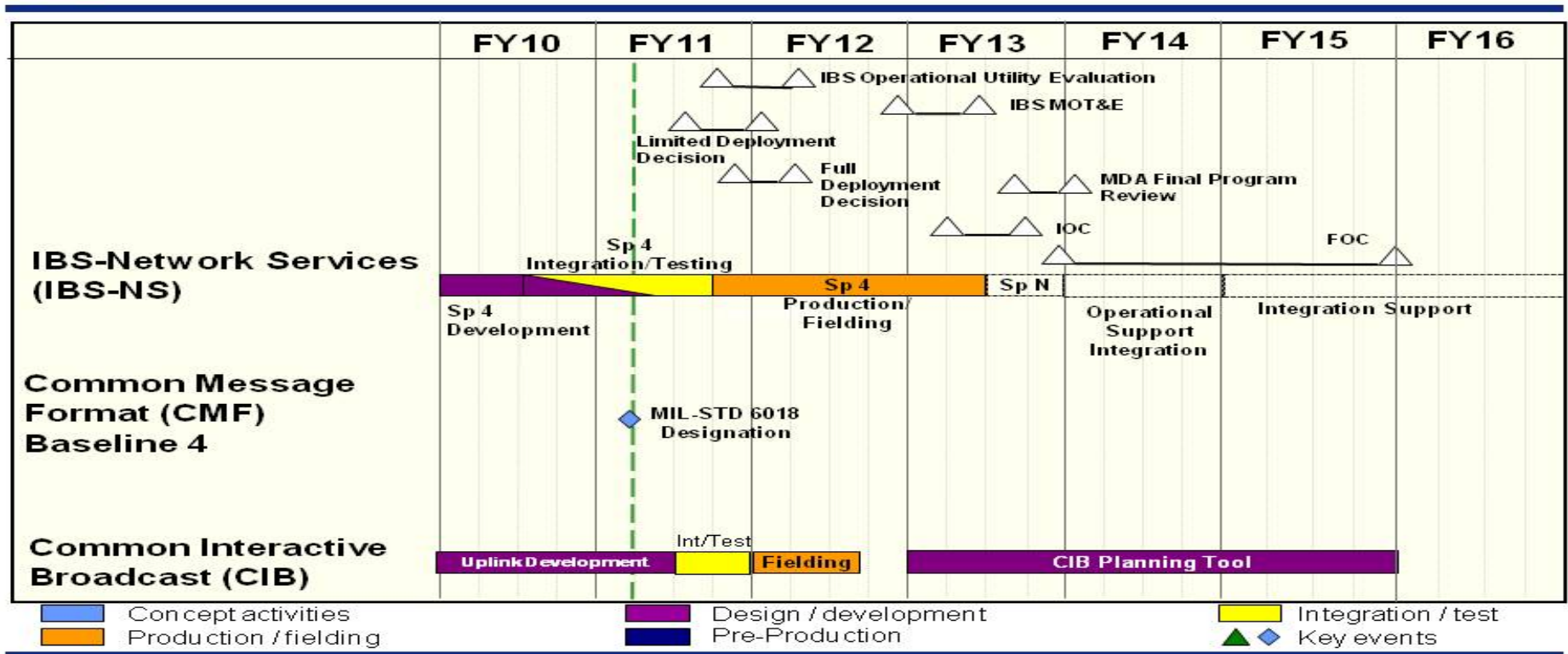
PE 0603850F: Integrated Broadcast Service
(DEM/VAL)

PROJECT

644778: Integrated Broadcast Service



IBS Broadcast Segment Schedule



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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603850F: <i>Integrated Broadcast Service (DEM/VAL)</i>	PROJECT 644778: <i>Integrated Broadcast Service</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
IBS Operational Utility Event #1	4	2011	2	2012
IBS MOT&E	4	2012	2	2013
IBS-NS Limited Deployment Decision	2	2011	1	2012
Full Deployment Decision	4	2011	2	2012
MDA Final Program Review	3	2013	1	2014
IBS-NS Development/Production/Fielding	1	2010	3	2013
CIB Uplink Development/Testing/Fielding	1	2010	3	2012
CIB Planning Tool Development	1	2013	4	2015

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603851F: <i>ICBM - DEM/VAL</i>
--	--

COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	67.811	66.745	67.202	-	67.202	67.838	69.008	70.037	71.005	Continuing	Continuing
641020: <i>ICBM Guidance Applications</i>	16.387	15.154	14.303	-	14.303	14.495	14.713	14.933	15.197	Continuing	Continuing
641021: <i>ICBM Propulsion Applications</i>	43.097	43.260	44.574	-	44.574	44.859	45.688	46.366	46.917	Continuing	Continuing
641022: <i>ICBM Reentry Vehicle Applications</i>	5.471	5.538	5.738	-	5.738	5.899	5.986	6.077	6.184	Continuing	Continuing
641023: <i>Rocket System Launch Program</i>	0.026	0.024	0.025	-	0.025	0.025	0.026	0.026	0.026	Continuing	Continuing
644209: <i>Long Range Planning (LRP)</i>	2.830	2.769	2.562	-	2.562	2.560	2.595	2.635	2.681	Continuing	Continuing

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 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, assessment of current and future propulsion systems, development of enhanced command/control capabilities, and long range planning efforts.

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

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603851F: <i>ICBM - DEM/VAL</i>
--	--

B. Program Change Summary (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	68.097	66.745	67.976	-	67.976
Current President's Budget	67.811	66.745	67.202	-	67.202
Total Adjustments	-0.286	-	-0.774	-	-0.774
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-0.286	-	-0.774	-	-0.774

Congressional Add Details (\$ in Millions, and Includes General Reductions)

Project: 641021: *ICBM Propulsion Applications*

 Congressional Add: *Advanced Third Stage Domestic Fiber Motor Case Development*

Congressional Add Subtotals for Project: 641021

Congressional Add Totals for all Projects

FY 2010	FY 2011
2.400	-
2.400	-
2.400	-

Change Summary Explanation

No Significant Changes

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force									DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 4: Advanced Component Development & Prototypes (ACD&P)				R-1 ITEM NOMENCLATURE PE 0603851F: ICBM - DEM/VAL				PROJECT 641020: ICBM Guidance Applications			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
641020: ICBM Guidance Applications	16.387	15.154	14.303	-	14.303	14.495	14.713	14.933	15.197	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

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 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: Guidance Applications	16.387	15.154	14.303	-	14.303
Description: Develop, in coordination with the Navy, advanced solid-state guidance technology with higher reliability.					
FY 2010 Accomplishments: Continued to develop, prototype, and test solid-state instrument technologies (accelerometers and gyros). Continued to develop, analyze, evaluate, prototype, and test advanced solid-state inertial measurement unit concepts. Continued assessment, development, and implementation of test options to demonstrate future system concepts. Finished build and test of Advanced Inertial Measurement Unit (AIMU) engineering model 1 and design engineering model 2 which will incorporate the solid state strategic gyro and accelerometer.					
FY 2011 Plans: Continue to develop, prototype, and test solid-state instrument technologies (accelerometers and gyros). Continue to develop, analyze, evaluate, prototype, and test advanced solid-state inertial measurement unit concepts. Continue assessment, evaluation, and test of radiation hard electronics for strategic guidance applications. Conduct experiments to demonstrate future strategic system concepts. Conduct assessment,					

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force				DATE: February 2011	
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>		R-1 ITEM NOMENCLATURE PE 0603851F: <i>ICBM - DEM/VAL</i>		PROJECT 641020: <i>ICBM Guidance Applications</i>	

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
development, and implementation of test options to demonstrate future system concepts. Complete engineering model 2 AIMU prototype and evaluate performance. <i>FY 2012 Base Plans:</i> Continue to develop, prototype, and test solid-state instrument technologies (accelerometers and gyros). Continue to develop, analyze, evaluate, prototype, and test advanced solid-state inertial measurement unit concepts. Continue assessment, evaluation, and test of radiation hard electronics for strategic guidance applications. Continue to conduct experiments to demonstrate future strategic system concepts. Conduct assessment, development, and implementation of test options to demonstrate future system concepts. Complete AIMU prototype design and build, conduct sled test, and flight test planning. <i>FY 2012 OCO Plans:</i>					
Accomplishments/Planned Programs Subtotals	16.387	15.154	14.303	-	14.303

C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• N/A: <i>None.</i>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

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

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force										DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 4: Advanced Component Development & Prototypes (ACD&P)				R-1 ITEM NOMENCLATURE PE 0603851F: ICBM - DEM/VAL				PROJECT 641020: ICBM Guidance Applications					
Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	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, Honeywell, Orbital Sciences:**See Remarks,	81.796	13.344	Nov 2010	12.549	Nov 2011	-		12.549	Continuing	Continuing	TBD
Assess, evaluate and test of radiation hard electronics	Various	Navy Crane, Institute for Space and Defense Electronics:Vanderbilt U.,	1.000	0.500	Nov 2010	0.500	Nov 2011	-		0.500	Continuing	Continuing	TBD
Subtotal			82.796	13.844		13.049		-		13.049			
Remarks **AFRL, Kirtland AFB NM; Honeywell, Redmond WA, Clearwater FL, Phoenix AZ; Orbital Sciences, Chandler AZ													
Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Other Program Support	Various	AFNWC:**See Remarks,	7.149	1.060	Nov 2010	1.004	Nov 2011	-		1.004	Continuing	Continuing	TBD
Subtotal			7.149	1.060		1.004		-		1.004			
Remarks **Kirtland AFB, NM													
Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Test	Various	AFRL; Honeywell:**See Remarks,	1.000	0.250	Nov 2010	0.250	Nov 2011	-		0.250	Continuing	Continuing	TBD
Subtotal			1.000	0.250		0.250		-		0.250			

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force											DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>				R-1 ITEM NOMENCLATURE PE 0603851F: <i>ICBM - DEM/VAL</i>				PROJECT 641020: <i>ICBM Guidance Applications</i>						

Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Remarks **AFRL, Kirtland AFB NM; Honeywell, Redmond WA, Clearwater FL, Phoenix AZ													

Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-	0.000	0.000	0.000

			Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			90.945	15.154		14.303		-		14.303			

Remarks													
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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

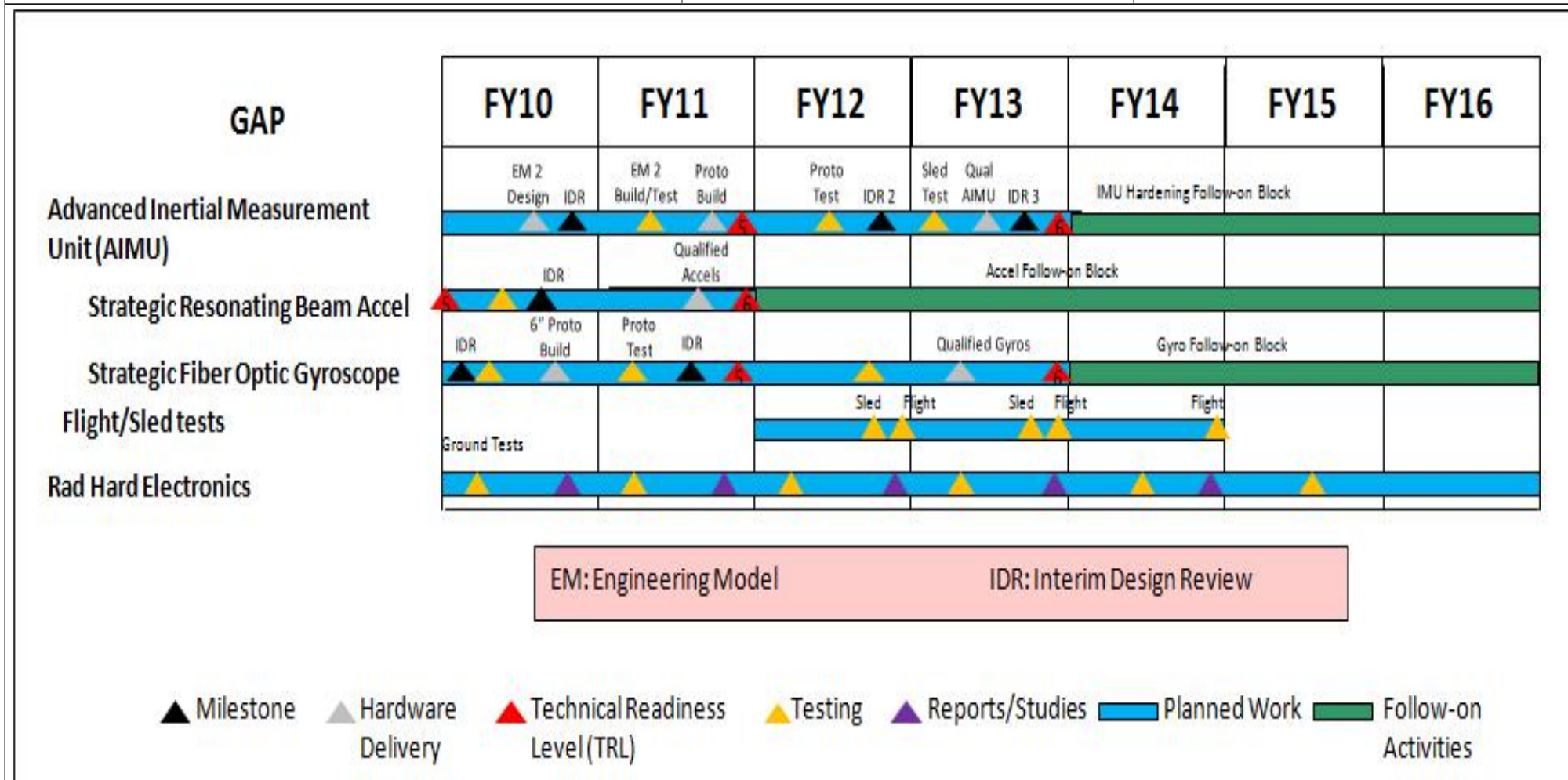
3600: Research, Development, Test & Evaluation, Air Force
BA 4: Advanced Component Development & Prototypes (ACD&P)

R-1 ITEM NOMENCLATURE

PE 0603851F: ICBM - DEM/VAL

PROJECT

641020: ICBM Guidance Applications



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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603851F: <i>ICBM - DEM/VAL</i>	PROJECT 641020: <i>ICBM Guidance Applications</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
IMU Test Hardware Deliveries	3	2010	4	2011
IMU Tests	2	2011	1	2013
IMU Design Reviews	4	2010	4	2013
Gyro/Accelerometer Prototype build	4	2010	4	2010
Gyro/Accelerometer Design Reviews	1	2010	3	2011
Gyro/Accelerometer Tests	2	2010	4	2012
Rad-Hard Electronics Testing	2	2010	3	2015
Flight/Sled Tests	3	2012	4	2014

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force								DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 4: Advanced Component Development & Prototypes (ACD&P)				R-1 ITEM NOMENCLATURE PE 0603851F: ICBM - DEM/VAL				PROJECT 641021: ICBM Propulsion Applications			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
641021: ICBM Propulsion Applications	43.097	43.260	44.574	-	44.574	44.859	45.688	46.366	46.917	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		
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 system requirements, 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.											
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 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: Propulsion Application Program							40.697	43.260	44.574	-	44.574
Description: Assess, develop, evaluate, and demonstrate common solid propulsion technology and manufacturing leading to a static fire test launch. Develop strategic propulsion capability and explore improvements to current systems. Supports the research and development industrial base and critical infrastructure											
FY 2010 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 (LCS) motor development. Completed case build and wind for LCS hydro test. Completed hydro test on LCS motors. Began composite case design and build for advanced third stage motor.											
FY 2011 Plans: Support the SRM research and development industrial base and critical infrastructure. Continue assessment and demonstration of ordnance and post-boost technology development. Continue 92" LCS motor development. Continue intermediate design review for the 92" LCS motors. Continue static fire test preparation for 92" LCS motors.											
FY 2012 Base Plans:											

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force							DATE: February 2011				
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>			R-1 ITEM NOMENCLATURE PE 0603851F: <i>ICBM - DEM/VAL</i>			PROJECT 641021: <i>ICBM Propulsion Applications</i>					

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Support the SRM research and development industrial base and critical infrastructure. Continue assessment and demonstration of ordnance and post-boost technology development. Continue 92" LCS motor development. Complete intermediate design review for the 92" LCS motors. Complete static fire test for 92" LCS motors. <i>FY 2012 OCO Plans:</i>					
Accomplishments/Planned Programs Subtotals	40.697	43.260	44.574	-	44.574

	FY 2010	FY 2011
<i>Congressional Add:</i> Advanced Third Stage Domestic Fiber Motor Case Development	2.400	-
<i>FY 2010 Accomplishments:</i> Minuteman III Advanced Third Stage Domestic Fiber Motor Case Development.		
<i>FY 2011 Plans:</i> Complete composite case build of the advanced third stage motor.		
Congressional Adds Subtotals	2.400	-

C. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012 Base</u>	<u>FY 2012 OCO</u>	<u>FY 2012 Total</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• N/A: None	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

D. Acquisition Strategy
Studies, analyses, and motor test firings will be accomplished; efforts will be conducted using contracting strategies deemed most appropriate, generally using competitive 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.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 4: Advanced Component Development & Prototypes (ACD&P)	R-1 ITEM NOMENCLATURE PE 0603851F: ICBM - DEM/VAL	PROJECT 641021: ICBM Propulsion Applications
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Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Test and evaluation of solid propulsion technologies	Various	AFRL; Aerojet, ATK Thiokol:*See Remarks,	151.330	23.974	Nov 2010	26.594	Nov 2011	-		26.594	Continuing	Continuing	TBD
Systems Engineering	MIPR	SDTW:Kirtland AFB, NM	-	10.500	Jan 2011	11.500	Jan 2012	-		11.500	Continuing	Continuing	TBD
Assess and demonstrate ordnance and post-boost components	Various	AFRL, Aerojet, ATK Thiokol:*See Remarks,	1.000	1.000	Jan 2011	1.000	Nov 2011	-		1.000	Continuing	Continuing	TBD
Evaluation of hazard classification methods	Various	AFRL, Aeorjet, ATK Thiokol:*See Remarks,	1.000	1.000	Jan 2011	1.000	Nov 2011	-		1.000	Continuing	Continuing	TBD
Subtotal			153.330	36.474		40.094		-		40.094			

Remarks

*AFRL, Edwards AFB CA; Aerojet, Sacramento CA; ATK Thiokol, Corrinne UT

Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Other Program Support	Various	AFNWC/NWC; AFRL:*See Remarks,	12.415	1.786	Nov 2010	1.980	Nov 2011	-		1.980	Continuing	Continuing	TBD
Subtotal			12.415	1.786		1.980		-		1.980			

Remarks

*AFNWC/NWC, Hill AFB CA; AFRL, Edwards AFB CA

Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Static Fire	C/CPAF	AEDC:Edwards AFB, CA	0.531	5.000	Nov 2010	2.500	Nov 2011	-		2.500	Continuing	Continuing	TBD
Subtotal			0.531	5.000		2.500		-		2.500			

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force											DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>				R-1 ITEM NOMENCLATURE PE 0603851F: <i>ICBM - DEM/VAL</i>				PROJECT 641021: <i>ICBM Propulsion Applications</i>					

Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-	0.000	0.000	0.000

	Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	166.276	43.260		44.574		-		44.574			

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

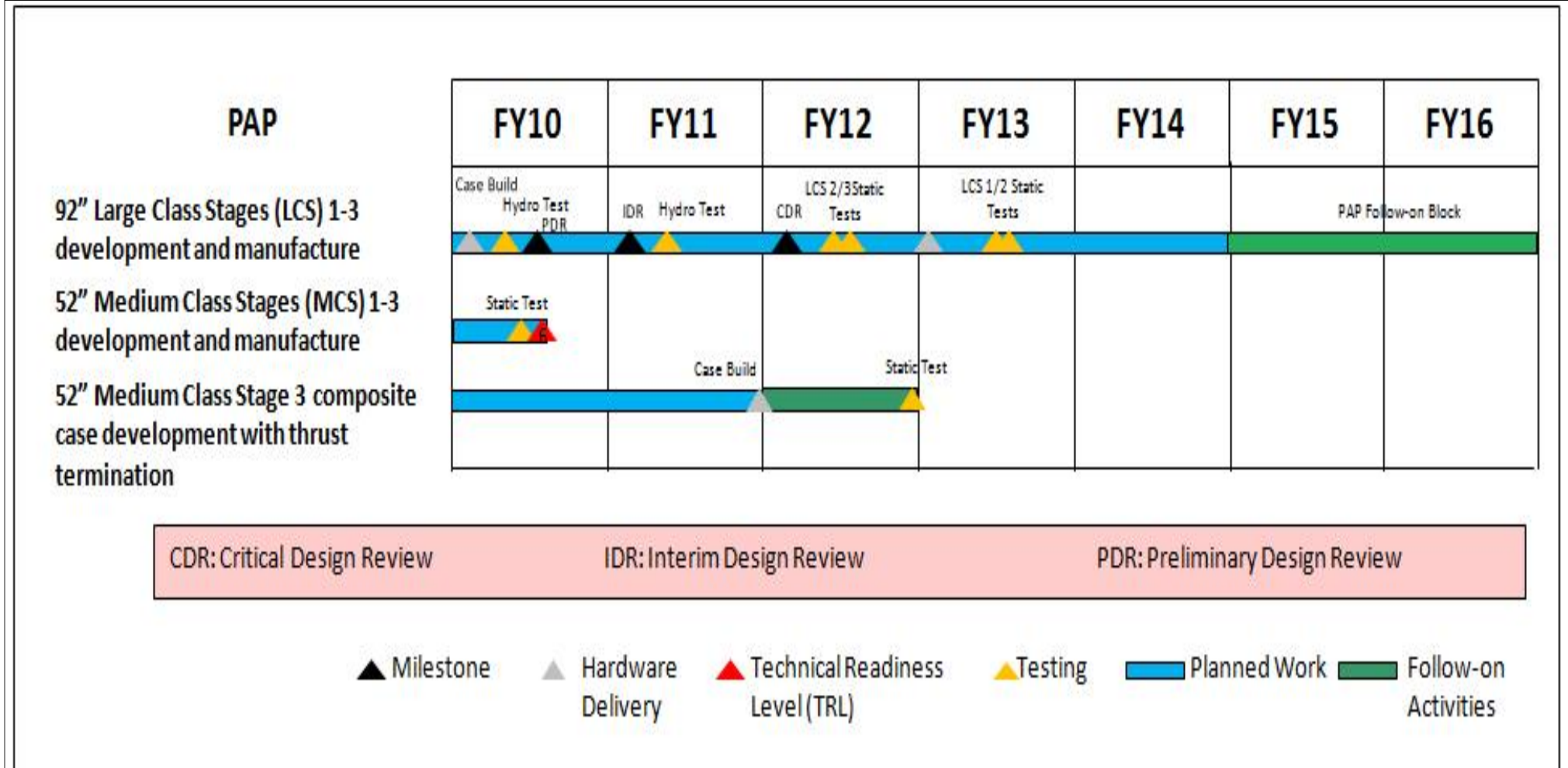
3600: Research, Development, Test & Evaluation, Air Force
BA 4: Advanced Component Development & Prototypes (ACD&P)

R-1 ITEM NOMENCLATURE

PE 0603851F: ICBM - DEM/VAL

PROJECT

641021: ICBM Propulsion Applications



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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603851F: <i>ICBM - DEM/VAL</i>	PROJECT 641021: <i>ICBM Propulsion Applications</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
MCS static test fire	2	2010	4	2012
MCS Stage 3 composite case delivery	4	2011	1	2012
LCS motors case deliveries	1	2010	4	2013
LCS motors hydro test	2	2010	2	2011
LCS motors static test fires	2	2012	3	2013

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force									DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 4: Advanced Component Development & Prototypes (ACD&P)				R-1 ITEM NOMENCLATURE PE 0603851F: ICBM - DEM/VAL				PROJECT 641022: ICBM Reentry Vehicle Applications			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
641022: ICBM Reentry Vehicle Applications	5.471	5.538	5.738	-	5.738	5.899	5.986	6.077	6.184	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

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 and most reliable RVs and explores options for common, multi-mission capabilities. The program enables a responsive engineering infrastructure to support RVs beyond their original design life by addressing operational system issues and ensuring the availability of long-lead components/materials while identifying life cycle cost reduction methods. In addition, the program also develops and tests advanced RV 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 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: Reentry Vehicle Applications	5.471	5.538	5.738	-	5.738
Description: Develop, evaluate, and test reentry vehicle materials and technologies for use in current and future strategic systems.					
FY 2010 Accomplishments: Continued carbon-carbon (C/C) thermal protection systems (TPS) material studies. Continued to validate reentry vehicle materials at NASA Ames. Conducted TPS testing of C/C silicon carbide at NASA Dryden. Evaluated alternate battery technology to increase service life, reduce costs, and increase reliability. Conducted material test vehicle flight data analysis.					
FY 2011 Plans: Continue development, evaluation, and testing of Reentry Vehicle materials and technologies. Continue Thermal Protection System and antenna window technology testing. Continue development of modeling and simulation tools and thermal testing of nosetip materials. Ground test reentry fuze battery technology.					
FY 2012 Base Plans:					

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603851F: <i>ICBM - DEM/VAL</i>	PROJECT 641022: <i>ICBM Reentry Vehicle Applications</i>
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B. Accomplishments/Planned Programs (\$ in Millions)					FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Continue arcjet testing of thermal protection system materials. Complete thermal testing and analyze antenna window technologies. Continue nosetip material testing.									
<i>FY 2012 OCO Plans:</i>									
Accomplishments/Planned Programs Subtotals					5.471	5.538	5.738	-	5.738

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

<u>Line Item</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012 Base</u>	<u>FY 2012 OCO</u>	<u>FY 2012 Total</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• N/A: <i>None</i>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

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 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.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 4: Advanced Component Development & Prototypes (ACD&P)	R-1 ITEM NOMENCLATURE PE 0603851F: ICBM - DEM/VAL	PROJECT 641022: ICBM Reentry Vehicle Applications
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Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	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	42.248	4.174	Nov 2010	4.338	Nov 2011	-		4.338	Continuing	Continuing	TBD
Subtotal			42.248	4.174		4.338		-		4.338			

Remarks

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

Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Support	Various	AFNWC/NWC:Hill AFB, UT	5.495	0.714	Nov 2010	0.750	Nov 2011	-		0.750	Continuing	Continuing	TBD
Subtotal			5.495	0.714		0.750		-		0.750			

Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Materials	Reqn	AFRL Materials Lab:Wright-Patterson AFB, OH	1.550	0.400	Dec 2010	0.400	Dec 2011	-		0.400	Continuing	Continuing	TBD
Ground ARC Jet Testing	PO	Arnold Engineering & Development Center:Arnold AFB, TN	0.950	0.250	Dec 2010	0.250	Dec 2011	-		0.250	Continuing	Continuing	TBD
TPS Testing	MIPR	*See Remarks:**See Remarks,	3.381	-	Dec 2010	-		-		-	0.000	3.381	0.000
Subtotal			5.881	0.650		0.650		-		0.650			

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force											DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>				R-1 ITEM NOMENCLATURE PE 0603851F: <i>ICBM - DEM/VAL</i>				PROJECT 641022: <i>ICBM Reentry Vehicle Applications</i>						
Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Remarks *NASA Ames; Dryden Flight Research Center **NASA Ames, Santa Clara CA; Dryden Flight Research Center, Edwards AFB CA														
Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Subtotal			-	-		-		-		-	0.000	0.000	0.000	
			Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract	
Project Cost Totals			53.624	5.538		5.738		-		5.738				
Remarks														

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

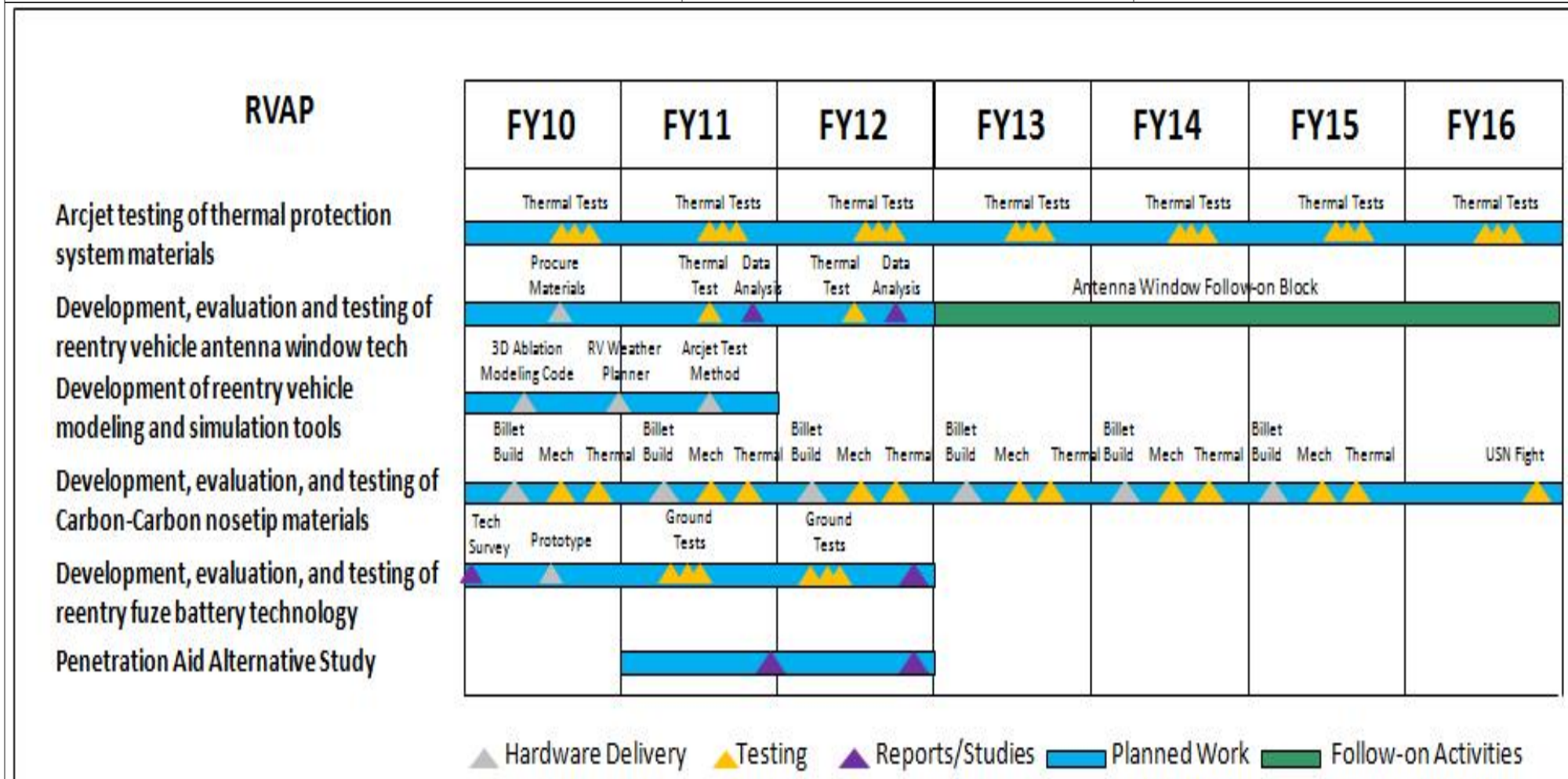
3600: Research, Development, Test & Evaluation, Air Force
BA 4: Advanced Component Development & Prototypes (ACD&P)

R-1 ITEM NOMENCLATURE

PE 0603851F: ICBM - DEM/VAL

PROJECT

641022: ICBM Reentry Vehicle Applications



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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603851F: <i>ICBM - DEM/VAL</i>	PROJECT 641022: <i>ICBM Reentry Vehicle Applications</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Reentry Vehicles Materials Arc Jet Testing	2	2010	4	2016
Reentry Vehicle Antenna Window tests	3	2011	3	2012
Development of Reentry Vehicle modeling and simulation	2	2010	3	2011
Nosetip Materials testing	3	2010	4	2016
Fuze Battery technology testing	2	2011	2	2012
Penetration Aid Alternative Design Study	1	2011	4	2012

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force								DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 4: Advanced Component Development & Prototypes (ACD&P)				R-1 ITEM NOMENCLATURE PE 0603851F: ICBM - DEM/VAL				PROJECT 641023: Rocket System Launch Program			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
641023: Rocket System Launch Program	0.026	0.024	0.025	-	0.025	0.025	0.026	0.026	0.026	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		
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 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: Rocket System Launch Program							0.026	0.024	0.025	-	0.025
Description: Study and analyze the most constructive use of deactivated missile assets to be added to the RSLP inventory and the adoption of low cost front-end systems for use on deactivated missile assets.											
FY 2010 Accomplishments: Continue on-going studies for the adoption of low-cost front-end systems for use on deactivated missile assets.											
FY 2011 Plans: Continue on-going studies for the adoption of low-cost front-end systems for use on deactivated missile assets.											
FY 2012 Base Plans: Conduct RSLP studies and analyses.											
FY 2012 OCO Plans:											
Accomplishments/Planned Programs Subtotals							0.026	0.024	0.025	-	0.025

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603851F: <i>ICBM - DEM/VAL</i>	PROJECT 641023: <i>Rocket System Launch Program</i>	

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

<u>Line Item</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u> <u>Base</u>	<u>FY 2012</u> <u>OCO</u>	<u>FY 2012</u> <u>Total</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• N/A: <i>None</i>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

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.

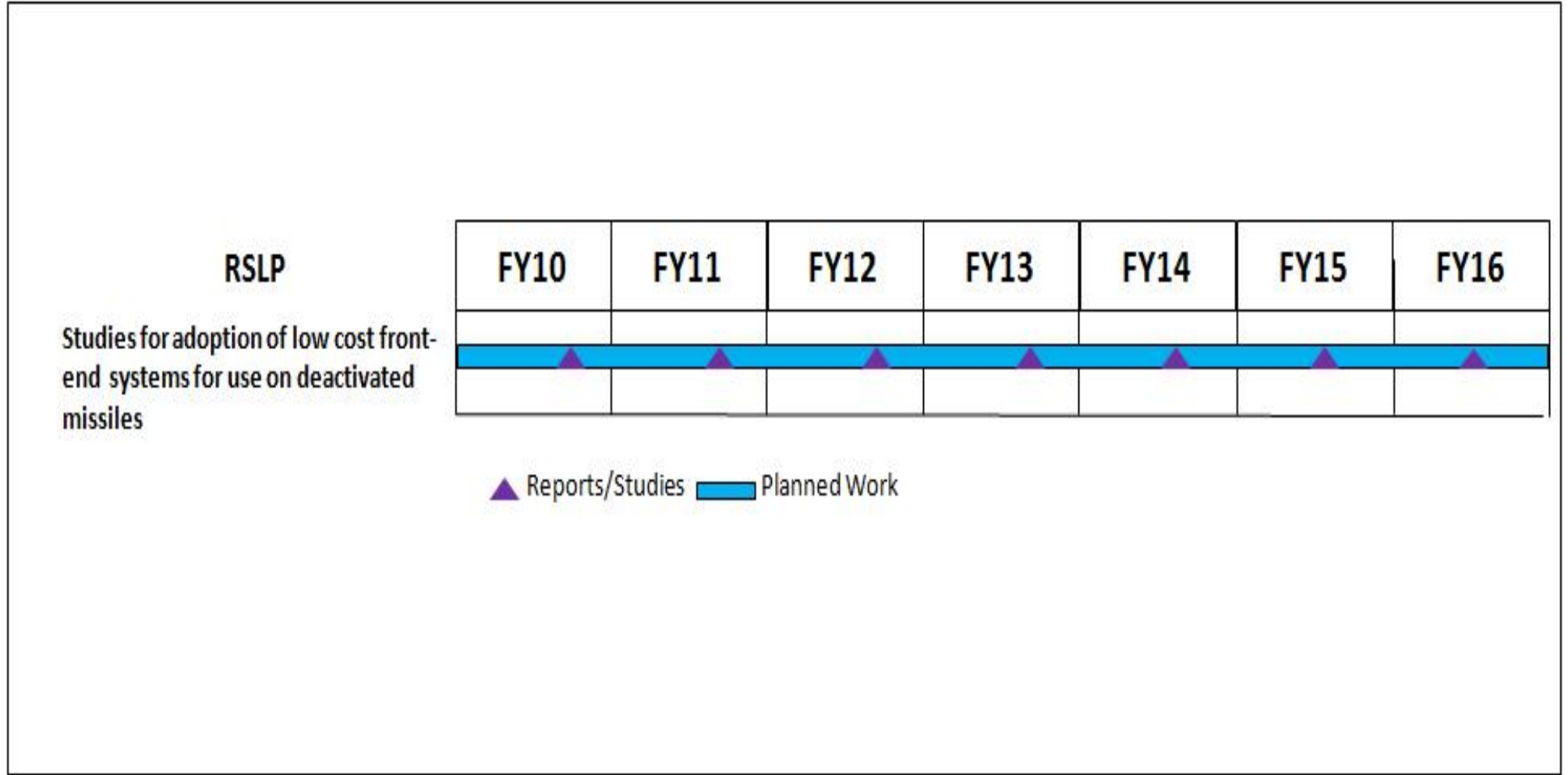
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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force											DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 4: Advanced Component Development & Prototypes (ACD&P)				R-1 ITEM NOMENCLATURE PE 0603851F: ICBM - DEM/VAL				PROJECT 641023: Rocket System Launch Program					
Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-	0.000	0.000	0.000
Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Engineering Support	Various	Space Development and Test Wing:Kirtland AFB, NM	3.756	0.024	Nov 2010	0.025	Nov 2011	-		0.025	Continuing	Continuing	TBD
Subtotal			3.756	0.024		0.025		-		0.025			
Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-	0.000	0.000	0.000
Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-	0.000	0.000	0.000
Project Cost Totals			3.756	0.024		0.025		-		0.025			
Remarks													

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 4: Advanced Component Development & Prototypes (ACD&P)	R-1 ITEM NOMENCLATURE PE 0603851F: ICBM - DEM/VAL	PROJECT 641023: Rocket System Launch Program	



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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603851F: <i>ICBM - DEM/VAL</i>	PROJECT 641023: <i>Rocket System Launch Program</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Annual Studies/Analyses	4	2010	4	2016

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force								DATE: February 2011				
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 4: Advanced Component Development & Prototypes (ACD&P)				R-1 ITEM NOMENCLATURE PE 0603851F: ICBM - DEM/VAL				PROJECT 644209: Long Range Planning (LRP)				
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost	
644209: Long Range Planning (LRP)	2.830	2.769	2.562	-	2.562	2.560	2.595	2.635	2.681	Continuing	Continuing	
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0			
A. Mission Description and Budget Item Justification												
The 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 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: Long Range Planning								2.830	2.769	2.562	-	2.562
Description: Analyze and plan current and future ICBM modifications for long term sustainment, technology insertion, employment and force structure.												
FY 2010 Accomplishments: Completed range architecture, concrete, industrial base and modular mechanical ordnance destruct system (MMODS) studies.												
FY 2011 Plans: Continue support of the consolidated long range plan. Continue feasibility and life extension studies. Examine pre-milestone activities that may be conducted for current or future ICBM weapon systems.												
FY 2012 Base Plans: Continue support of the consolidated long range plan. Continue feasibility and life extension studies. Continue pre-milestone activities that may be conducted for current or future ICBM weapon systems.												
FY 2012 OCO Plans:												

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force						DATE: February 2011					
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>			R-1 ITEM NOMENCLATURE PE 0603851F: <i>ICBM - DEM/VAL</i>			PROJECT 644209: <i>Long Range Planning (LRP)</i>					

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Accomplishments/Planned Programs Subtotals	2.830	2.769	2.562	-	2.562

C. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012 Base</u>	<u>FY 2012 OCO</u>	<u>FY 2012 Total</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• N/A: None	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

D. Acquisition Strategy

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

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force											DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 4: Advanced Component Development & Prototypes (ACD&P)				R-1 ITEM NOMENCLATURE PE 0603851F: ICBM - DEM/VAL				PROJECT 644209: Long Range Planning (LRP)						
Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Long Range Plan	SS/CPAF	Northrop Grumman:Clearfield, UT	6.080	0.170	Dec 2010	0.170	Dec 2011	-		0.170	Continuing	Continuing	TBD	
Studies	Various	*See Remarks:**See Remarks,	39.480	1.892	Dec 2010	1.692	Dec 2011	-		1.692	Continuing	Continuing	TBD	
Subtotal			45.560	2.062		1.862		-		1.862				
Remarks *Northrop Grumman; The MITRE Corporation Various **Northrop Grumman, Clearfield UT; The MITRE Corp, Bedford MA														
Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Other program support	Various	AFNWC/NWC:Clearfield, UT	5.495	0.707	Nov 2010	0.700	Nov 2011	-		0.700	Continuing	Continuing	TBD	
Subtotal			5.495	0.707		0.700		-		0.700				
Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Subtotal			-	-		-		-		-	0.000	0.000	0.000	
Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Subtotal			-	-		-		-		-	0.000	0.000	0.000	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force							DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>			R-1 ITEM NOMENCLATURE PE 0603851F: <i>ICBM - DEM/VAL</i>			PROJECT 644209: <i>Long Range Planning (LRP)</i>			
	Total Prior Years Cost	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract	
Project Cost Totals	51.055	2.769	2.562	-	2.562				
Remarks									

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

3600: *Research, Development, Test & Evaluation, Air Force*
BA 4: *Advanced Component Development & Prototypes (ACD&P)*

R-1 ITEM NOMENCLATURE

PE 0603851F: *ICBM - DEM/VAL*

PROJECT

644209: *Long Range Planning (LRP)*

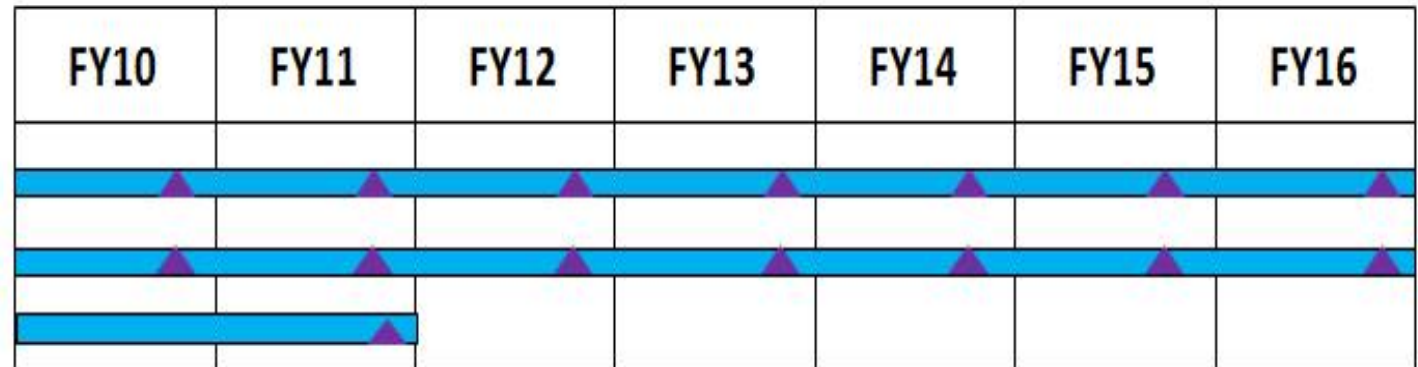
LRP

Long range planning

Feasibility/life extension studies

Conduct Conventional Strike Mission

Integration Demonstration Study



▲ Reports/Studies ■ Planned Work

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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603851F: <i>ICBM - DEM/VAL</i>	PROJECT 644209: <i>Long Range Planning (LRP)</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Long Range Planning studies	1	2010	4	2016
Feasibility/life extension studies	1	2010	4	2016
Conventional Strike Missile study	1	2010	4	2011

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE							
3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>				PE 0603854F: <i>Wideband MILSATCOM (Space)</i>							
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	67.228	36.123	12.804	-	12.804	12.494	14.548	17.492	17.801	Continuing	Continuing
644811: <i>Wideband Gapfiller</i>	42.543	17.949	-	-	-	-	-	-	-	Continuing	Continuing
644870: <i>Command & Control System Consolidated (CCSC)</i>	24.685	18.174	12.804	-	12.804	12.494	14.548	17.492	17.801	Continuing	Continuing

Note

Totals include funding for PRCP Program Number 326, WGS.
CCS-C is an ACAT II program and does not have a PNO designation.

A. Mission Description and Budget Item Justification

The Wideband Global SATCOM (WGS) System, previously known as Wideband Gapfiller Satellites, provides DoD users with high data rate military satellite communication (MILSATCOM) services in accordance with the Joint Space Management Board-approved MILSATCOM architecture (Aug 96), the Joint Requirements Oversight Council (JROC)-approved MILSATCOM Capstone Requirements Document (Oct 97), and the JROC-approved WGS Operational Requirements Document (May 00). Dual-frequency WGS satellites augment, then replace the DoD's Defense Satellite Communications Systems (DSCS) X-band service and augment one-way Global Broadcast Service Ka-band capabilities. In addition, WGS provides a new high capacity two-way Ka-band service.

WGS Block I consists of satellites 1-3. These satellites were successfully launched on 10 Oct 07, 3 Apr 09, and 5 Dec 09, respectively.

WGS Block II consists of satellites 4-6. Block II satellites will incorporate minor modifications to better support the Airborne Intelligence, Surveillance and Reconnaissance mission. Launches for satellites 4-5 are scheduled for Dec 11 and Oct 12, respectively.

A United States-Australia WGS partnership was codified 14 Nov 07. Australia provides funds needed to buy WGS-6 in exchange for access to constellation-wide resources. Launch for satellite 6 is scheduled for Mar 13.

WGS Block II Follow-on currently consists of satellites 7 and 8 with projected launches in FY16 and FY17, respectively.

A Nunn-McCurdy review due to a critical Average Procurement Unit Cost (APUC) breach has completed and the program consisting of eight satellites was certified on 1 June 2010.

The MILSATCOM Command and Control System-Consolidated (CCS-C) system provides integrated launch and on-orbit command and control (C2) functionality for MILSATCOM satellites. CCS-C uses modified commercial off the shelf hardware/software to control all emerging and legacy MILSATCOM systems to include Milstar, DSCS, WGS, and the Advanced Extremely High Frequency (AEHF) system. CCS-C will also support the implementation of space situational awareness and new C2 training systems.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603854F: <i>Wideband MILSATCOM (Space)</i>
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Funding is in Budget Activity 4, Advanced Component Development and Prototypes, as it supports component development and prototyping for Wideband MILSATCOM.

B. Program Change Summary (\$ in Millions)	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012 Base</u>	<u>FY 2012 OCO</u>	<u>FY 2012 Total</u>
Previous President's Budget	70.650	36.123	12.847	-	12.847
Current President's Budget	67.228	36.123	12.804	-	12.804
Total Adjustments	-3.422	-	-0.043	-	-0.043
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-3.126	-			
• Other Adjustments	-0.296	-	-0.043	-	-0.043

Congressional Add Details (\$ in Millions, and Includes General Reductions)

Project: 644811: *Wideband Gapfiller*

Congressional Add: *CONGRESSIONAL ADD*

Congressional Add Subtotals for Project: 644811

Congressional Add Totals for all Projects

<u>FY 2010</u>	<u>FY 2011</u>
-	-
-	-
-	-

Change Summary Explanation

None.

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force								DATE: February 2011			
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 MILSATCOM (Space)				PROJECT 644811: Wideband Gapfiller			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
644811: Wideband Gapfiller	42.543	17.949	-	-	-	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		
Note Totals include funding for PRCP Program Number 326, WGS.											
A. Mission Description and Budget Item Justification The Wideband Global SATCOM (WGS) System, previously known as Wideband Gapfiller Satellites, will provide the DoD with high data rate military satellite communication (MILSATCOM) services in accordance with the Joint Space Management Board-approved MILSATCOM architecture (Aug 96), the Joint Requirements Oversight Council (JROC)-approved MILSATCOM Capstone Requirements Document (Oct 97), and the JROC-approved WGS Operational Requirements Document (May 00). These dual-frequency WGS satellites will augment the DoD's Defense Satellite Communications Systems X-band service and one-way Global Broadcast Service Ka-band capabilities. In addition, WGS will provide a new high capacity two-way Ka-band service. No funds are requested for FY12.											
B. Accomplishments/Planned Programs (\$ in Millions)							FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: Block II Follow-on Non-Recurring Engineering (NRE)							42.543	17.949	-	-	-
Description: Block II Follow-on Non-Recurring Engineering (NRE)											
FY 2010 Accomplishments: Initiated Block II Follow-on NRE, includes parts obsolescence studies and redesign/requalification. Supported Capability Insertion Program (CIP) for future capability enhancements.											
FY 2011 Plans: Continue Block II Follow-on NRE and support CIP for future capability enhancements.											
FY 2012 Base Plans: Not applicable											
FY 2012 OCO Plans: Not applicable											
Accomplishments/Planned Programs Subtotals							42.543	17.949	-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011	
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>		R-1 ITEM NOMENCLATURE PE 0603854F: <i>Wideband MILSATCOM (Space)</i>		PROJECT 644811: <i>Wideband Gapfiller</i>
			FY 2010	FY 2011
Congressional Add: CONGRESSIONAL ADD			-	-
FY 2010 Accomplishments:				
FY 2011 Plans:				
Congressional Adds Subtotals			-	-

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

<u>Line Item</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u> <u>Base</u>	<u>FY 2012</u> <u>OCO</u>	<u>FY 2012</u> <u>Total</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• PE 0303600F: <i>WGS, MPAF</i>	212.418	575.711	468.745	0.000	468.745	50.659	62.379	97.163	98.473	Continuing	Continuing
• PE 0303600F (1): <i>GBS Transmit Strings, OPAF</i>	1.672	1.661	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
• PE 0603854F: <i>Project # 644870, CCS-C, RDT&E</i>	24.685	18.174	12.804	0.000	12.804	12.494	14.548	17.492	17.801	Continuing	Continuing

D. Acquisition Strategy

The WGS program made considerable use of commercial practices and technology in its FAR Part 12, Firm Fixed Price (FFP) acquisition for satellites 1-3. The WGS program received MS II/III approval in November 2000 and awarded a FFP contract in January 2001 (three satellites and options for an additional three). Options for satellites 4-6 were not exercised prior to the 31 December 2003 expiration date.

Since WGS-type capabilities were no longer being offered commercially, it was no longer appropriate to use a Firm Fixed Price contract for satellites 4-6. A Fixed Price Incentive Fee contract, which balances uncertainty of parts obsolescence/production gap with experience gained from WGS 1-3 production, was approved. The Not-to-Exceed letter contract was awarded for satellites 4 and 5 (with unfunded priced option for 6th satellite) in 2nd Qtr FY06. The contract definitized on 17 October 2006. All satellites are purchased with procurement funds, and the Non-Recurring Engineering (NRE) is funded with RDTandE. An updated Acquisition Strategy for the WGS Block II Follow-on satellites was approved by the MDA on 25 Jan 2010.

E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air 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-3, RDT&E Project Cost Analysis: PB 2012 Air Force											DATE: February 2011			
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 MILSATCOM (Space)				PROJECT 644811: Wideband Gapfiller						
Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Block II Parts Obsolescence Redesign	SS/TBD	Boeing:El Segundo, CA	91.737	-		-		-		-	0.000	91.737	0.000	
Block I EMD (satellites 1-3)	C/FFP	Boeing:El Segundo, CA	143.013	-		-		-		-	0.000	143.013	0.000	
UAV Bypass NRE	SS/FFP	Boeing:El Segundo, CA	14.000	-		-		-		-	0.000	14.000	0.000	
Payload/Production Studies	Various	Various:Various,	38.437	-		-		-		-	0.000	38.437	0.000	
Block II Follow-on NRE	SS/TBD	Boeing:El Segundo, CA	39.336	16.449	Dec 2010	-		-		-	0.000	55.785	0.000	
Subtotal			326.523	16.449		-		-		-	0.000	342.972	0.000	
Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Joint Terminals Engineering Office	PO	JTEO:McLean, VA	6.618	-		-		-		-	0.000	6.618	0.000	
Pre-EMD	Various	Various:Various,	5.579	-		-		-		-	0.000	5.579	0.000	
Program Support	Various	Various:Various,	15.942	1.500	Mar 2011	-		-		-	0.000	17.442	0.000	
Subtotal			28.139	1.500		-		-		-	0.000	29.639	0.000	
Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Subtotal			-	-		-		-		-	0.000	0.000	0.000	
Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Subtotal			-	-		-		-		-	0.000	0.000	0.000	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force									DATE: February 2011					
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 MILSATCOM (Space)				PROJECT 644811: Wideband Gapfiller						
				Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals				354.662	17.949		-		-		-	0.000	372.611	0.000

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

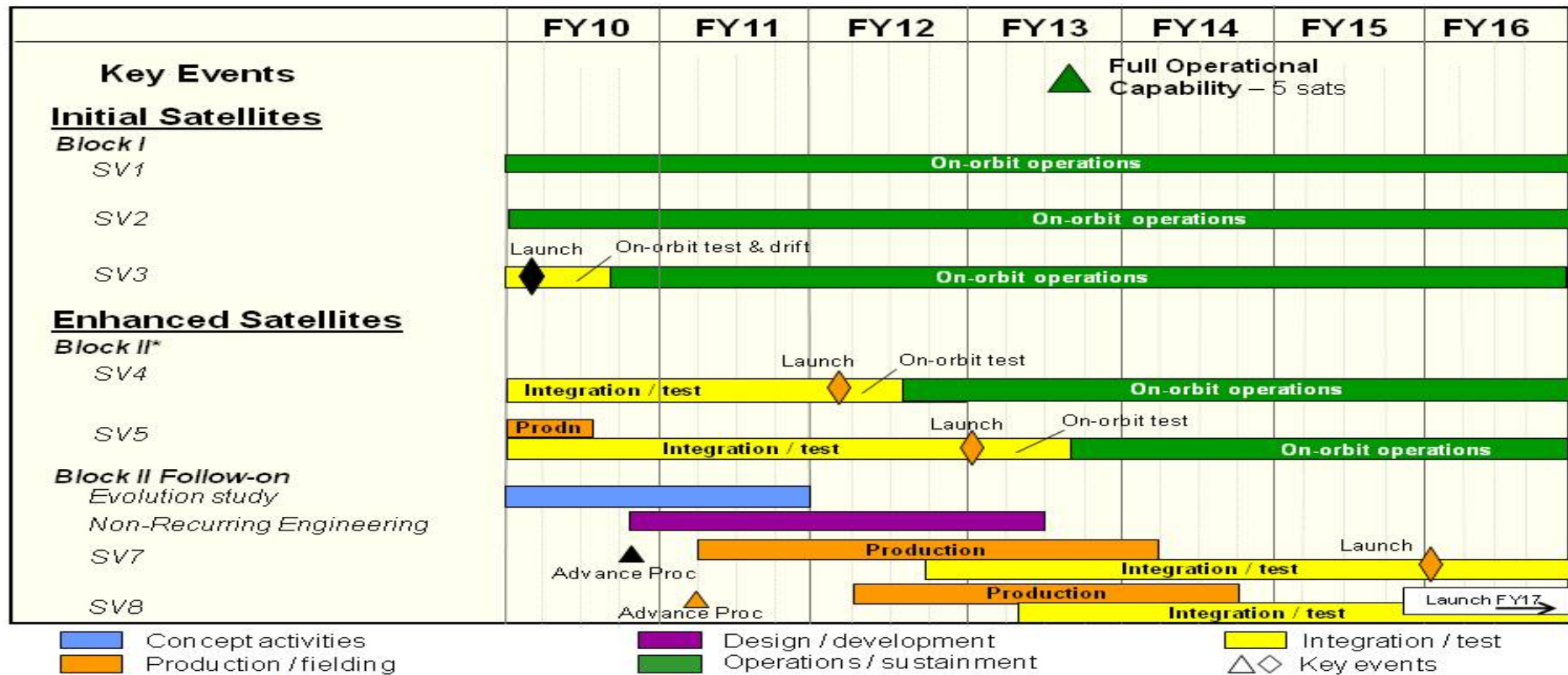
3600: Research, Development, Test & Evaluation, Air Force
BA 4: Advanced Component Development & Prototypes (ACD&P)

R-1 ITEM NOMENCLATURE

PE 0603854F: Wideband MILSATCOM (Space)

PROJECT

644811: Wideband Gapfiller



*SV6 funded by AUS. Advance Proc FY08, Full Procurement FY09, Launch Mar 13

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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603854F: <i>Wideband MILSATCOM (Space)</i>	PROJECT 644811: <i>Wideband Gapfiller</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Initiate Block II Follow-on non-recurring engineering	4	2010	2	2013

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force									DATE: February 2011		
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 MILSATCOM (Space)				PROJECT 644870: Command & Control System Consolidated (CCSC)			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
644870: Command & Control System Consolidated (CCSC)	24.685	18.174	12.804	-	12.804	12.494	14.548	17.492	17.801	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

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 the Advanced Extremely High Frequency (AEHF) system, at reduced operating and maintenance costs. CCS-C will also support the implementation of space situational awareness and new C2 training systems.

FY12 funds provide required command and control capability to launch WGS and AEHF satellites.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: CCS-C development	24.685	18.174	12.804	-	12.804
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 2010 Accomplishments: Funded completion of development to support WGS-3 handover, initiated development to support WGS Block II satellites, continued design and developed software for replacement of the WGS Flight Dynamics System with modified CCS-C orbit analysis software. Completed development for the FY2010 launch of AEHF SV-1, prepared for launch of AEHF SV-2, and continued development of the Standard Space Trainer for DSCS and Milstar.					
FY 2011 Plans: Fund modifications of the WGS Block I satellite databases and software, continue development to support WGS Block II satellites, continue development of software for replacement of the WGS Flight Dynamics System with modified CCS-C orbit analysis software. Complete development for the FY2011 launch of AEHF SV-2, prepare for launch of AEHF SV-3, and continue development of the Standard Space Trainer for Milstar.					
FY 2012 Base Plans:					

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force				DATE: February 2011	
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>		R-1 ITEM NOMENCLATURE PE 0603854F: <i>Wideband MILSATCOM (Space)</i>		PROJECT 644870: <i>Command & Control System Consolidated (CCSC)</i>	

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Fund development to support WGS Block II satellite complete development of software for replacement of WGS Flight Dynamics System with modified CCS-C orbit analysis software. Complete development for the FY12 launch of AEHF SV-3. <i>FY 2012 OCO Plans:</i> Not applicable					
Accomplishments/Planned Programs Subtotals	24.685	18.174	12.804	-	12.804

C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• PE 0303605F: SATCOM O&M, OPAF	1.941	0.250	0.256	0.000	0.256	0.259	0.262	0.268	0.273	Continuing	Continuing

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-3, RDT&E Project Cost Analysis: PB 2012 Air Force											DATE: February 2011			
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 MILSATCOM (Space)				PROJECT 644870: Command & Control System Consolidated (CCSC)						
Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Demonstration Contractors	C/FFP	Various:Various,	6.800	-		-		-		-	0.000	6.800	0.000	
Development Contractor: Integral Systems, Inc.	C/CPAF	Integral Systems, Inc:Lanham, MD	158.707	15.664	Oct 2010	9.176	Oct 2011	-		9.176	Continuing	Continuing	0.000	
Subtotal			165.507	15.664		9.176		-		9.176			0.000	
Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
CCSC Program Support Cost	Various	Various:,	27.350	2.510	Oct 2010	3.628	Oct 2011	-		3.628	Continuing	Continuing	0.000	
Subtotal			27.350	2.510		3.628		-		3.628			0.000	
Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Subtotal			-	-		-		-		-	0.000	0.000	0.000	
Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Subtotal			-	-		-		-		-	0.000	0.000	0.000	
			Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract	
Project Cost Totals			192.857	18.174		12.804		-		12.804			0.000	
Remarks														

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

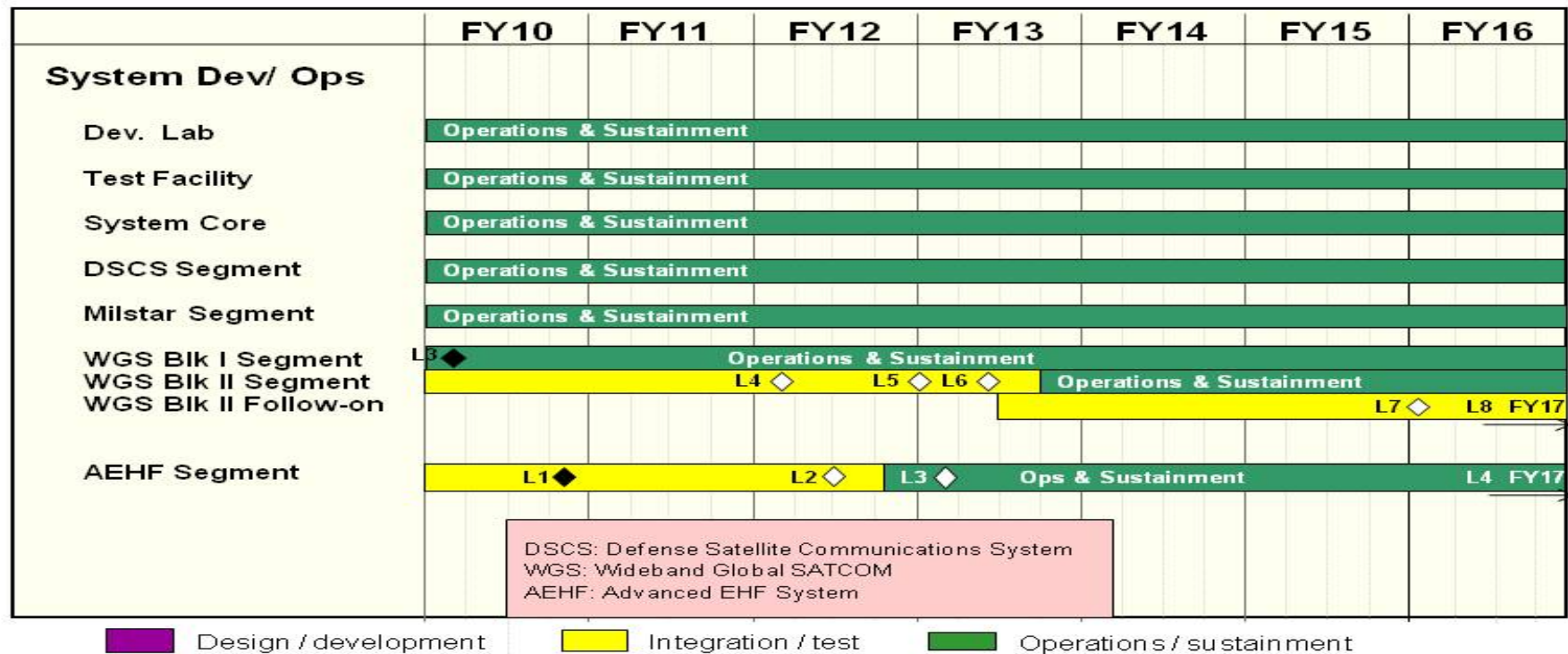
3600: Research, Development, Test & Evaluation, Air Force
BA 4: Advanced Component Development & Prototypes (ACD&P)

R-1 ITEM NOMENCLATURE

PE 0603854F: Wideband MILSATCOM (Space)

PROJECT

644870: Command & Control System Consolidated (CCSC)



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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603854F: <i>Wideband MILSATCOM (Space)</i>	PROJECT 644870: <i>Command & Control System Consolidated (CCSC)</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
WGS 3 launch	1	2010	1	2010
AEHF 1 launch	4	2010	4	2010
WGS 4 launch	1	2012	1	2012
AEHF 2 launch	2	2012	2	2012
CCS-C Block II RFP	1	2012	1	2012
CCS-C Block II Contract Award	3	2012	3	2012

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE							
3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>				PE 0603859F: <i>Pollution Prevention</i>							
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	10.264	2.534	2.075	-	2.075	2.050	2.014	1.840	1.892	Continuing	Continuing
644852: <i>Pollution Prevention</i>	10.264	2.534	2.075	-	2.075	2.050	2.014	1.840	1.892	Continuing	Continuing

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. 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 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	10.396	2.534	2.082	-	2.082
Current President's Budget	10.264	2.534	2.075	-	2.075
Total Adjustments	-0.132	-	-0.007	-	-0.007
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-0.132	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-	-	-0.007	-	-0.007

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force								DATE: February 2011			
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				PROJECT 644852: Pollution Prevention			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
644852: Pollution Prevention	10.264	2.534	2.075	-	2.075	2.050	2.014	1.840	1.892	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		
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. 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. Accomplishments/Planned Programs (\$ in Millions)							FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: Hazardous Pollution Prevention							10.264	2.534	2.075	-	2.075
Description: RCRA											
FY 2010 Accomplishments: Begin development of prototype and develop activities to reduce or eliminate hazardous materials and waste.											
FY 2011 Plans: Continue development of prototyping and developing activities to reduce or eliminate hazardous materials and waste.											
FY 2012 Base Plans: Continue development of activities to reduce or eliminate hazardous materials and waste.											
FY 2012 OCO Plans:											
Accomplishments/Planned Programs Subtotals							10.264	2.534	2.075	-	2.075

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603859F: <i>Pollution Prevention</i>	PROJECT 644852: <i>Pollution Prevention</i>	

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

<u>Line Item</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u> <u>Base</u>	<u>FY 2012</u> <u>OCO</u>	<u>FY 2012</u> <u>Total</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• N/A:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

D. Acquisition Strategy

Pollution Prevention activities are level of effort and use time and materials support 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.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force											DATE: February 2011			
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				PROJECT 644852: Pollution Prevention						
Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Air Force Research Lab	Various	Various:Various,	8.143	0.455	May 2011	1.993	May 2012	-		1.993	Continuing	Continuing	TBD	
Subtotal			8.143	0.455		1.993		-		1.993				
Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Air Force Research Lab	Various	Various:Various	0.667	1.720	May 2011	-		-		-	Continuing	Continuing	TBD	
Subtotal			0.667	1.720		-		-		-				
Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Air Force Research Lab	Various	Various:Various	1.296	0.159	Sep 2011	-		-		-	Continuing	Continuing	TBD	
Subtotal			1.296	0.159		-		-		-				
Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Air Force Research Lab	Various	Various:Various,	0.158	0.200	Sep 2011	0.082	Jun 2012	-		0.082	Continuing	Continuing	TBD	
Subtotal			0.158	0.200		0.082		-		0.082				
			Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract	
Project Cost Totals			10.264	2.534		2.075		-		2.075				
Remarks														

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

3600: Research, Development, Test & Evaluation, Air Force
BA 4: Advanced Component Development & Prototypes (ACD&P)

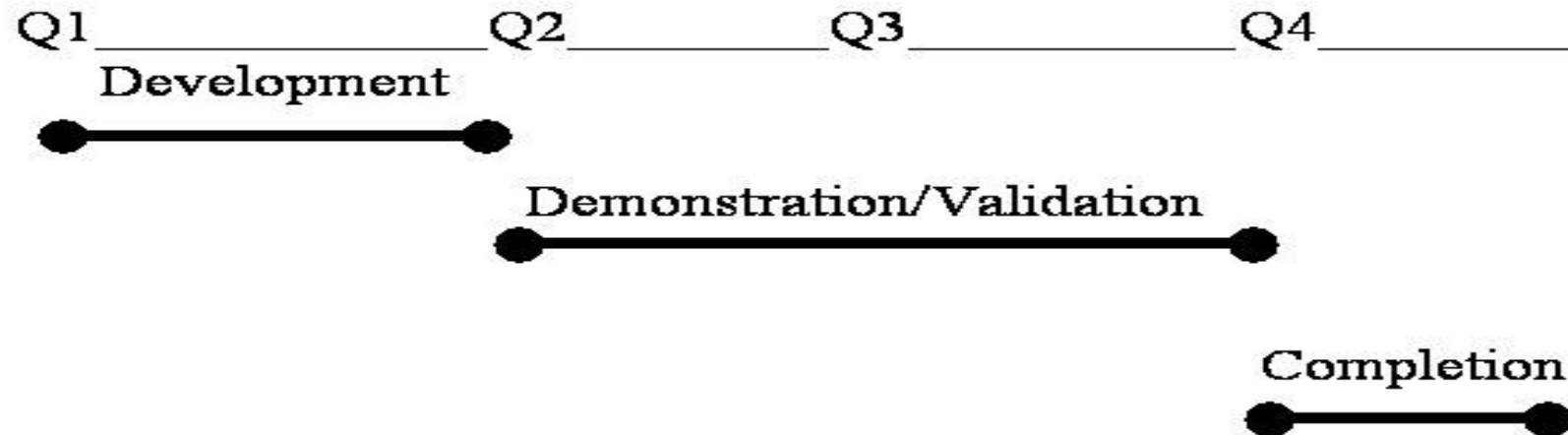
R-1 ITEM NOMENCLATURE

PE 0603859F: Pollution Prevention

PROJECT

644852: Pollution Prevention

Pollution Prevention Demonstration Schedules



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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603859F: <i>Pollution Prevention</i>	PROJECT 644852: <i>Pollution Prevention</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Development	1	2010	1	2016
Prototype	2	2010	3	2016
Contract Completion	4	2010	4	2016

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE							
3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>				PE 0603860F: <i>Joint Precision Approach and Landing System</i>							
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	20.856	13.952	20.112	-	20.112	52.176	72.916	65.990	28.527	Continuing	Continuing
644652: <i>Precision Landing Systems</i>	20.856	13.952	20.112	-	20.112	52.176	72.916	65.990	28.527	Continuing	Continuing

Note

The program funding includes reductions for Overhead Reduction efficiencies that are not intended to impact program content. The efficiencies reductions total \$.161M in FY12.

While the Joint Precision Approach and Landing System (JPALS) is an ACAT ID program, the Air Force Exhibit R-3 does not include "to complete" costs as the JPALS Land-Based Increment 2 (Air Force lead) is pre-Milestone B (FY15) and not Section 2366a certified. The Sea-Based Increment 1a (Navy lead) is post-Milestone B and Section 2366a certified. Reference Navy JPALS R-Doc for data (PNO 238).

Totals include funding for Program Resources Collection Process Program Number (PNO) 238, JPALS (Land-Based Increment 2).

A. Mission Description and Budget Item Justification

JPALS is an Acquisition Category ID program with joint partners for requirements and acquisition including the USAF, USN/USMC, USA, and the Federal Aviation Administration (under the Next Generation (NextGen) Air Transportation System Program). JPALS is being developed using an incremental approach employing a family of systems (FOS) to ensure joint, allied, coalition and Federal Aviation Administration/International Civil Aviation Organization interoperability. On 16 March 2007, the Joint Requirements Oversight Council (JROC) approved the Capability Development Document (CDD) for the JPALS Family of Systems (FoS) and Increment 1 for the Sea-Based System and designated the Navy as the JPALS lead Department of Defense (DoD) Component. On 19 January 2010, the JROC approved Increment 2 for the Land-Based System and designated the Air Force as the lead component for the Land-Based System.

JPALS is the next generation global positioning system (GPS)-based precision approach and landing system for the DoD. It will replace several aging and obsolete aircraft landing systems with a FoS that will function in more operational environments and in a wide range of meteorological conditions.

Because a cornerstone of the JPALS implementation strategy is worldwide and civil interoperability, JPALS must harmonize with US and International Civil Global Navigation Satellite Systems. This is being accomplished through participation in the development testing, and implementation of international standards through the North American Treaty Organization (NATO) the International Civil Aviation Organization (ICAO).

Interoperability of the JPALS ground systems with all military and civil aircraft is a key aspect of the planned system. Military aircraft must have worldwide access to civil and military airfields/air stations/operating locations in benign and hostile (jamming) environments. The JPALS Land-based Increment 2 system will provide a civil interoperable capability and also a military interoperable encrypted, jam-resistant capability.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603860F: <i>Joint Precision Approach and Landing System</i>
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FY12 efforts continue risk reduction activities related to incorporating JPALS capability in existing avionics and evolution of the acquisition strategy in preparation for Milestone B. This includes completion of the technology readiness assessment with the Office of the Secretary of Defense participation and a greater emphasis on aircraft integration activities. Test planning activity will ramp-up in advance of the Engineering, Manufacturing and Development (EMD) contract award in FY12. JPALS will close capability gaps identified in the Precision Approach and Landing Capability Initial Capabilities Document. These gaps include: interoperability for naval aircraft landing at shore-based airfields operated by other services, interoperability for Navy/Marine Corps and Army aircraft landing at civil airports, and for the Civil Reserve Air Fleet landing at DoD airfields.

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)	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012 Base</u>	<u>FY 2012 OCO</u>	<u>FY 2012 Total</u>
Previous President's Budget	22.953	13.952	12.616	-	12.616
Current President's Budget	20.856	13.952	20.112	-	20.112
Total Adjustments	-2.097	-	7.496	-	7.496
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-0.097	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-2.000	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-	-	7.496	-	7.496

Change Summary Explanation

The funding increase starting in FY12 reflects decision to move the JPALS Land-Based Increment 2 initial operational capability from FY19 to FY17 and Milestone B from FY15 to FY13. This change aligns the Land-Based Increment 2 with the Sea-Based Increment 1 initial operational capability timelines.

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force									DATE: February 2011		
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 System				PROJECT 644652: Precision Landing Systems			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
644652: Precision Landing Systems	20.856	13.952	20.112	-	20.112	52.176	72.916	65.990	28.527	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

Note

The program funding includes reductions for Overhead Reduction efficiencies that are not intended to impact program content. The efficiencies reductions total \$.161M in FY12.

While the Joint Precision Approach and Landing System (JPALS) is an ACAT ID program, the Air Force Exhibit R-3 does not include "to complete" costs as the JPALS Land-Based Increment 2 (Air Force lead) is pre-Milestone B (FY15) and not Section 2366a certified. The Sea-Based Increment 1a (Navy lead) is post-Milestone B and Section 2366a certified. Reference Navy JPALS R-Doc for data (PNO 238).

Totals include funding for Program Resources Collection Process Program Number (PNO) 238, JPALS (Land-Based Increment 2).

A. Mission Description and Budget Item Justification

JPALS is an Acquisition Category ID program with joint partners for requirements and acquisition including the USAF, USN/USMC, USA, and the Federal Aviation Administration (under the Next Generation (NextGen) Air Transportation System Program). JPALS is being developed using an incremental approach employing a family of systems (FOS) to ensure joint, allied, coalition and Federal Aviation Administration/International Civil Aviation Organization interoperability. On 16 March 2007, the Joint Requirements Oversight Council (JROC) approved the Capability Development Document (CDD) for the JPALS Family of Systems (FoS) and Increment 1 for the Sea-Based System and designated the Navy as the JPALS lead Department of Defense (DoD) Component. On 19 January 2010, the JROC approved Increment 2 for the Land-Based System and designated the Air Force as the lead component for the Land-Based System.

JPALS is the next generation global positioning system (GPS)-based precision approach and landing system for the DoD. It will replace several aging and obsolete aircraft landing systems with a FoS that will function in more operational environments and in a wide range of meteorological conditions.

Because a cornerstone of the JPALS implementation strategy is worldwide and civil interoperability, JPALS must harmonize with US and International Civil Global Navigation Satellite Systems. This is being accomplished through participation in the development testing, and implementation of international standards through the North American Treaty Organization (NATO) the International Civil Aviation Organization (ICAO).

Interoperability of the JPALS ground systems with all military and civil aircraft is a key aspect of the planned system. Military aircraft must have worldwide access to civil and military airfields/air stations/operating locations in benign and hostile (jamming) environments. The JPALS Land-based Increment 2 system will provide a civil interoperable capability and also a military interoperable encrypted, jam-resistant capability.

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011				
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 System	PROJECT 644652: Precision Landing Systems				
FY12 efforts continue risk reduction activities related to incorporating JPALS capability in existing avionics and evolution of the acquisition strategy in preparation for Milestone B. This includes completion of the technology readiness assessment with the Office of the Secretary of Defense participation and a greater emphasis on aircraft integration activities. Test planning activity will ramp-up in advance of the Engineering, Manufacturing and Development (EMD) contract award in FY12. JPALS will close capability gaps identified in the Precision Approach and Landing Capability Initial Capabilities Document. These gaps include: interoperability for naval aircraft landing at shore-based airfields operated by other services, interoperability for Navy/Marine Corps and Army aircraft landing at civil airports, and for the Civil Reserve Air Fleet landing at DoD airfields.							
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 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: JPALS Engineering Support Studies and Analysis Description: Provides systems engineering, prototyping and testing of component level technologies necessary for risk reduction on JPALS FY 2010 Accomplishments: Performed advanced threat mitigation studies, and modeling and simulation activities. Began avionics risk reduction activities. FY 2011 Plans: Completes advanced threat mitigation work and modeling and simulation activities. Continues avionics risk reduction activities FY 2012 Base Plans: Will Complete component technology development and avionics risk reduction activities. FY 2012 OCO Plans:			7.800	7.873	2.000	-	2.000
Title: JPALS Test and Evaluation Description: Includes planning and execution of the JPALS test and evaluation program FY 2010 Accomplishments: Supported the drafting of JPALS TEMP, standup of RTO and formation of the Integrated Test Team (ITT) and drafting of the ITT Charter FY 2011 Plans:			0.623	0.600	0.602	-	0.602

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011				
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 System		PROJECT 644652: Precision Landing Systems			
B. Accomplishments/Planned Programs (\$ in Millions)			FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Continues the FY2010 activities FY 2012 Base Plans: Will Finalize the FY2010/2011 activities and supports the Source Selection and Award of the TD/EMD contract. FY 2012 OCO Plans: Not applicable							
Title: JPALS Acquisition and Technical Services Support Description: Provides Acquisition and Technical services for systems engineering and program execution for JPALS FY 2010 Accomplishments: Provided system engineering and program support services for the evaluation of work performed under the JPALS Engineering Support Studies and Analysis. Provided systems engineering support to develop the JPALS System Requirements Document and other RFP documentation. FY 2011 Plans: Continues to provide system engineering and program support services for the JPALS Engineering and Support Services and Analysis projects. Provides system engineering and program support services to complete the JPALS RFP package and other required program documentation. FY 2012 Base Plans: Provides systems engineering and program support services as advisors to the JPALS Source Selection team and to support execution of the TD/EMD contract. Provides systems engineering support to complete component technology and risk reduction efforts. FY 2012 OCO Plans:			12.433	5.479	10.110	-	10.110
Title: JPALS Engineering and Manufacturing Development Description: Includes the system design, development and fabrication of JPALS Ground and Airborne systems FY 2010 Accomplishments: FY 2011 Plans: FY 2012 Base Plans:			-	-	7.400	-	7.400

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603860F: <i>Joint Precision Approach and Landing System</i>	PROJECT 644652: <i>Precision Landing Systems</i>
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B. Accomplishments/Planned Programs (\$ in Millions)					FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Supports contract award and the beginning of the TD/EMD contract.									
<i>FY 2012 OCO Plans:</i>									
Accomplishments/Planned Programs Subtotals					20.856	13.952	20.112	-	20.112

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

<u>Line Item</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012 Base</u>	<u>FY 2012 OCO</u>	<u>FY 2012 Total</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• PE0305114F: <i>Air Traffic Control and Landing Systems (OPAF)</i>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	13.407	Continuing	Continuing

D. Acquisition Strategy

Increment 2 Technical Development and Engineering, and Manufacturing Development (EMD) contracts for development of Fixed-Based and Tactical JPALS systems will be competitively awarded.

E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air 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-3, RDT&E Project Cost Analysis: PB 2012 Air Force											DATE: February 2011			
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 System				PROJECT 644652: Precision Landing Systems						
Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
TD/EMD	C/TBD	TBD:TBD,	-	-		7.400	May 2012	-		7.400	Continuing	Continuing	TBD	
Subtotal			-	-		7.400		-		7.400				
Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Anti-Jam and Threat Analysis	C/TBD	AFRL:Dayton, OH	10.000	0.500	Apr 2011	-		-		-	Continuing	Continuing	TBD	
Architecture Trade Studies and Analysis	C/TBD	AES:Lex Park, MD	26.613	1.100	Apr 2011	-		-		-	Continuing	Continuing	TBD	
Integration Studies	SS/CPAF	Honeywell/ BAE:Bedford/ Clearwater, FL	16.487	6.273	Apr 2011	2.000	Jan 2012	-		2.000	Continuing	Continuing	TBD	
Subtotal			53.100	7.873		2.000		-		2.000				
Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
JPALS Responsible Test Organization (RTO)	Various	46th Test Wing:Eglin AFB, FL	1.584	0.600	Mar 2011	0.600	Jan 2012	-		0.600	Continuing	Continuing	TBD	
Subtotal			1.584	0.600		0.600		-		0.600				
Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Acquisition Support	C/TBD	Quantec, Jacobs Engineering, MITRE, Telecote Cost Services, MIT LL:Bedford, MA	45.633	5.479	Apr 2011	10.112	Oct 2011	-		10.112	Continuing	Continuing	TBD	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force											DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>				R-1 ITEM NOMENCLATURE PE 0603860F: <i>Joint Precision Approach and Landing System</i>				PROJECT 644652: <i>Precision Landing Systems</i>					

Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			45.633	5.479		10.112		-		10.112			

	Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	100.317	13.952		20.112		-		20.112			

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force

DATE: February 2011

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 System

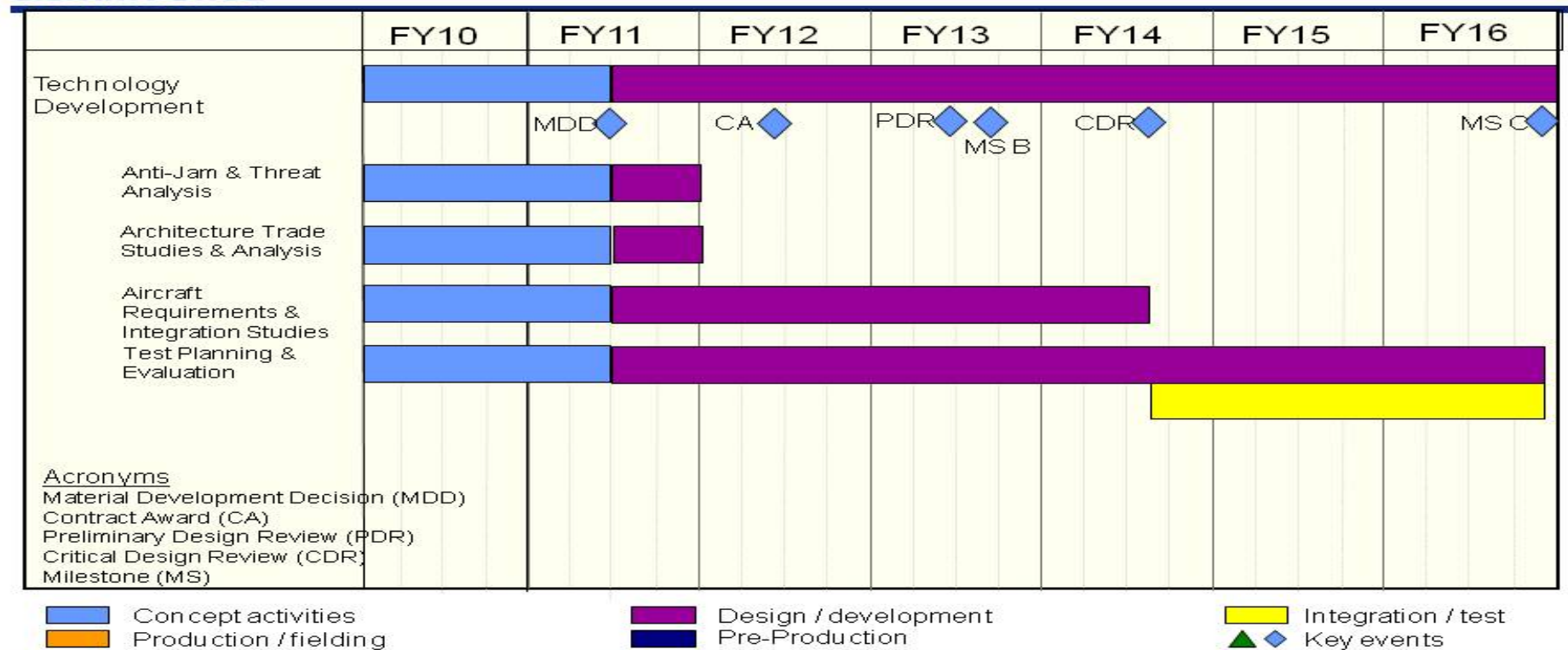
PROJECT

644652: Precision Landing Systems



U.S. AIR FORCE

Joint Precision Approach and Landing System (JPALS)



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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603860F: <i>Joint Precision Approach and Landing System</i>	PROJECT 644652: <i>Precision Landing Systems</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Increment 2 Development	1	2010	4	2016
Anti-Jam & Threat Analysis	1	2010	4	2011
Architecture Trade Studies & Analysis	1	2010	4	2011
Aircraft Requirements & Integration Studies	1	2010	3	2014
Test Planning & Evaluation	1	2010	4	2016

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE							
3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>				PE 0604015F: <i>Next Generation Bomber</i>							
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	-	198.957	197.023	-	197.023	293.975	550.312	999.517	1,699.832	Continuing	Continuing
643308: <i>Next Generation Bomber</i>	-	198.957	197.023	-	197.023	293.975	550.312	999.517	1,699.832	Continuing	Continuing

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 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	-	198.957	197.023	-	197.023
Current President's Budget	-	198.957	197.023	-	197.023
Total Adjustments	-	-	-	-	-
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-	-	-	-	-

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.

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE				PROJECT			
3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>				PE 0604015F: <i>Next Generation Bomber</i>				643308: <i>Next Generation Bomber</i>			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
643308: <i>Next Generation Bomber</i>	-	198.957	197.023	-	197.023	293.975	550.312	999.517	1,699.832	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

This program 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. Accomplishments/Planned Programs (\$ in Millions)

	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: LRS	-	198.957	197.023	-	197.023
Description: not applicable					
FY 2010 Accomplishments: not applicable					
FY 2011 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 2012 Base 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 2012 OCO Plans:					
Accomplishments/Planned Programs Subtotals	-	198.957	197.023	-	197.023

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force										DATE: February 2011	
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>				R-1 ITEM NOMENCLATURE PE 0604015F: <i>Next Generation Bomber</i>				PROJECT 643308: <i>Next Generation Bomber</i>			

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

	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u> <u>Base</u>	<u>FY 2012</u> <u>OCO</u>	<u>FY 2012</u> <u>Total</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• N/A: <i>Not applicable</i>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

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-3, RDT&E Project Cost Analysis: PB 2012 Air Force											DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 4: Advanced Component Development & Prototypes (ACD&P)				R-1 ITEM NOMENCLATURE PE 0604015F: Next Generation Bomber				PROJECT 643308: Next Generation Bomber						
Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Not applicable	Various	Not applicable:,	-	198.957	Jan 2012	197.023	Feb 2013	-		197.023	0.000	395.980	0.000	
Subtotal			-	198.957		197.023		-		197.023	0.000	395.980	0.000	
Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Subtotal			-	-		-		-		-	0.000	0.000	0.000	
Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Subtotal			-	-		-		-		-	0.000	0.000	0.000	
Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Subtotal			-	-		-		-		-	0.000	0.000	0.000	
			Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract	
Project Cost Totals			-	198.957		197.023		-		197.023	0.000	395.980	0.000	
Remarks														

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0604015F: <i>Next Generation Bomber</i>	PROJECT 643308: <i>Next Generation Bomber</i>

PE 0604015F
No Schedule at this time

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE							
3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>				PE 0604283F: <i>BMC2 Sensor Development</i>							
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	21.822	-	60.250	-	60.250	117.713	95.432	98.842	81.727	Continuing	Continuing
645363: <i>MP-RTIP</i>	21.822	-	-	-	-	-	-	-	-	Continuing	Continuing
646002: <i>Three Dimensional Expeditionary Long Range Radar</i>	-	-	60.250	-	60.250	117.713	95.432	98.842	81.727	Continuing	Continuing

Note

In FY 2010, Project 5363 Multi Platform-Radar Technology Insertion Program (MP-RTIP) efforts were transferred from PE 0207581F, PE Joint Surveillance Target Attack Radar System (JSTARS), Project 0003, in order to continue risk reduction on a Wide Area Surveillance (WAS) radar and to support Battle Management Command and Control (BMC2). Funding was consolidated in this PE concurrent with the termination of PE 0207450F (E-10) and because the verification effort is not platform dependent (i.e. not specific to PE 0207581F, JSTARS or PE 0305220F, RQ-4 UAV).

In FY 2012, Project 6002, Three Dimensional Expeditionary Long Range Radar (3DELRR), efforts were transferred from PE 0207412F, Control and Reporting Center, BPAC 675294, Theater Air Control System Improvement - Radar, in order to provide this pre-Major Defense Acquisition Program its own Program Element.

A. Mission Description and Budget Item Justification

Beginning in FY12, PE 0604238F 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 USAF long-range, ground-based sensor for detecting, identifying, tracking, and reporting aircraft and missiles in support of the Joint Forces Air Component Commander (JFACC) through the Ground Theater Air Control System (GTACS). The primary mission of the 3DELRR will be to provide long-range surveillance, control of aircraft, theater ballistic missile detection, and Combat Identification (CID). The 3DELRR will respond to the operational need to detect and report highly maneuverable, small radar cross section targets to enable battlespace 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. In the case of theater missile defense operations, the 3DELRR will have the capability to detect, track, and disseminate target information to respective command and control nodes, such as the Control and Reporting Center (CRC), for warning and engagement. Similarly, the joint targeting process will benefit from trajectory information provided by the 3DELRR, including launch and impact locations.

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

In FY10, PE 0604283F funded investigation and development improving Wide Area Surveillance (WAS) capabilities, such as the Multi Platform-Radar Technology Insertion Program (MP-RTIP) airborne sensors, to support potential platforms including, but not limited to, E-8C Joint STARS. Activities included risk reduction and technology maturation in areas such as improved Kill Chain performance (processing, exploitation, and dissemination of sensor data) and improved Surface/Ground Moving Target Indicator (GMTI), Synthetic Aperture Radar (SAR), and other radar modes. This also included installed air mode capabilities, electronic protection,

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY

3600: *Research, Development, Test & Evaluation, Air Force*
BA 4: *Advanced Component Development & Prototypes (ACD&P)*

R-1 ITEM NOMENCLATURE

PE 0604283F: *BMC2 Sensor Development*

technology refresh and assessment, antenna scaling/open architecture design, mode software development, and installed system performance assessments. FY10 was the last year MP-RTIP was funded in this PE.

These programs 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.

B. Program Change Summary (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	22.612	-	-	-	-
Current President's Budget	21.822	-	60.250	-	60.250
Total Adjustments	-0.790	-	60.250	-	60.250
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.696	-			
• Other Adjustments	-0.094	-	60.250	-	60.250

Change Summary Explanation

In FY 2012, Project 6002, Three Dimensional Expeditionary Long Range Radar (3DELRR), efforts were transferred from PE 0207412F, Control and Reporting Center, BPAC 675294, Theater Air Control System Improvement - Radar, in order to provide this pre-Major Defense Acquisition Program its own Program Element.

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force								DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 4: Advanced Component Development & Prototypes (ACD&P)				R-1 ITEM NOMENCLATURE PE 0604283F: BMC2 Sensor Development				PROJECT 645363: MP-RTIP			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
645363: MP-RTIP	21.822	-	-	-	-	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		
Note In FY 2010, Project 5363, MP-RTIP efforts were transferred from PE 0207581F, Joint STARS, Project 0003, in order to continue risk reduction on a Wide Area Surveillance (WAS) radar, Radar Technology Refresh (RTR), and to support Battle Management Command and Control (BMC2).											
A. Mission Description and Budget Item Justification PE 0604283F funded the investigation and development of efforts to improve Wide Area Surveillance (WAS) capabilities. Activities included efforts to improve radar components, analyze integration of improved components, develop C2 solutions for GMTI platforms, and support future program planning. Improvement of radar sensors included efforts to enhance Surface/ Ground Moving Target Indicator (GMTI), Synthetic Aperture Radar (SAR), and other radar modes. This also included air mode capabilities, electronic protection, technology refresh and assessment, antenna scaling/open architecture design, air mode software development, and installed system performance assessments. Integrating enhanced radar systems to radar platforms requires risk reduction and technology maturation with the sensor, operation and control of the sensor, and integration of the sensor. Platform integration activities focused on weapon system integration analysis and risk reduction to address airframe areas such as thermal analysis, electrical power analysis, structural analysis and sensor radome design, and power generation baseline assessment. Battle Management Command and Control (BMC2) activities under this PE focused on operation and control of any sensor. These activities included risk reduction, architecture analysis, modeling and simulation, prototype designs and tools related to sensor and data management, data fusion and security, and computing architecture analysis to support mission execution capabilities. Finally, activities on the PE also included studies and analysis to support current program planning, 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.											
B. Accomplishments/Planned Programs (\$ in Millions)							FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: Risk Reduction Effort							12.197	-	-	-	-
Description: Support Global Hawk Block 40 DT/OT and other GMTI exploitation activities.											

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force				DATE: February 2011	
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 4: Advanced Component Development & Prototypes (ACD&P)		R-1 ITEM NOMENCLATURE PE 0604283F: BMC2 Sensor Development		PROJECT 645363: MP-RTIP	
B. Accomplishments/Planned Programs (\$ in Millions)					
	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
FY 2010 Accomplishments: Initiated BMC2/GMTI exploitation activities to include risk reduction, architecture analysis, modeling and simulation, prototype designs and tools related to sensor and data management, data fusion and security, and computing architecture analysis to support Aerial ground surveillance mission execution capabilities.					
FY 2011 Plans:					
FY 2012 Base Plans:					
FY 2012 OCO Plans:					
Title: Studies and Analysis					
Description: Provide an analytical basis for investigating alternatives to replace, refurbish, or modernize JSTARS.					
FY 2010 Accomplishments: Started studies and analysis to support future GMTI, SAR and Battle Management capabilities. Included analysis of current platforms and technologies as well as potential replacement platforms and technologies.					
FY 2011 Plans:					
FY 2012 Base Plans:					
FY 2012 OCO Plans:					
Title: System Engineering/Technical Support					
Description: Managing analyses and assessments of industry technologies and systems.					
FY 2010 Accomplishments: Conducted systems engineering and technical oversight of associated contractor activity.					
FY 2011 Plans:					
FY 2012 Base Plans:					
FY 2012 OCO Plans:					
Accomplishments/Planned Programs Subtotals					
	21.822	-	-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0604283F: <i>BMC2 Sensor Development</i>	PROJECT 645363: <i>MP-RTIP</i>	

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

<u>Line Item</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u> <u>Base</u>	<u>FY 2012</u> <u>OCO</u>	<u>FY 2012</u> <u>Total</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• N/A:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

D. Acquisition Strategy

This acquisition strategy implemented risk reduction and technology maturation efforts to produce analyses, reports, and software that can be leveraged if/when any future development program is approved.

E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air 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-3, RDT&E Project Cost Analysis: PB 2012 Air Force										DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 4: Advanced Component Development & Prototypes (ACD&P)				R-1 ITEM NOMENCLATURE PE 0604283F: BMC2 Sensor Development				PROJECT 645363: MP-RTIP					
Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Risk Reduction Effort	Various	Various:Various,	12.197	-		-		-		-	0.000	12.197	12.197
Subtotal			12.197	-		-		-		-	0.000	12.197	12.197
Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
AoA Support	Various	Various:Various,	3.157	-		-		-		-	0.000	3.157	3.157
Subtotal			3.157	-		-		-		-	0.000	3.157	3.157
Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Not specified.	TBD	TBD:TBD,	-	-		-		-		-	0.000	0.000	0.000
Subtotal			-	-		-		-		-	0.000	0.000	0.000
Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Support	Various	Various:Boston, MA	6.468	-		-		-		-	0.000	6.468	6.468
Subtotal			6.468	-		-		-		-	0.000	6.468	6.468
			Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			21.822	-		-		-		-	0.000	21.822	21.822
Remarks													

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

3600: Research, Development, Test & Evaluation, Air Force
BA 4: Advanced Component Development & Prototypes (ACD&P)

R-1 ITEM NOMENCLATURE

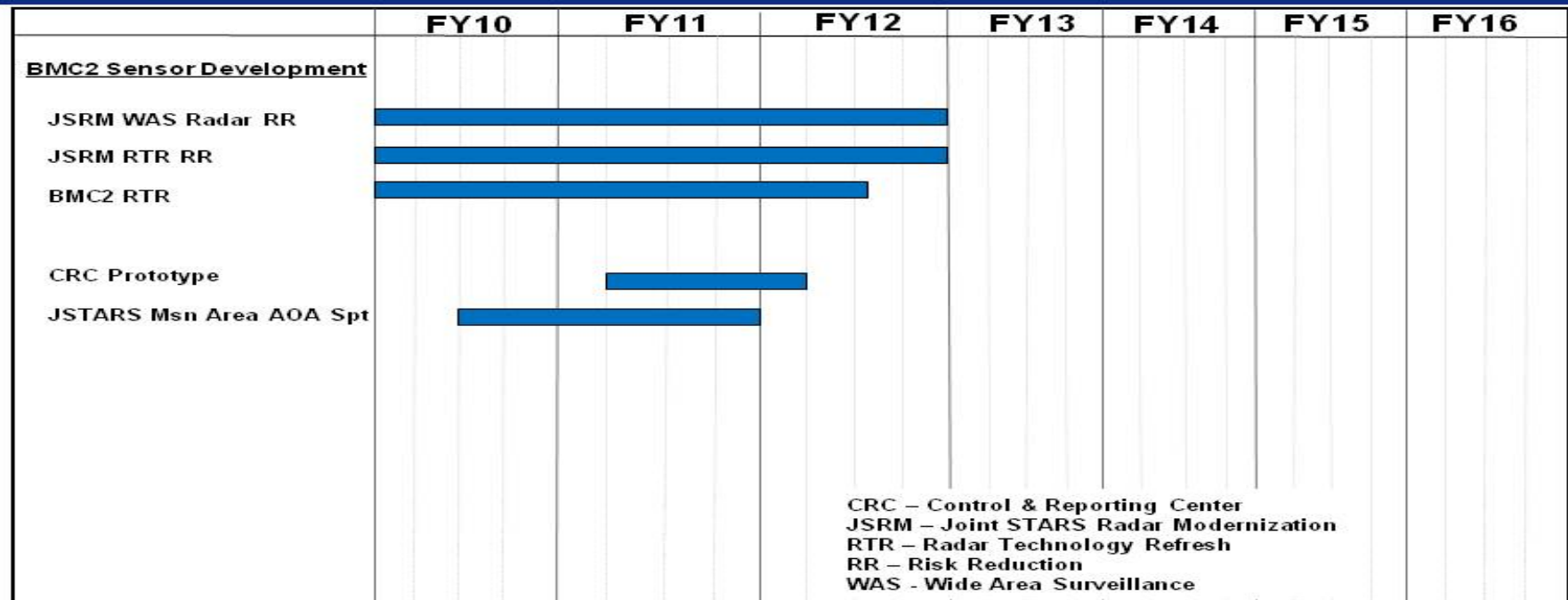
PE 0604283F: BMC2 Sensor Development

PROJECT

645363: MP-RTIP



BMC2 Sensor Development Program Schedule



[Blue bar] Concept activities [Purple bar] Design / development [Yellow bar] Integration / test
 [Orange bar] Production / fielding [Green bar] Operations / sustainment [Light blue bar] Task △ Plan ▲ Actual

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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0604283F: <i>BMC2 Sensor Development</i>	PROJECT 645363: <i>MP-RTIP</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
JSRM WAS Radar Risk Reduction	1	2010	4	2012
JSRM Radar Technology Refresh Risk Reduction	1	2010	4	2012
BMC2 Radar Technology Refersh	1	2010	3	2012
CRC BMC2 Prototype	1	2011	2	2012
Joint STARS Mission Area Support	3	2010	4	2011

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force									DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 4: Advanced Component Development & Prototypes (ACD&P)				R-1 ITEM NOMENCLATURE PE 0604283F: BMC2 Sensor Development				PROJECT 646002: Three Dimensional Expeditionary Long Range Radar			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
646002: Three Dimensional Expeditionary Long Range Radar	-	-	60.250	-	60.250	117.713	95.432	98.842	81.727	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

Note

In FY 2012, BPAC 646002, Three Dimensional Expeditionary Long Range Radar (3DELRR), efforts were transferred from PE 0207412F, Control and Reporting Center, BPAC 675294, Theater Air Control System Improvement - Radar, in order to provide this pre-Major Defense Acquisition Program its own Program Element.

A. Mission Description and Budget Item Justification

Beginning in FY12, PE 0604238F 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 USAF long-range, ground-based sensor for detecting, identifying, tracking, and reporting aircraft and missiles in support of the Joint Forces Air Component Commander (JFACC) through the Ground Theater Air Control System (GTACS). The primary mission of the 3DELRR will be to provide long-range surveillance, control of aircraft, theater ballistic missile detection, and Combat Identification (CID). The 3DELRR will respond to the operational need to detect and report highly maneuverable, small radar cross section targets to enable battlespace 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. In the case of theater missile defense operations, the 3DELRR will have the capability to detect, track, and disseminate target information to respective command and control nodes, such as the Control and Reporting Center (CRC), for warning and engagement. Similarly, the joint targeting process will benefit from trajectory information provided by the 3DELRR, including launch and impact locations.

In FY12, the 3DELRR Program will continue Technology Development (TD) Phase efforts with the Program Definition and Risk Reduction (PDRR) Period. Acquisition activities will include, but are not limited to, preliminary design development, software and hardware subsystem-level development, modeling and simulation to support system development, implementation of mitigation techniques to combat existing and emerging system threats (including cyber warfare), test planning, and execution of the program protection plan. The PDRR period will include System Requirements (SRR), System Functional (SFR) and Preliminary Design Reviews (PDR) leading to a single, mature system design. Activities also include continued development of Milestone B documentation as well as studies and analyses to support both current program planning and execution and future program planning.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: Technology Development (TD) and Program Definition and Risk Reduction (PDRR)	-	-	49.953	-	49.953
Description: Technology Development (TD) Phase and Program Definition and Risk Reduction (PDRR) efforts associated with delivering a new long-range ground-based sensor.					

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011					
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 4: Advanced Component Development & Prototypes (ACD&P)		R-1 ITEM NOMENCLATURE PE 0604283F: BMC2 Sensor Development		PROJECT 646002: Three Dimensional Expeditionary Long Range Radar				
B. Accomplishments/Planned Programs (\$ in Millions)				FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
FY 2010 Accomplishments:								
FY 2011 Plans:								
FY 2012 Base Plans:								
Technology Development (TD) Phase efforts with Program Definition and Risk Reduction (PDRR) Period work to develop a single system design. Acquisition activities during this PDRR Period will include, but are not limited to, preliminary design development, software and hardware subsystem-level development, modeling and simulation to support system development, implementation of mitigation techniques to combat existing and emerging system threats (including cyber warfare), test planning, and execution of the program protection plan. System Requirements (SRR), System Functional (SFR) and Preliminary Design Reviews (PDR) during this period will ensure that the program is heading toward a single, mature system design. Activities will also include continued development of Milestone B documentation as well as studies and analysis to support both current program planning and execution and future program planning.								
FY 2012 OCO Plans:								
Title: Test and Evaluation Support				-	-	0.469	-	0.469
Description: Test and Evaluation Support								
FY 2010 Accomplishments:								
FY 2011 Plans:								
FY 2012 Base Plans:								
Test and evaluation support activities will include, but not be limited to, 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 2012 OCO Plans:								
Title: Systems Engineering/ Technical Support				-	-	9.828	-	9.828
Description: Systems Engineering/Technical Support								
FY 2010 Accomplishments:								
FY 2011 Plans:								

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>		R-1 ITEM NOMENCLATURE PE 0604283F: <i>BMC2 Sensor Development</i>		PROJECT 646002: <i>Three Dimensional Expeditionary Long Range Radar</i>	

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
<i>FY 2012 Base Plans:</i> Systems Engineering/Technical Support					
<i>FY 2012 OCO Plans:</i>					
Accomplishments/Planned Programs Subtotals	-	-	60.250	-	60.250

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

Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• RDT&E: <i>PE 0207412F</i>	44.919	48.699	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

D. Acquisition Strategy

The Three-Dimensional Expeditionary Long-Range Radar (3DELRR) Project is taking a single-step-to-full-capability acquisition approach via full and open competition to further advance C2 capabilities supporting battlefield command and control.

E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air 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-3, RDT&E Project Cost Analysis: PB 2012 Air Force										DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 4: Advanced Component Development & Prototypes (ACD&P)				R-1 ITEM NOMENCLATURE PE 0604283F: BMC2 Sensor Development				PROJECT 646002: Three Dimensional Expeditionary Long Range Radar					
Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Modeling & Simulation	SS/CPFF	MIT/Lincoln Laboratory:Lexington, MA	-	-		1.155	Mar 2012	-		1.155	Continuing	Continuing	TBD
System Threat Assessment	SS/CPFF	MITRE:Bedford, MA	-	-		0.316	Nov 2011	-		0.316	Continuing	Continuing	TBD
Program Definition & Risk Reduction	C/CPIF	TBD:,	-	-		48.482	Mar 2012	-		48.482	Continuing	Continuing	TBD
Subtotal			-	-		49.953		-		49.953			
Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
System Engineering - A	SS/CPFF	MITRE:Bedford, MA	-	-		2.054	Oct 2011	-		2.054	Continuing	Continuing	TBD
System Engineering - B	SS/CPFF	MIT/Lincoln Laboratory:Lexington, MA	-	-		1.950	Jan 2012	-		1.950	Continuing	Continuing	TBD
System Engineering - C	MIPR	Naval Research Laboratory:Washington, DC	-	-		0.545	Nov 2011	-		0.545	Continuing	Continuing	TBD
System Engineering - D	SS/CPFF	Carnegie Mellon University:Pittsburgh, PA	-	-		0.390	Dec 2011	-		0.390	Continuing	Continuing	TBD
Technical Support	C/CPFF	Various:,	-	-		4.889	Dec 2011	-		4.889	Continuing	Continuing	TBD
Subtotal			-	-		9.828		-		9.828			
Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
46th Test Wing/Other Test Activity	Various	Various:,	-	-		0.469	Oct 2011	-		0.469	Continuing	Continuing	TBD

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force											DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>				R-1 ITEM NOMENCLATURE PE 0604283F: <i>BMC2 Sensor Development</i>				PROJECT 646002: <i>Three Dimensional Expeditionary Long Range Radar</i>					

Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		0.469		-		0.469			

Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-	0.000	0.000	0.000

			Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			-	-		60.250		-		60.250			

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

3600: Research, Development, Test & Evaluation, Air Force
BA 4: Advanced Component Development & Prototypes (ACD&P)

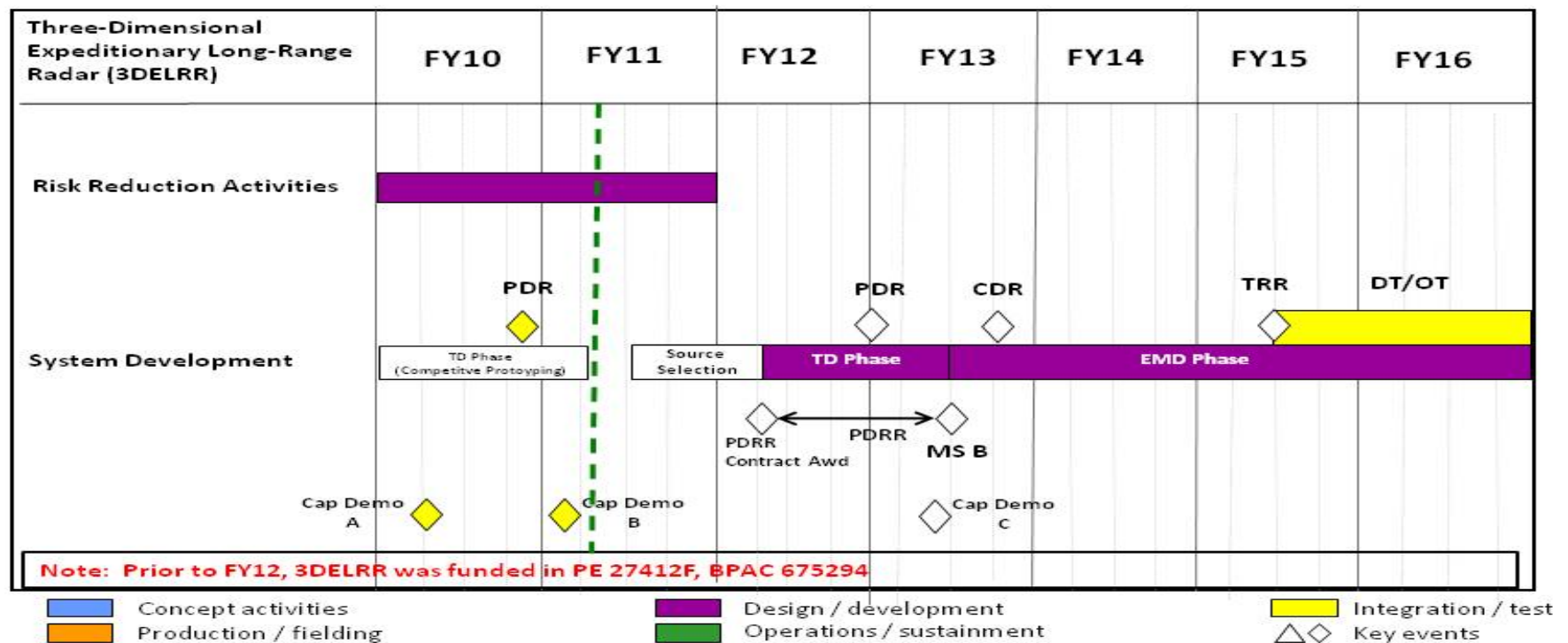
R-1 ITEM NOMENCLATURE

PE 0604283F: BMC2 Sensor Development

PROJECT

646002: Three Dimensional Expeditionary Long Range Radar

3DELRR Program Schedule



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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0604283F: <i>BMC2 Sensor Development</i>	PROJECT 646002: <i>Three Dimensional Expeditionary Long Range Radar</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
3DELRR Program Definition and Risk Reduction (PDRR) phase	2	2012	2	2013
3DELRR Preliminary Design Review (TD Phase - PDRR)	1	2013	1	2013
3DELRR Milestone B	3	2013	3	2013
3DELRR Engineering and Manufacturing Development (EMD) Phase	3	2013	4	2016
3DELRR Critical Design Review (CDR)	4	2013	4	2013

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE							
3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>				PE 0604317F: <i>Technology Transfer</i>							
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	-	-	2.553	-	2.553	2.571	2.606	2.645	2.689	Continuing	Continuing
646003: <i>Partnership Intermediary Agreement(s)</i>	-	-	2.553	-	2.553	2.571	2.606	2.645	2.689	Continuing	Continuing

Note

Note: In FY 2012, the Office of the Secretary of Defense (OSD) transferred this program to the Air Force.

A. Mission Description and Budget Item Justification

Technology Transfer was called Defense Technology Transfer in previous OSD budgets, and prior to that, Defense Technology Link (TechLink). 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.

<u>B. Program Change Summary (\$ in Millions)</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012 Base</u>	<u>FY 2012 OCO</u>	<u>FY 2012 Total</u>
Previous President's Budget	-	-	-	-	-
Current President's Budget	-	-	2.553	-	2.553
Total Adjustments	-	-	2.553	-	2.553
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-	-	2.553	-	2.553

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force									DATE: February 2011		
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)			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
646003: Partnership Intermediary Agreement(s)	-	-	2.553	-	2.553	2.571	2.606	2.645	2.689	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

Technology Transfer was called Defense Technology Transfer in previous OSD budgets, and prior to that, Defense Technology Link (TechLink). 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.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: Major Thrust 1	-	-	2.553	-	2.553
Description: Efforts to enhance and expand transfer of technologies between DoD and the commercial sector.					
FY 2010 Accomplishments:					
FY 2011 Plans:					
FY 2012 Base Plans:					
Actively promote and broker Cooperative Research And Development Agreements (CRADAs) between DoD labs and industry for development of technology with both commercial and military applications. This activity will particularly focus on nontraditional defense contractors and is intended (a) to help lower the expense of new defense-related technology development through cost-sharing with industry, and (b) to help DoD benefit from private-sector technology investments and innovations.					
Actively market DoD-developed technologies to U.S. companies to establish Patent License Agreements to commercialize these technologies for both civilian and military application.					

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force				DATE: February 2011	
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>		R-1 ITEM NOMENCLATURE PE 0604317F: <i>Technology Transfer</i>		PROJECT 646003: <i>Partnership Intermediary Agreement(s)</i>	

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Actively promote the DoD Small Business Innovation Research (SBIR) (focusing on Phase II contracts) and Independent Research and Development (IR&D) programs to companies throughout the U.S. to help DoD identify, fund, acquire, and integrate private-sector innovations and advanced commercial technologies into DoD systems. <i>FY 2012 OCO Plans:</i>					
Accomplishments/Planned Programs Subtotals	-	-	2.553	-	2.553

C. Other Program Funding Summary (\$ in Millions)												
	<u>Line Item</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012 Base</u>	<u>FY 2012 OCO</u>	<u>FY 2012 Total</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
•	N/A:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

D. Acquisition Strategy
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-3, RDT&E Project Cost Analysis: PB 2012 Air Force											DATE: February 2011		
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)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-	0.000	0.000	0.000
Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Various	Various	Various:Various,	-	-		2.553		-		2.553	Continuing	Continuing	TBD
Subtotal			-	-		2.553		-		2.553			
Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-	0.000	0.000	0.000
Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-	0.000	0.000	0.000
			Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			-	-		2.553		-		2.553			
Remarks TBD													

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force

DATE: February 2011

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)

Technology Transfer Program - PE 0604317F

	FY10				FY11				FY12				FY13				FY14				FY15				FY16			
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																												
FY12 Progress Review																												
FY13 Funding Award																												
FY13 Progress Review																												
FY14 Funding Award																												
FY14 Progress Review																												
FY15 Funding Award																												
FY15 Progress Review																												
FY16 Funding Award																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0604317F: <i>Technology Transfer</i>	PROJECT 646003: <i>Partnership Intermediary Agreement(s)</i>	

Schedule Details

Events	Start		End	
	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

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE							
3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>				PE 0604327F: <i>Hardened Target Munitions</i>							
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	20.804	22.389	38.248	-	38.248	1.624	0.103	-	-	Continuing	Continuing
645341: <i>Direct Strike Penetrator Systems</i>	20.804	22.389	38.248	-	38.248	1.624	0.103	-	-	Continuing	Continuing

A. Mission Description and Budget Item Justification

Hard Target Munitions program is an effort to hold at risk those highest priority assets essential to an enemy's warfighting capability that are protected by multiple layers of reinforced concrete, rock rubble, and/or earth overburden (Examples include enemy command and control facilities, air defense facilities, facilities for production, storage, and deployment of weapons including weapons of mass destruction, surface to surface missile launch sites, aircraft storage sites, artillery sites.) Potential solutions include (but are not limited to) Special Forces, conventional short or long range ballistic missiles (land or sea launched), cruise missiles, direct attack munitions, and standoff weapons. Direct Strike Penetrator Systems includes development of Massive Ordnance Penetrator (MOP), an advanced precision guided penetrator munition that will provide the Air Force with an improved capability using air-to-surface conventional munitions to attack target types described above, with fewer weapons and number of missions necessary to defeat targets and increase overall survivability. Direct Strike Penetrator Systems also includes an analysis and report 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 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 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	20.891	22.389	42.640	-	42.640
Current President's Budget	20.804	22.389	38.248	-	38.248
Total Adjustments	-0.087	-	-4.392	-	-4.392
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-0.087	-	-4.392	-	-4.392

Change Summary Explanation

FY12 adjustment towards higher Air Force priorities.

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force									DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 4: Advanced Component Development & Prototypes (ACD&P)				R-1 ITEM NOMENCLATURE PE 0604327F: Hardened Target Munitions				PROJECT 645341: Direct Strike Penetrator Systems			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
645341: Direct Strike Penetrator Systems	20.804	22.389	38.248	-	38.248	1.624	0.103	-	-	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

Direct Strike Penetrator Systems project includes development of Massive Ordnance Penetrator (MOP), an advanced precision guided penetrator munition that will provide the Air Force with an improved capability using air-to-surface conventional munitions to attack HDBTs, such as bunker and tunnel facilities, with fewer weapons and number of missions necessary to defeat targets and increase overall survivability. The system will hold at risk those highest priority assets essential to the enemy's warfighting ability, which are heavily defended and protected, providing a critical global strike capability not currently met by inventory conventional weapons. Direct Strike Penetrator Systems also includes an analysis and report 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.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: Massive Ordnance Penetrator (MOP) Weapon Development	11.491	11.040	9.964	-	9.964
Description: Massive Ordnance Penetrator (MOP) Weapon Development. Make changes to the B-52 Technology Demonstration design to allow integration of the MOP onto the B-2A.					
FY 2010 Accomplishments: Analyze and update the MOP system design against the MOP Quick Reaction Capability (QRC) Systems Requirements Document (SRD) and the B-2A Interface Control Documents (ICDs) to ensure weapon-to-aircraft compatibility and weapon performance in the operating environment.					
FY 2011 Plans: Complete analysis and provide data/documentation required to support B-2A design, integration, and weapon system effectiveness. Finalize system performance specification, which documents the weapon performance based on ground and flight tests. Update design to reflect changes needed to meet the weapon system performance objectives.					
FY 2012 Base Plans: Continue to design update to ensure weapon-to-aircraft compatibility and weapon performance in the operating environment. Procurement of repair parts for weapon sustainment, Engineering support and any required					

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force				DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 4: Advanced Component Development & Prototypes (ACD&P)		R-1 ITEM NOMENCLATURE PE 0604327F: Hardened Target Munitions		PROJECT 645341: Direct Strike Penetrator Systems		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
updates to mission software. Modification to source technical orders to include MOP. Labor and repair parts for MOP weapon trainer. FY 2012 OCO Plans:						
Title: MOP System Test and Evaluation Description: Qualification Testing: MOP system qualification testing to allow weapon certification onto the B-2A. System Test and Evaluation: Conduct ground and flight tests of the MOP weapon system in order to demonstrate weapon effectiveness and suitability. FY 2010 Accomplishments: Fabricate hardware and plan/execute test. Qualification testing will include, but not be limited to, the delta qualification tests of the tail kit, hazards of electronic radiation to ordnance(HERO) certification of the weapon, and certification of the carriage equipment. Complete test and integration functions necessary to employ the MOP onto the B-2A. Included are safe separation analysis, software design updates, ground/flight worthiness testing, and safe separation flight tests. FY 2011 Plans: Complete multiple live and inert flight tests. Analyze data and evaluate the demonstrated weapon capability against the performance specification. FY 2012 Base Plans: Conduct qualification, ground and flight tests to verify design modifications. FY 2012 OCO Plans:		4.900	5.100	9.344	-	9.344
Title: MOP Flight Test Assets Fabrication Description: Flight Test Asset Fabrication. Fabricate all hardware (weapons, loading adapters, and carriage equipment) needed to execute flight testing FY 2010 Accomplishments: Build MOP all up rounds (AURs) to support two safe separation tests and four developmental tests. FY 2011 Plans:		2.800	4.604	7.000	-	7.000

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 4: Advanced Component Development & Prototypes (ACD&P)	R-1 ITEM NOMENCLATURE PE 0604327F: Hardened Target Munitions	PROJECT 645341: Direct Strike Penetrator Systems				
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Build residual flight test assets to support more developmental tests and potential operational testing. FY 2012 Base Plans: Build MOP AURs to support 3 flight tests. FY 2012 OCO Plans:						
Title: Program Office Support Description: Support weapon development activities such as design reviews and ground/flight test planning and execution. FY 2010 Accomplishments: Support weapon development activities such as design reviews and ground/flight test planning and execution. FY 2011 Plans: Execute MOP flight test program and provide weapon performance capability to the user. FY 2012 Base Plans: Support weapon development and test activities. FY 2012 OCO Plans:		1.613	1.645	1.640	-	1.640
Title: Hard and Deeply Buried Target (HDBT) Capability Analysis Description: Evaluation of alternative hard target weapons to assess the performance, operational effectiveness, operational suitability, and estimated system procurement costs based on findings in the the HDBT Initial Cababilities Document (ICD), dated September 2005. FY 2010 Accomplishments: FY 2011 Plans: FY 2012 Base Plans: Evaluation of alternative hard target weapons to assess the performance, operational effectiveness, operational suitability, and estimated system procurement costs based on findings in the the HDBT Initial Cababilities Document (ICD), dated September 2005. FY 2012 OCO Plans:		-	-	10.300	-	10.300

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0604327F: <i>Hardened Target Munitions</i>	PROJECT 645341: <i>Direct Strike Penetrator Systems</i>
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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Accomplishments/Planned Programs Subtotals	20.804	22.389	38.248	-	38.248

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

<u>Line Item</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012 Base</u>	<u>FY 2012 OCO</u>	<u>FY 2012 Total</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• PE 0101127F: <i>B-2 Advanced Technology Bomber (RDT&E)</i>	11.621	2.980	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
• PE 0101127F (1): <i>B-2 Squadrons (APAF)</i>	14.887	7.764	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

D. Acquisition Strategy

MOP is a Quick reaction capability with a sole source cost plus incentive fee contract to a single 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.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force											DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 4: Advanced Component Development & Prototypes (ACD&P)				R-1 ITEM NOMENCLATURE PE 0604327F: Hardened Target Munitions				PROJECT 645341: Direct Strike Penetrator Systems						
Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
MOP Weapon Development	SS/CPIF	Boeing:St Louis, MO	53.991	11.040	Dec 2010	6.137	Dec 2011	-		6.137	0.000	71.168	71.168	
HDBT Capabilities Analysis	Various	ACC:Langley AFB, VA	-	-		10.300	Jan 2012	-		10.300	0.000	10.300	10.300	
Subtotal			53.991	11.040		16.437		-		16.437	0.000	81.468	81.468	
Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
MOP Interim Support and Sustainment	SS/FFP	Boeing:St Louis, MO	-	-		3.827	Dec 2011	-		3.827	0.000	3.827	3.827	
Subtotal			-	-		3.827		-		3.827	0.000	3.827	3.827	
Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
MOP Qualification Testing	SS/CPIF	Boeing:St Louis, MO	7.000	-		4.344	Dec 2011	-		4.344	0.000	11.344	11.344	
MOP System Test & Evaluation	RO	Eglin AFB:, FL	4.800	5.100	Dec 2010	5.000	Dec 2011	-		5.000	0.000	14.900	14.900	
MOP Flight Test Assets Fabrication	SS/CPIF	Boeing:St Louis, MO	5.900	4.604	Dec 2010	7.000	Dec 2011	-		7.000	0.000	17.504	17.504	
Subtotal			17.700	9.704		16.344		-		16.344	0.000	43.748	43.748	
Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
AAC	TBD	Eglin AFB:, FL	3.323	1.645		1.640	Dec 2011	-		1.640	1.734	8.342	8.438	
Subtotal			3.323	1.645		1.640		-		1.640	1.734	8.342	8.438	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force								DATE: February 2011						
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 4: Advanced Component Development & Prototypes (ACD&P)				R-1 ITEM NOMENCLATURE PE 0604327F: Hardened Target Munitions				PROJECT 645341: Direct Strike Penetrator Systems						
				Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals				75.014	22.389		38.248		-		38.248	1.734	137.385	137.481

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

3600: Research, Development, Test & Evaluation, Air Force
BA 4: Advanced Component Development & Prototypes (ACD&P)

R-1 ITEM NOMENCLATURE

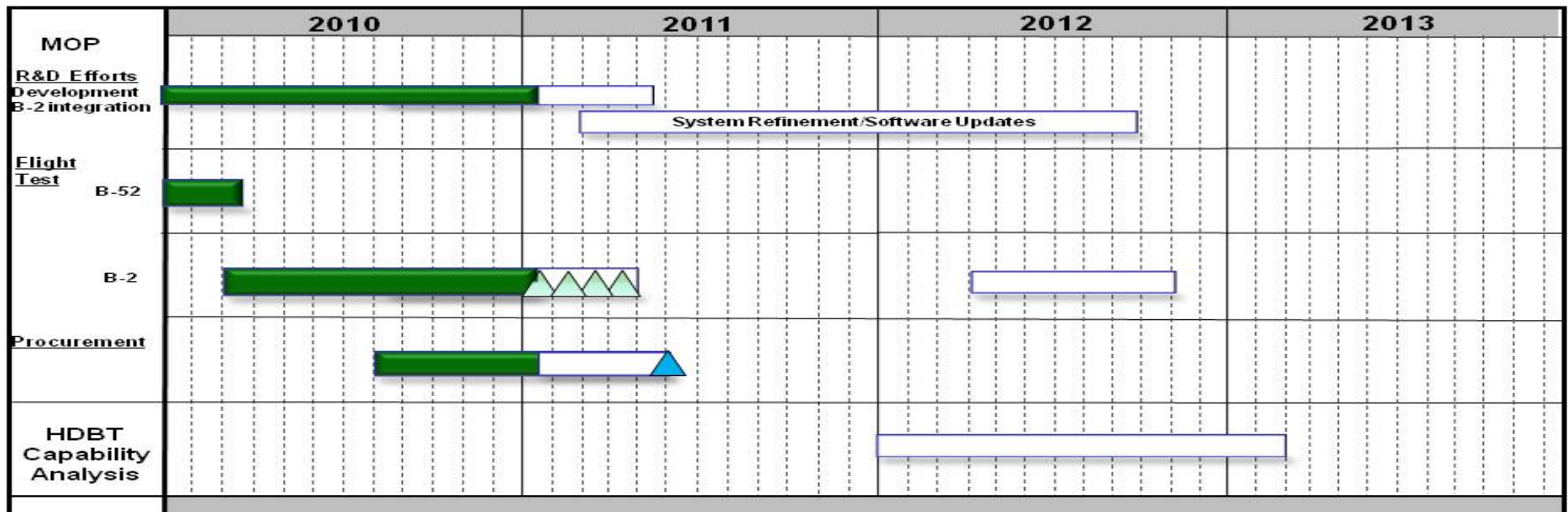
PE 0604327F: Hardened Target Munitions

PROJECT

645341: Direct Strike Penetrator Systems



Direct Strike Penetrator Systems Top Level Schedule



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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0604327F: <i>Hardened Target Munitions</i>	PROJECT 645341: <i>Direct Strike Penetrator Systems</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Design Modification & Qualification Testing	4	2010	4	2012
Fuze & Ground Testing	3	2010	4	2012
Test Article Fabrication	4	2010	4	2012
Flight Test	2	2010	4	2012

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE							
3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>				PE 0604330F: <i>Joint Dual-Role Air Dominance Missile (JDRADM)</i>							
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	6.853	9.799	29.759	-	29.759	47.575	77.640	146.375	188.004	Continuing	Continuing
645342: <i>Concept Development</i>	6.853	9.799	29.759	-	29.759	47.575	77.640	146.375	188.004	Continuing	Continuing

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 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) 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, operational 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.

B. Program Change Summary (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	6.882	9.799	9.858	-	9.858
Current President's Budget	6.853	9.799	29.759	-	29.759
Total Adjustments	-0.029	-	19.901	-	19.901
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-0.029	-	19.901	-	19.901

Change Summary Explanation

FY12 funds added to continue joint effort with DARPA for an advanced missile demonstration to mature critical technologies during MSA.

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force								DATE: February 2011				
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 (JDRADM)				PROJECT 645342: Concept Development				
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost	
645342: Concept Development	6.853	9.799	29.759	-	29.759	47.575	77.640	146.375	188.004	Continuing	Continuing	
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0			
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 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) 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.												
B. Accomplishments/Planned Programs (\$ in Millions)								FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: Product Development								4.353	8.599	27.159	-	27.159
Description: Risk Reduction Studies/Concept Development/Technology Maturation												
FY 2010 Accomplishments: Continue missile components and system design. Funds component technology efforts [Seeker Integrated Target Endgame (SITES), Multi-Role Responsive Ordnance Kill Mechanism (MRROKM), Dual-Role Air Dominance Missile Technology (DRADM-T), and JDRADM technology demonstration] to mature critical technologies to enter MSA. Continue mission support and provide program management to execute studies.												
FY 2011 Plans: Start a joint effort with DARPA for an advanced missile demonstration to mature critical technologies during MSA. Develop/demonstrate advanced control, agility and propulsion technologies; along with responsive warhead/fuzing capabilities; to give single missile near full spherical intercept capability independent of target												

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011			
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 (JDRADM)		PROJECT 645342: Concept Development		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
orientation and velocity. Finalize demonstration missile design. Continue mission support and provide program management to ongoing product development. FY 2012 Base Plans: Continue support for the advanced missile demonstration to mature critical technologies during MSA. Continue mission support and provide program management to ongoing product development. FY 2012 OCO Plans:						
Title: Materiel Solution Analysis (MSA) Description: Evaluation of Alternative Weapons/Prep for Technology Development (TD) Phase FY 2010 Accomplishments: Fund efforts associated with a Materiel Development Decision/entrance into the MSA phase and support to the evaluation of alternative weapons preparation. Continue mission support and provide program management to execute MSA. FY 2011 Plans: Continue funding for the MSA phase. Conduct the evaluation of alternative weapons. Begin preparation for Milestone A and entrance into TD phase in FY13. Continue mission support and provide program management to execute MSA. FY 2012 Base Plans: Continue to fund MSA activities and preparation for Milestone A and entrance into TD phase in FY13. Continue mission support and provide program management to execute MSA. FY 2012 OCO Plans:		2.500	1.200	2.600	-	2.600
Accomplishments/Planned Programs Subtotals		6.853	9.799	29.759	-	29.759

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force DATE: February 2011

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

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

Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• PE 0207163F: AMRAAM: RDT&E	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

D. Acquisition Strategy

NGM 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. These efforts will lead to a formal, documented solution(s) set, a Milestone A DAB in FY13 and entry into Technology Development (TD).

E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air 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-3, RDT&E Project Cost Analysis: PB 2012 Air Force											DATE: February 2011			
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 (JDRADM)				PROJECT 645342: Concept Development						
Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Risk Reduction/Concept Development/Tech Maturation	Various	Various:Various,	4.353	8.599	Dec 2010	27.159	Dec 2011	-		27.159	Continuing	Continuing	0.000	
Materiel Solution Analysis (MSA)/Evaluation of Alternative Weapons	Various	Various:Various,	2.100	0.800	Dec 2010	1.800	Dec 2011	-		1.800	Continuing	Continuing	0.000	
Subtotal			6.453	9.399		28.959		-		28.959			0.000	
Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Subtotal			-	-		-		-		-	0.000	0.000	0.000	
Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Subtotal			-	-		-		-		-	0.000	0.000	0.000	
Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Program Management and Admin (PMA)	Various	Various:Various,	0.400	0.400	Dec 2010	0.800	Dec 2011	-		0.800	Continuing	Continuing	0.000	
Subtotal			0.400	0.400		0.800		-		0.800			0.000	
			Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract	
Project Cost Totals			6.853	9.799		29.759		-		29.759			0.000	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force						DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY			R-1 ITEM NOMENCLATURE			PROJECT		
3600: Research, Development, Test & Evaluation, Air Force BA 4: Advanced Component Development & Prototypes (ACD&P)			PE 0604330F: Joint Dual-Role Air Dominance Missile (JDRADM)			645342: Concept Development		
	Total Prior Years Cost	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Remarks								

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

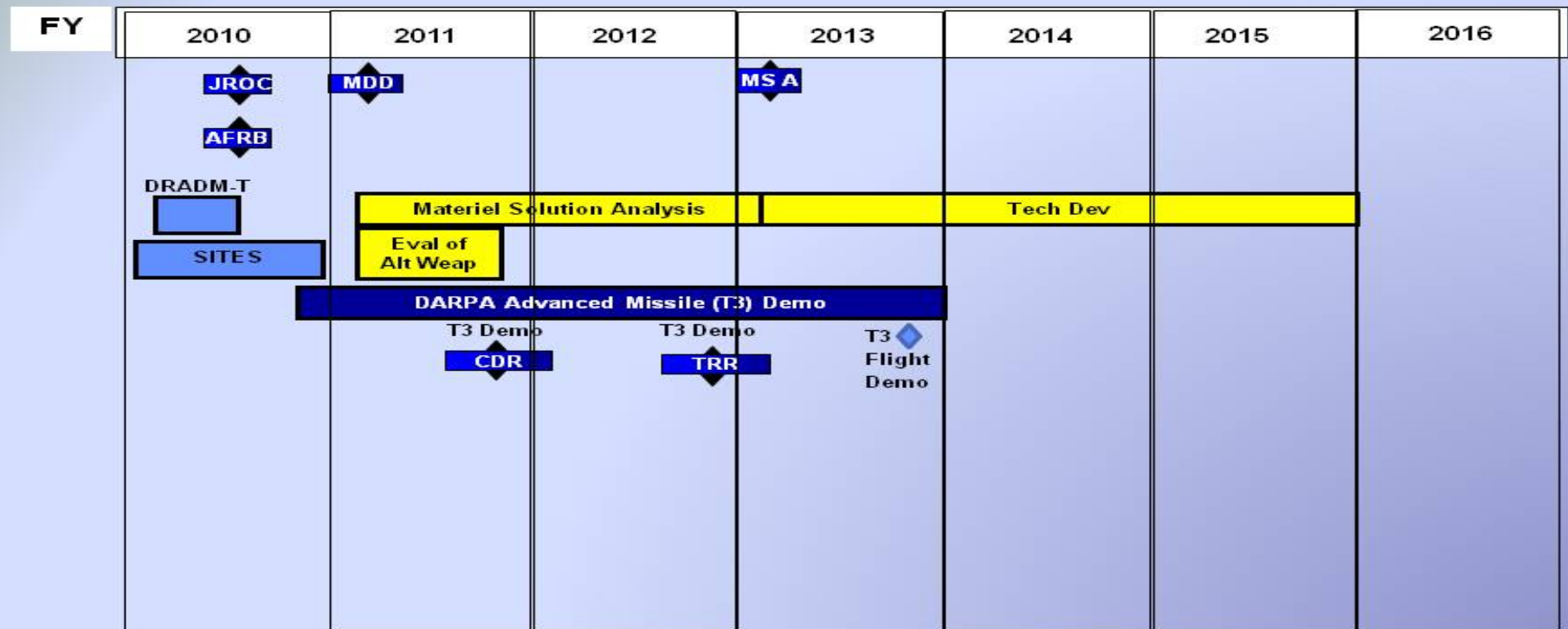
3600: Research, Development, Test & Evaluation, Air Force
BA 4: Advanced Component Development & Prototypes (ACD&P)

R-1 ITEM NOMENCLATURE

PE 0604330F: Joint Dual-Role Air Dominance
Missile (JDRADM)

PROJECT

645342: Concept Development



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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0604330F: <i>Joint Dual-Role Air Dominance Missile (JDRADM)</i>	PROJECT 645342: <i>Concept Development</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
JROC approval of NGM Initial Capabilities Document (ICD)	3	2010	3	2010
Air Force Review Board (AFRB) approval to Materiel Development Decision (MDD)	3	2010	3	2010
NGM MDD Defense Acquisition Board (DAB) completed/approved	1	2011	1	2011
Materiel Solution Analysis (MSA) Phase	1	2011	1	2013
Evaluation of Alternative Weapons	1	2011	3	2011
AF/DARPA Triple Target Terminator (T3) CDR	4	2011	4	2011
AF/DARPA T3 Test Readiness Review (TRR)	4	2012	4	2012

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE							
3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>				PE 0604337F: <i>Requirements Analysis and Maturation</i>							
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	36.391	34.339	24.217	-	24.217	16.312	16.018	15.816	16.058	Continuing	Continuing
645349: <i>Non-Space Systems Requirements Analysis & Maturation</i>	29.509	27.534	18.373	-	18.373	11.627	11.357	11.178	11.338	Continuing	Continuing
64A024: <i>Space Systems Requirements Analysis & Maturation</i>	6.882	6.805	5.844	-	5.844	4.685	4.661	4.638	4.720	Continuing	Continuing

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 (AF) 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. Activities funded by the RAM program element include: system and sub-system concept development, acquisition strategy development, modeling and simulation, cost analysis, pre-planning required for successful demonstration and validation of prototypes and systems-of-systems demonstrations, and costs associated with these activities, to include 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 AF Major Commands and subsequently prioritized and approved by the AF Development Planning Governance Structure. This effort is in Budget Activity 4, Advanced Component Development and Prototypes, since it involves system specific efforts that expedite technology transition from the laboratory to operational use.

B. Program Change Summary (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	35.533	34.339	23.963	-	23.963
Current President's Budget	36.391	34.339	24.217	-	24.217
Total Adjustments	0.858	-	0.254	-	0.254
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-0.148	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	2.100	-			
• SBIR/STTR Transfer	-1.094	-			
• Other Adjustments	-	-	0.254	-	0.254

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force								DATE: February 2011			
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: Non-Space Systems Requirements Analysis & Maturation			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
645349: Non-Space Systems Requirements Analysis & Maturation	29.509	27.534	18.373	-	18.373	11.627	11.357	11.178	11.338	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		
A. Mission Description and Budget Item Justification											
The Non-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 AF non-space capability needs and shortfalls; and conducting coordinated pre-systems acquisition planning activities that address requirements, schedule, cost, technology, and acquisition strategy for air and cyber efforts.											
B. Accomplishments/Planned Programs (\$ in Millions)							FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: Major Thrust 1							4.775	4.589	3.012	-	3.012
Description: Conduct long range capability analyses by analyzing documented warfighter capability needs and requirements to identify potential materiel shortfalls and opportunities.											
FY 2010 Accomplishments: Developed capability roadmaps, advanced concept studies and analyses, and derived technology needs required to realize future materiel solutions to warfighter capability needs.											
FY 2011 Plans: Develop capability roadmaps, advanced concept studies and analyses, and derive technology needs required to realize future materiel solutions to warfighter capability needs.											
FY 2012 Base 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.											
FY 2012 OCO Plans:											
Title: Major Thrust 2							19.101	18.356	12.289	-	12.289
Description: Conduct concept development activities, including early-phase systems engineering, by devising candidate materiel solution options to address AF air and cyber capability needs and shortfalls.											
FY 2010 Accomplishments:											

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011			
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: Non-Space Systems Requirements Analysis & Maturation		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
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 2011 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 2012 Base 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. FY 2012 OCO Plans:						
Title: Major Thrust 3 Description: Conduct coordinated pre-systems acquisition planning activities that address requirements, schedule, cost, technology, and acquisition strategy. FY 2010 Accomplishments: Performed pre-systems acquisition planning activities, to include concept refinement, cost estimates, acquisition courses of action, and acquisition milestone documentation. FY 2011 Plans: Perform pre-systems acquisition planning activities, to include concept refinement, cost estimates, acquisition courses of action, and acquisition milestone documentation. FY 2012 Base Plans: Continue to perform pre-systems acquisition planning activities, to include concept refinement, cost estimates, acquisition courses of action, and acquisition milestone documentation. FY 2012 OCO Plans:		5.633	4.589	3.072	-	3.072
Accomplishments/Planned Programs Subtotals		29.509	27.534	18.373	-	18.373

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0604337F: <i>Requirements Analysis and Maturation</i>	PROJECT 645349: <i>Non-Space Systems Requirements Analysis & Maturation</i>	

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

<u>Line Item</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u> <u>Base</u>	<u>FY 2012</u> <u>OCO</u>	<u>FY 2012</u> <u>Total</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• N/A:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

D. Acquisition Strategy

All 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.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force										DATE: February 2011			
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: Non-Space Systems Requirements Analysis & Maturation					
Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-	0.000	0.000	0.000
Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Long range capability analyses	Various	TBD:TBD,	4.775	4.589	Dec 2010	3.012	Dec 2011	-		3.012	Continuing	Continuing	TBD
Concept development activities	Various	TBD:TBD,	19.101	18.356	Dec 2010	12.289	Feb 2012	-		12.289	Continuing	Continuing	TBD
Pre-systems acquisition planning	Various	TBD:TBD,	5.633	4.589	Dec 2010	3.072	Feb 2012	-		3.072	Continuing	Continuing	TBD
Subtotal			29.509	27.534		18.373		-		18.373			
Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-	0.000	0.000	0.000
Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-	0.000	0.000	0.000
			Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			29.509	27.534		18.373		-		18.373			

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force						DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>			R-1 ITEM NOMENCLATURE PE 0604337F: <i>Requirements Analysis and Maturation</i>			PROJECT 645349: <i>Non-Space Systems Requirements Analysis & Maturation</i>			
	Total Prior Years Cost	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract	
Remarks									

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

3600: Research, Development, Test & Evaluation, Air Force
BA 4: Advanced Component Development & Prototypes (ACD&P)

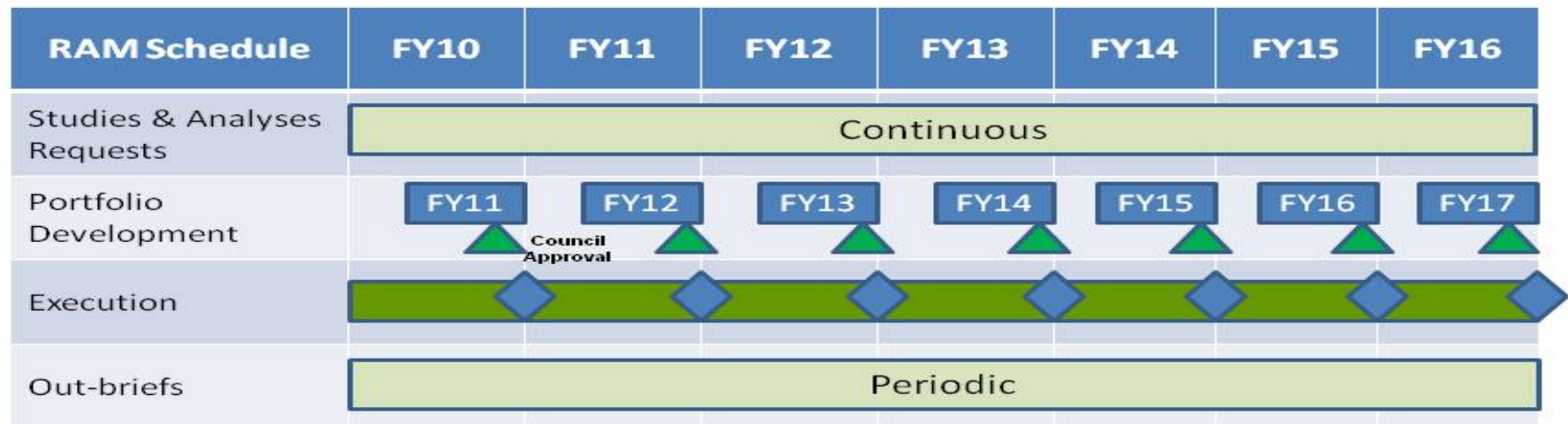
R-1 ITEM NOMENCLATURE

PE 0604337F: Requirements Analysis and Maturation

PROJECT

645349: Non-Space Systems Requirements Analysis & Maturation

Requirements, Analysis, and Maturation (RAM) Master Schedule



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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0604337F: <i>Requirements Analysis and Maturation</i>	PROJECT 645349: <i>Non-Space Systems Requirements Analysis & Maturation</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
FY10 RAM Prioritization	2	2010	2	2011
FY11 RAM Prioritization	2	2011	2	2012
FY12 RAM Prioritization	2	2012	2	2013
FY10 RAM Portfolio Development Finalized	4	2010	4	2011
FY11 RAM Portfolio Development Finalized	4	2011	4	2012
FY12 RAM Portfolio Development Finalized	4	2012	4	2013
Studies & Analysis	1	2010	4	2012
Studies & Analysis Outbriefs	2	2010	4	2012

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force								DATE: February 2011			
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)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
64A024: Space Systems Requirements Analysis & Maturation	6.882	6.805	5.844	-	5.844	4.685	4.661	4.638	4.720	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		
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 AF 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 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: Major Thrust 1							1.032	1.021	0.881	-	0.881
Description: Conduct long range capability analyses by analyzing documented warfighter capability needs and requirements to identify potential materiel shortfalls and opportunities.											
FY 2010 Accomplishments: Developed capability roadmaps, advanced concept studies and analyses, and derived technology needs required to realize future materiel solutions to warfighter capability needs.											
FY 2011 Plans: Develop capability roadmaps, advanced concept studies and analyses, and derive technology needs required to realize future materiel solutions to warfighter capability needs.											
FY 2012 Base 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.											
FY 2012 OCO Plans:											
Title: Major Thrust 2							4.129	4.083	3.516	-	3.516
Description: Conduct concept development activities, including early-phase systems engineering, by devising candidate materiel solution options to address AF space capability needs and shortfalls.											
FY 2010 Accomplishments:											

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011			
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 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
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 2011 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 2012 Base 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. FY 2012 OCO Plans:						
Title: Major Thrust 3 Description: Conduct coordinated pre-systems acquisition planning activities that address requirements, schedule, cost, technology, and acquisition strategy. FY 2010 Accomplishments: Performed pre-systems acquisition planning activities, to include concept refinement, cost estimates, acquisition courses of action, and acquisition milestone documentation. FY 2011 Plans: Perform pre-systems acquisition planning activities, to include concept refinement, cost estimates, acquisition courses of action, and acquisition milestone documentation. FY 2012 Base Plans: Continue to perform pre-systems acquisition planning activities, to include concept refinement, cost estimates, acquisition courses of action, and acquisition milestone documentation. FY 2012 OCO Plans:		1.721	1.701	1.447	-	1.447
Accomplishments/Planned Programs Subtotals		6.882	6.805	5.844	-	5.844

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force							DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY			R-1 ITEM NOMENCLATURE				PROJECT		
3600: Research, Development, Test & Evaluation, Air Force			PE 0604337F: Requirements Analysis and				64A024: Space Systems Requirements		
BA 4: Advanced Component Development & Prototypes (ACD&P)			Maturation				Analysis & Maturation		

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

Line Item	FY 2010	FY 2011	FY 2012	FY 2012	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	Cost To	
			Base	OCO	Total					Complete	Total Cost
• N/A:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

D. Acquisition Strategy

All 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.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force											DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY					R-1 ITEM NOMENCLATURE				PROJECT				
3600: Research, Development, Test & Evaluation, Air Force					PE 0604337F: Requirements Analysis and Maturation				64A024: Space Systems Requirements Analysis & Maturation				
BA 4: Advanced Component Development & Prototypes (ACD&P)													
Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-	0.000	0.000	0.000
Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Long range capability analyses	Various	Aerospace Corp / URS Federal Support Services:El Segundo / Shrewsbury, CA	1.032	1.021	Dec 2010	0.881	Dec 2011	-		0.881	Continuing	Continuing	TBD
Concept development activities	Various	Aerospace Corp / URS Federal Support Services:El Segundo / Shrewsbury, CA	4.129	4.083	Dec 2010	3.516	Dec 2011	-		3.516	Continuing	Continuing	TBD
Pre-systems acquisition planning	Various	Aerospace Corp / URS Federal Support Services:El Segundo / Shrewsbury, CA	1.721	1.701	Dec 2010	1.447	Dec 2011	-		1.447	Continuing	Continuing	TBD
Subtotal			6.882	6.805		5.844		-		5.844			
Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-	0.000	0.000	0.000
Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-	0.000	0.000	0.000

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force							DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>			R-1 ITEM NOMENCLATURE PE 0604337F: <i>Requirements Analysis and Maturation</i>			PROJECT 64A024: <i>Space Systems Requirements Analysis & Maturation</i>			
	Total Prior Years Cost	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract	
Project Cost Totals	6.882	6.805	5.844	-	5.844				
Remarks									

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

3600: *Research, Development, Test & Evaluation, Air Force*
BA 4: *Advanced Component Development & Prototypes (ACD&P)*

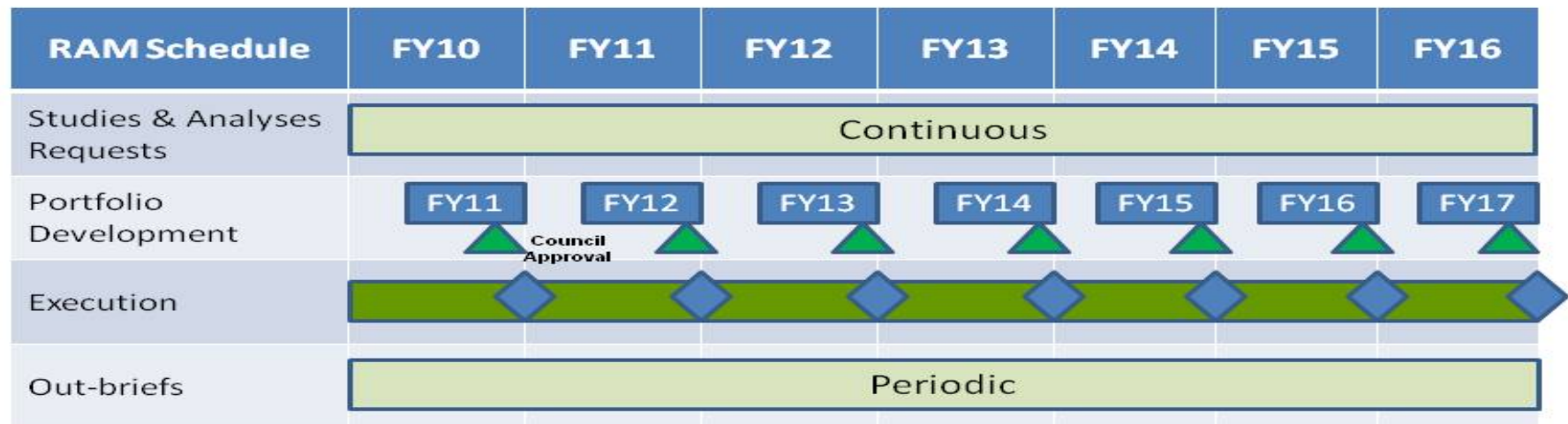
R-1 ITEM NOMENCLATURE

PE 0604337F: *Requirements Analysis and Maturation*

PROJECT

64A024: *Space Systems Requirements Analysis & Maturation*

Requirements, Analysis, and Maturation (RAM) Master Schedule



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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0604337F: <i>Requirements Analysis and Maturation</i>	PROJECT 64A024: <i>Space Systems Requirements Analysis & Maturation</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
FY11 RAM Prioritization	2	2010	2	2010
FY12 RAM Prioritization	2	2011	2	2011
FY13 RAM Prioritization	2	2012	2	2012
FY11 RAM Portfolio Development Finalized	4	2010	4	2010
FY12 RAM Portfolio Development Finalized	4	2011	4	2011
FY13 RAM Portfolio Development Finalized	4	2012	4	2012
Studies & Analyses	1	2011	4	2012
Studies & Analyses Outbriefs	2	2011	4	2012

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE							
3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>				PE 0604436F: <i>Next-Generation MILSATCOM Technology</i>							
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	49.791	-	-	-	-	-	-	-	-	Continuing	Continuing
646001: <i>Evolved MILSATCOM</i>	49.791	-	-	-	-	-	-	-	-	Continuing	Continuing

A. Mission Description and Budget Item Justification

This program element funds technology demonstration, development and study efforts for future Satellite Communications (SATCOM) capability enhancements. These capabilities could be utilized on future blocks of current SATCOM systems, hosted SATCOM payloads, or next-generation SATCOM systems. The goal of the effort is to sufficiently mature new technologies, system architectures, and business concepts to reduce overall risk of future SATCOM efforts and improve space/ground/terminal synchronization. FY10 funded efforts such as: preparation and approval of the Joint Space Communications Layer Initial Capabilities Document (ICD), conducting the Materiel Solutions Analysis (MSA), development of the technologies, architectures, and business concepts for SATCOM including modification of current protected and wideband MILSATCOM systems and potential for incorporating new military-unique and/or commercial capabilities. No funds are requested in FY12.

B. Program Change Summary (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	50.000	-	-	-	-
Current President's Budget	49.791	-	-	-	-
Total Adjustments	-0.209	-	-	-	-
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-0.209	-	-	-	-

Congressional Add Details (\$ in Millions, and Includes General Reductions)

Project: 646001: *Evolved MILSATCOM*

Congressional Add: *Funds studies and technology demonstration and development efforts for future SATCOM capability enhancements*

Congressional Add Subtotals for Project: 646001

Congressional Add Totals for all Projects

FY 2010	FY 2011
49.791	-
49.791	-
49.791	-

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 4: Advanced Component Development & Prototypes (ACD&P)		R-1 ITEM NOMENCLATURE PE 0604436F: Next-Generation MILSATCOM Technology
<u>Change Summary Explanation</u> None.		

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force									DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 4: Advanced Component Development & Prototypes (ACD&P)				R-1 ITEM NOMENCLATURE PE 0604436F: Next-Generation MILSATCOM Technology				PROJECT 646001: Evolved MILSATCOM			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
646001: Evolved MILSATCOM	49.791	-	-	-	-	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		
A. Mission Description and Budget Item Justification											
This program element funds technology demonstration, development and study efforts for future Satellite Communications (SATCOM) capability enhancements. These capabilities could be utilized on future blocks of current SATCOM systems, hosted SATCOM payloads, or next-generation SATCOM systems. The goal of the effort is to sufficiently mature new technologies, system architectures, and business concepts to reduce overall risk of future SATCOM efforts and improve space/ground/terminal synchronization. FY10 funded efforts such as: preparation and approval of the Joint Space Communications Layer Initial Capabilities Document (ICD), conducting the Materiel Solutions Analysis (MSA), development of the technologies, architectures, and business concepts for SATCOM including modification of current protected and wideband MILSATCOM systems and potential for incorporating new military-unique and/or commercial capabilities. No funds are requested in FY12.											
B. Accomplishments/Planned Programs (\$ in Millions)								FY 2010	FY 2011		
Congressional Add: Funds studies and technology demonstration and development efforts for future SATCOM capability enhancements								49.791	-		
FY 2010 Accomplishments: In FY2010: Funded support for the Joint Space Communications Layer ICD, architecture definition exercises in support of future Materiel Solutions Analysis (MSA) efforts, AEHF Capability Insertion Program (CIP) program planning for SV 7/8, crypto obsolescence and information assurance efforts, commercial Request For Proposal (RFP)/source selection supporting Broad Agency Announcements (BAA), future architecture definition including studies and analysis, Lincoln Labs technology defintion/capability harvests, support for alternative commercial industry product source development, AEHF CIP technology demonstration, and provided program office support and other related activities.											
FY 2011 Plans: Not applicable											
Congressional Adds Subtotals								49.791	-		
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• RDT&E AF: PE 0603430F, AEHF, BPAC 644050	456.238	351.817	280.096	0.000	280.096	160.671	64.596	38.065	0.000	Continuing	Continuing
• RDT&E AF (1): PE 0603430F, AEHF, BPAC 64A030	0.000	0.000	142.914	0.000	142.914	233.654	297.061	306.355	216.792	Continuing	Continuing

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE	PROJECT
3600: Research, Development, Test & Evaluation, Air Force BA 4: Advanced Component Development & Prototypes (ACD&P)	PE 0604436F: Next-Generation MILSATCOM Technology	646001: Evolved MILSATCOM

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

Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• MPAF: PE 0303604F, AEHF	1,836.687	246.598	551.894	0.000	551.894	556.362	543.230	487.151	687.508	Continuing	Continuing
• RDT&E AF (3): PE 0603854F, WGS	42.543	17.949	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
• MPAF (4): PE 0303600F, WGS	212.418	575.711	468.914	0.000	468.914	50.669	62.356	97.177	98.425	Continuing	Continuing
• RDT&E AF (5): PE 0303601F, MILSATCOM Terminals	253.818	186.582	270.326	0.000	270.326	198.117	16.043	13.094	13.346	Continuing	Continuing
• OPAF: PE 0303601F, MILSATCOM Terminals	106.536	219.634	106.843	0.000	106.843	360.505	193.169	56.979	58.005	Continuing	Continuing
• APAF: PE 0303601F, MILSATCOM Terminals	72.639	152.594	57.150	0.000	57.150	89.400	185.588	126.969	129.276	Continuing	Continuing

D. Acquisition Strategy

Upon completion of the ICD the program will proceed through a Materiel Design Decision (MDD) and MSA which will determine the mix of enhancements to existing systems and potential for incorporating new military-unique and/or commercial capabilities.

E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air 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-3, RDT&E Project Cost Analysis: PB 2012 Air Force											DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE				PROJECT					
3600: Research, Development, Test & Evaluation, Air Force BA 4: Advanced Component Development & Prototypes (ACD&P)				PE 0604436F: Next-Generation MILSATCOM Technology				646001: Evolved MILSATCOM					
Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Capability Insertion Program Studies	Various	Various:Various,	24.171	-		-		-		-	0.000	24.171	0.000
Technology Development & Demonstration	Various	Lincoln Laboratory:Lexington, MA	7.800	-		-		-		-	0.000	7.800	0.000
Subtotal			31.971	-		-		-		-	0.000	31.971	0.000
Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Technical analysis & support	Various	Various:Various,	4.500	-		-		-		-	0.000	4.500	0.000
Analysis of Alternatives (AoA) support	Various	The Aerospace Corporation:El Segundo, CA	9.640	-		-		-		-	0.000	9.640	0.000
Program Office Support	Various	Various:Various,	3.680	-		-		-		-	0.000	3.680	0.000
Subtotal			17.820	-		-		-		-	0.000	17.820	0.000
Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-	0.000	0.000	0.000
Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-	0.000	0.000	0.000

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force									DATE: February 2011				
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 4: Advanced Component Development & Prototypes (ACD&P)				R-1 ITEM NOMENCLATURE PE 0604436F: Next-Generation MILSATCOM Technology				PROJECT 646001: Evolved MILSATCOM					
			Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			49.791	-		-		-		-	0.000	49.791	0.000

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

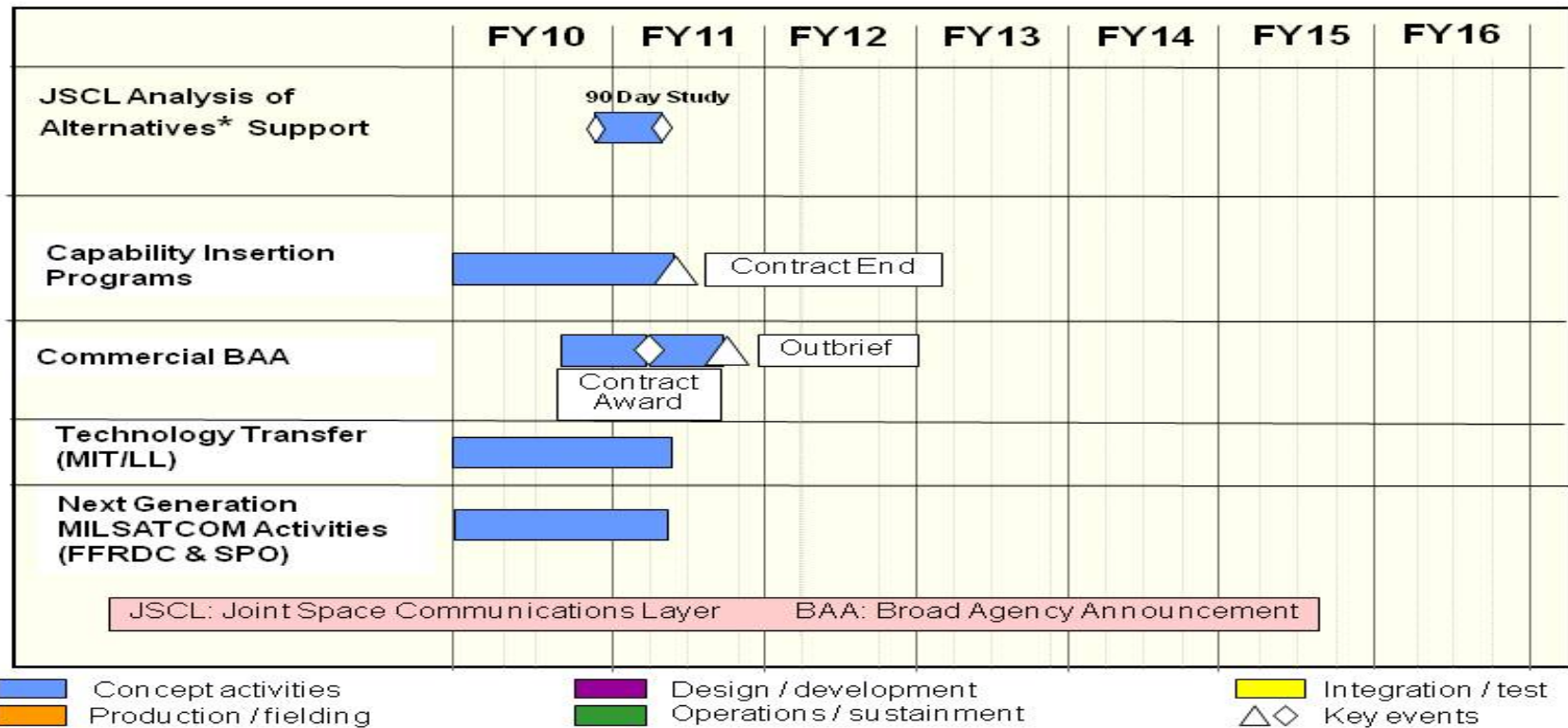
3600: Research, Development, Test & Evaluation, Air Force
BA 4: Advanced Component Development & Prototypes (ACD&P)

R-1 ITEM NOMENCLATURE

PE 0604436F: Next-Generation MILSATCOM
Technology

PROJECT

646001: Evolved MILSATCOM



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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0604436F: <i>Next-Generation MILSATCOM Technology</i>	PROJECT 646001: <i>Evolved MILSATCOM</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
JROC approved ICD	4	2010	4	2010

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE							
3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>				PE 0604635F: <i>Ground Attack Weapons Fuze Development</i>							
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	0.087	32.513	24.467	-	24.467	5.185	-	-	-	Continuing	Continuing
645312: <i>Hard Target Void Sensing Fuze</i>	0.087	32.513	24.467	-	24.467	5.185	-	-	-	Continuing	Continuing

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 a weapon to penetrate and destroy hardened targets protected by multiple layers of soil and/or reinforced concrete. The HTVS Fuze shall also provide in-flight cockpit programmability, safing and arming, multi-function (time delay and void sensing) and multi-delay arming. FY 2011 and FY 2012 funding includes follow-on risk reduction and Engineering, Manufacturing, and Development (EMD) efforts to the the Hard Target Void Sensing Fuze (HTVSF) Joint Capability Technology Demonstration (JCTD) previously funded in PE 0604602F, Armament Ordnance Development. This Program Element was created to include the whole spectrum of fuze development and is positioned in Budget Activity 4 - Advanced Component Development and Prototypes (ACD&P).

B. Program Change Summary (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	18.778	32.513	27.038	-	27.038
Current President's Budget	0.087	32.513	24.467	-	24.467
Total Adjustments	-18.691	-	-2.571	-	-2.571
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-18.613	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-0.078	-	-2.571	-	-2.571

Change Summary Explanation

FY 10 Reprogrammings: Funding identified as early to need and reprogrammed for higher AF priorities

FY 12: BY1 Other Adjustment of \$2.6M for higher AF priorities.

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE				PROJECT			
3600: Research, Development, Test & Evaluation, Air Force BA 4: Advanced Component Development & Prototypes (ACD&P)				PE 0604635F: Ground Attack Weapons Fuze Development				645312: Hard Target Void Sensing Fuze			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
645312: Hard Target Void Sensing Fuze	0.087	32.513	24.467	-	24.467	5.185	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

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 a weapon to penetrate and destroy hardened targets protected by multiple layers of soil and/or reinforced concrete. The HTVS Fuze shall also provide in-flight cockpit programmability, safing and arming, multi-function (time delay and void sensing) and multi-delay arming. FY 2011 and FY 2012 funding includes follow-on risk reduction and Engineering, Manufacturing, and Development (EMD) efforts to the the Hard Target Void Sensing Fuze (HTVSF) Joint Capability Technology Demonstration (JCTD) previously funded in PE 0604602F, Armament Ordnance Development. This Program Element was created to include the whole spectrum of fuze development and is positioned in Budget Activity 4 - Advanced Component Development and Prototypes (ACD&P).

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: Engineering and Manufacturing Development Contract Description: Conduct HTVSF EMD effort. FY 2010 Accomplishments: Dollars were early to need and were adjusted during OMNIBUS. FY 2011 Plans: Conduct HTVSF EMD 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. Effort to include building test hardware and test and evaluation efforts. FY 2012 Base 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 2012 OCO Plans:	-	14.888	22.405	-	22.405
Title: Mgmt Analysis and Support	0.087	1.443	1.155	-	1.155

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011		
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	
B. Accomplishments/Planned Programs (\$ in Millions)					
	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Description: Management/analysis support: including Critical Design Reviews (CDRs) required to ensure all additional post JCTD requirements are implemented					
FY 2010 Accomplishments: Management and Analysis support including CDRs required to ensure all additional post JCTD requirements are addressed.					
FY 2011 Plans: Main effort is the delta CDR to ensure all additional post JCTD requirements have been implemented.					
FY 2012 Base Plans: Continued effort to support EMD program					
FY 2012 OCO Plans:					
Title: Test Support					
Description: Test: build "hard" targets/prep for sled/flight test range events					
FY 2010 Accomplishments:					
FY 2011 Plans: Build hard targets/prep for sled/flight test events in support of EMD.					
FY 2012 Base Plans:					
FY 2012 OCO Plans:					
Title: External Support					
Description: Provide Subject Matter Experts to support EMD efforts.					
FY 2010 Accomplishments:					
FY 2011 Plans: Provide specialized expertise in manufacturing, testing and safety support for the HTVSF EMD program.					
FY 2012 Base Plans:					

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force							DATE: February 2011				
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>			R-1 ITEM NOMENCLATURE PE 0604635F: <i>Ground Attack Weapons Fuze Development</i>			PROJECT 645312: <i>Hard Target Void Sensing Fuze</i>					

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Provide specialized expertise in manufacturing, testing and safety support for the HTVSF EMD program.					
<i>FY 2012 OCO Plans:</i>					
<i>Title:</i> Government-Furnished Equipment/Government-Furnished Parts (GFE/GFP) Items	-	2.808	-	-	-
<i>Description:</i> Ensure required government furnished equipment is available for the EMD program to include items such as bomb bodies/warheads, tailkits, and telemetry sets.					
<i>FY 2010 Accomplishments:</i>					
<i>FY 2011 Plans:</i> provide government furnished items such as bomb bodies/warheads, tailkits and telemetry sets to support HTVSF EMD contract efforts and testing listed to support all contract and testing efforts.					
<i>FY 2012 Base Plans:</i>					
<i>FY 2012 OCO Plans:</i>					
Accomplishments/Planned Programs Subtotals	0.087	32.513	24.467	-	24.467

C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• PE 0604602F: <i>RDT&E, Armament Ordnance Development</i>	7.377	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
• PE 0208030F: <i>PAAF, WRM Ammunition</i>	0.000	0.000	0.000	0.000	0.000	15.630	39.280	38.500	39.510	Continuing	Continuing

D. Acquisition Strategy
EMD – Sole Source Contract to JCTD Winner: Fixed Price Incentive Fee Estimated Contract Length - 37 months After contract award: 15 month Delta CDRs start Jun 12

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0604635F: <i>Ground Attack Weapons Fuze Development</i>	PROJECT 645312: <i>Hard Target Void Sensing Fuze</i>

E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air 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-3, RDT&E Project Cost Analysis: PB 2012 Air Force											DATE: February 2011			
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)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
HTVSF EMD	C/TBD	Alliant Techsystems or Thales Missile Electronics:MN or UK,	-	14.888	Mar 2011	22.405	Jan 2012	-		22.405	31.920	69.213	TBD	
Subtotal			-	14.888		22.405		-		22.405	31.920	69.213		
Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
External	Various	ManTech, StratCom, AFOTEC, Safety support:Various,	-	0.905	Mar 2011	0.907	Jan 2012	-		0.907	0.388	2.200	0.000	
GFE	TBD	Boeing:St Louis,	-	2.808	Mar 2011	-		-		-	0.320	3.128	0.000	
Subtotal			-	3.713		0.907		-		0.907	0.708	5.328	0.000	
Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Target build and sled/flight test	Various	46th Test Wing:Various,	-	12.469	Mar 2011	-		-		-	6.505	18.974	0.000	
Subtotal			-	12.469		-		-		-	6.505	18.974	0.000	
Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Program management/analysis support	Various	AAC/EBDZ:Eglin AFB, FL	0.087	1.443	Mar 2011	1.155	Jan 2012	-		1.155	1.567	4.252	0.000	
Subtotal			0.087	1.443		1.155		-		1.155	1.567	4.252	0.000	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force								DATE: February 2011	
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>			R-1 ITEM NOMENCLATURE PE 0604635F: <i>Ground Attack Weapons Fuze Development</i>			PROJECT 645312: <i>Hard Target Void Sensing Fuze</i>			
	Total Prior Years Cost	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract	
Project Cost Totals	0.087	32.513	24.467	-	24.467	40.700	97.767		
Remarks									

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force

DATE: February 2011

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

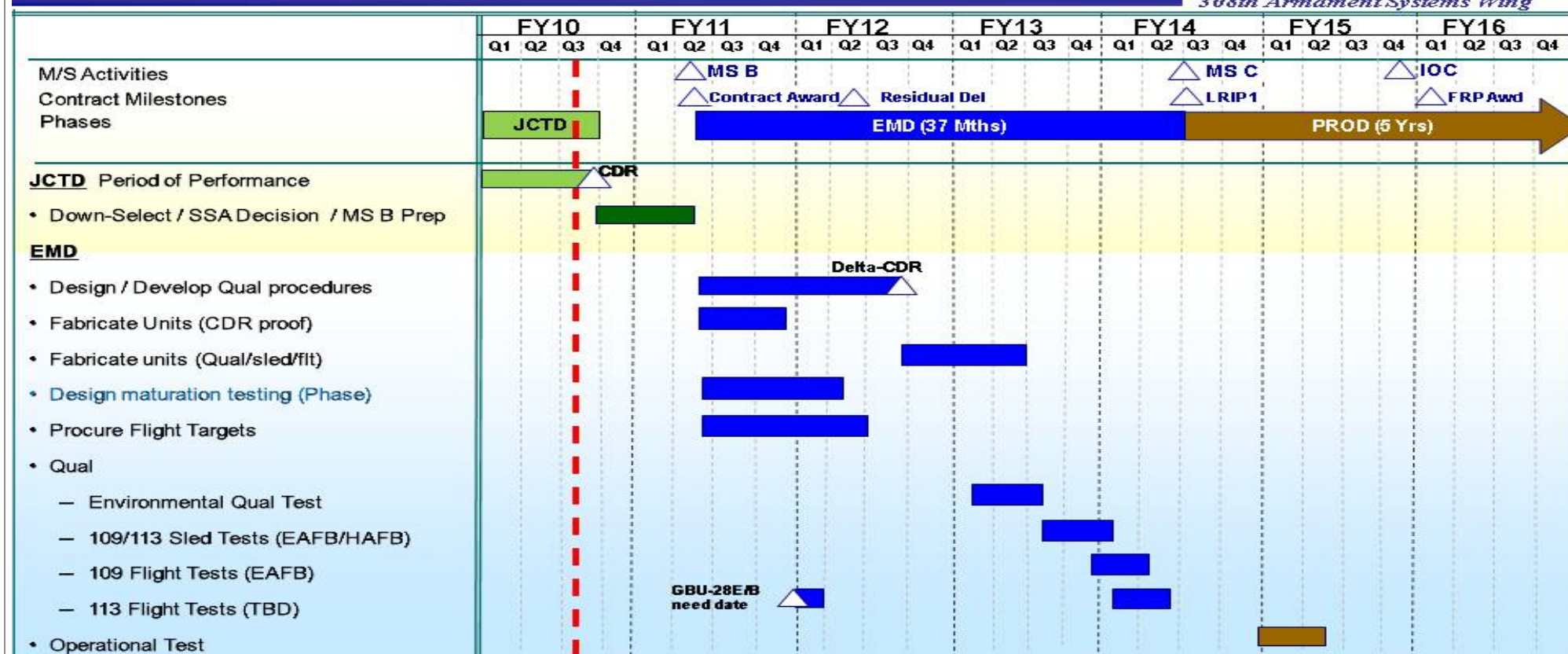


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HTVSF Schedule

38th Armament Systems Wing



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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0604635F: <i>Ground Attack Weapons Fuze Development</i>	PROJECT 645312: <i>Hard Target Void Sensing Fuze</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
JCTD CDR	3	2010	3	2010
Milestone B/EMD Award	2	2011	2	2011
Procure Flight Targets	2	2011	2	2012
Delta CDR	3	2012	3	2012
BLU-109 Flight Test	4	2013	2	2014
Milestone C/LRIP Award	3	2014	3	2014

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE							
3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>				PE 0604796F: <i>Alternative Fuels</i>							
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	68.350	24.064	-	-	-	-	-	-	-	Continuing	Continuing
645287: <i>Assured Fuels</i>	68.350	24.064	-	-	-	-	-	-	-	Continuing	Continuing

A. Mission Description and Budget Item Justification

The Alternative Fuels program manages the certification of current and future alternative fuels for operational use in all legacy and future weapons systems, applicable support equipment, and fuel delivery and storage infrastructure. The alternative fuel types being evaluated and certified include various synthetic fuels, bio-mass derived fuels, and fuel blend technologies. This effort includes complete system evaluations, studies and analysis, subsystem and system-level testing, safety, environmental analysis, fuel stock purchase, fuel storage and transport and other USAF certification costs. Scope of activities include interaction with all USAF weapon system single managers to accomplish complete certification activities for applicable weapon systems. Initiative supports USAF assured fuels effort to decrease US dependence on foreign oil and secure additional fuel-types on which to conduct world-wide operations.

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)	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012 Base</u>	<u>FY 2012 OCO</u>	<u>FY 2012 Total</u>
Previous President's Budget	73.020	24.064	-	-	-
Current President's Budget	68.350	24.064	-	-	-
Total Adjustments	-4.670	-	-	-	-
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-2.390	-			
• SBIR/STTR Transfer	-1.975	-			
• Other Adjustments	-0.305	-	-	-	-

Change Summary Explanation

FY 2010 - adjustments for higher Air Force priorities.

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force								DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 4: Advanced Component Development & Prototypes (ACD&P)				R-1 ITEM NOMENCLATURE PE 0604796F: Alternative Fuels				PROJECT 645287: Assured Fuels			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
645287: Assured Fuels	68.350	24.064	-	-	-	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		
A. Mission Description and Budget Item Justification											
The Alternative Fuels program manages the certification of current and future alternative fuels for operational use in all legacy and future weapons systems, applicable support equipment, and fuel delivery and storage infrastructure. The alternative fuel types being evaluated and certified include various synthetic fuels, bio-mass derived fuels, and fuel blend technologies. This effort includes complete system evaluations, studies and analysis, subsystem and system-level testing, safety, environmental analysis, fuel stock purchase, fuel storage and transport and other USAF certification costs. Scope of activities include interaction with all USAF weapon system single managers to accomplish complete certification activities for applicable weapon systems. Initiative supports USAF assured fuels effort to decrease US dependence on foreign oil and secure additional fuel-types on which to conduct world-wide operations.											
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 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: Assured Fuels							68.350	24.064	-	-	-
Description: Certify AF weapon systems (including appropriate support equipment and base-level fuel delivery and storage infrastructure) to operate using any number of alternative fuel stocks.											
FY 2010 Accomplishments: Effort includes laboratory, infrastructure and flight test support for certification activities for the eight remaining USAF platforms using the Fischer-Tropsch (FT) derived synthetic fuel. Final disposition of certification requirements for all USAF Commercial Derivative Aircraft (CDA) using the FT fuel blend will also be completed. Additionally, laboratory and flight test activities supporting certification efforts on three USAF platforms using 50/50 fuel blends comprised of JP-8 and biomass-derived Hydro-treated Renewable Jet (HRJ) fuels will be conducted. Dedicated testing of augmented engines using the HRJ blend will be accomplished using test resources located at Arnold Engineering and Development Center (AEDC) and contractor facilities. Evaluation of infrastructure, toxicology, Environment, Safety and Occupational Health (ESOH) and fire suppression effectiveness of the HRJ blend will also be initiated. Acquisition of supplemental quantities of HRJ fuels is also											

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force						DATE: February 2011						
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>			R-1 ITEM NOMENCLATURE PE 0604796F: <i>Alternative Fuels</i>			PROJECT 645287: <i>Assured Fuels</i>						
B. Accomplishments/Planned Programs (\$ in Millions)												
						FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total		
<p>planned. MIL-HBK-510 will undergo revision. Transportation and storage of fuel to test locations will also be supported. Effort includes associated management and support costs.</p> <p><i>FY 2011 Plans:</i> Efforts will include laboratory and flight test support for certification activities on approximately five USAF platforms, ground support equipment and infrastructure using biomass-derived/HRJ fuel blend. Disposition of certification requirements for all USAF Commercial Derivative Aircraft (CDA) using the HRJ fuel blend will be accomplished. Evaluation of infrastructure, toxicology, ESOH, and fire suppression effectiveness of the HRJ blend will be completed. Acquisition of supplemental quantities of HRJ fuels is also planned. MIL-HBK-510 will undergo revision. Transportation and storage of fuel to test locations will also be supported. Effort includes associated management and support costs.</p> <p><i>FY 2012 Base Plans:</i></p> <p><i>FY 2012 OCO Plans:</i></p>												
Accomplishments/Planned Programs Subtotals						68.350	24.064	-	-	-		
C. Other Program Funding Summary (\$ in Millions)												
		<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012 Base</u>	<u>FY 2012 OCO</u>	<u>FY 2012 Total</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• N/A:		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
D. Acquisition Strategy Funding may be executed internally within the Agile Combat Support Directorate (ASC/WN) via full and open competition or released to other organizations for alternative fuel certification projects for which they are the Office of Primary Responsibility (OPR). OPRs will determine the most appropriate contract vehicle.												
E. Performance Metrics Please refer to the Performance Base Budget Overview Book for information on how Air 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-3, RDT&E Project Cost Analysis: PB 2012 Air Force											DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 4: Advanced Component Development & Prototypes (ACD&P)				R-1 ITEM NOMENCLATURE PE 0604796F: Alternative Fuels				PROJECT 645287: Assured Fuels						
Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Subtotal			-	-		-		-		-	0.000	0.000	0.000	
Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Certify Air Force weapon systems to operate using a variety of alternative fuel stocks, purchase/store/transport/analyze fuel, perform system analysis/testing, assess safety impacts, and complete ...	Various	ASC/WNN:AF,	89.746	22.600		-		-		-	0.000	112.346	0.000	
Determine compatibility/operability of materials, valves, fuel pumps, Automated Tank Gauging (ATG), distribution pipelines, Fuels Mobility Support Equipment (FMSE) and other applicable storage stab...	Various	AFPET:TBD,	1.836	1.002		-		-		-	0.000	2.838	0.000	
Subtotal			91.582	23.602		-		-		-	0.000	115.184	0.000	
Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Subtotal			-	-		-		-		-	0.000	0.000	0.000	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

3600: Research, Development, Test & Evaluation, Air Force
 BA 4: Advanced Component Development & Prototypes (ACD&P)

R-1 ITEM NOMENCLATURE

PE 0604796F: Alternative Fuels

PROJECT

645287: Assured Fuels

Management Services (\$ in Millions)

Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Management and support costs associated with the Alternative Fuels effort to include travel and supplies	Various	TBD:TBD,	0.850	0.462		-		-		-	0.000	1.312	0.000
Subtotal			0.850	0.462		-		-		-	0.000	1.312	0.000
			Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			92.432	24.064		-		-		-	0.000	116.496	0.000

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

3600: Research, Development, Test & Evaluation, Air Force
BA 4: Advanced Component Development & Prototypes (ACD&P)

R-1 ITEM NOMENCLATURE

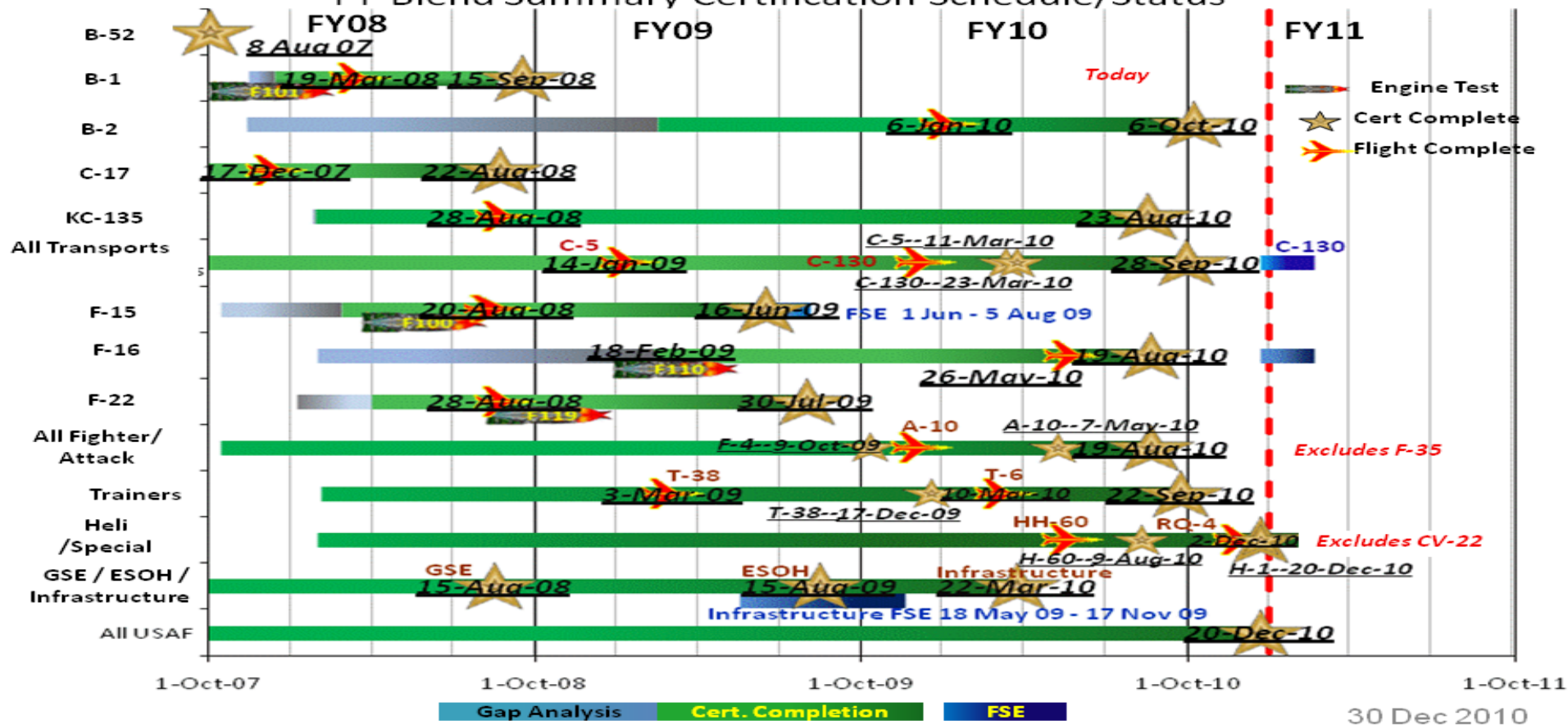
PE 0604796F: Alternative Fuels

PROJECT

645287: Assured Fuels

Alternative Fuels Certification Office

FT-Blend Summary Certification Schedule/Status



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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

3600: Research, Development, Test & Evaluation, Air Force
BA 4: Advanced Component Development & Prototypes (ACD&P)

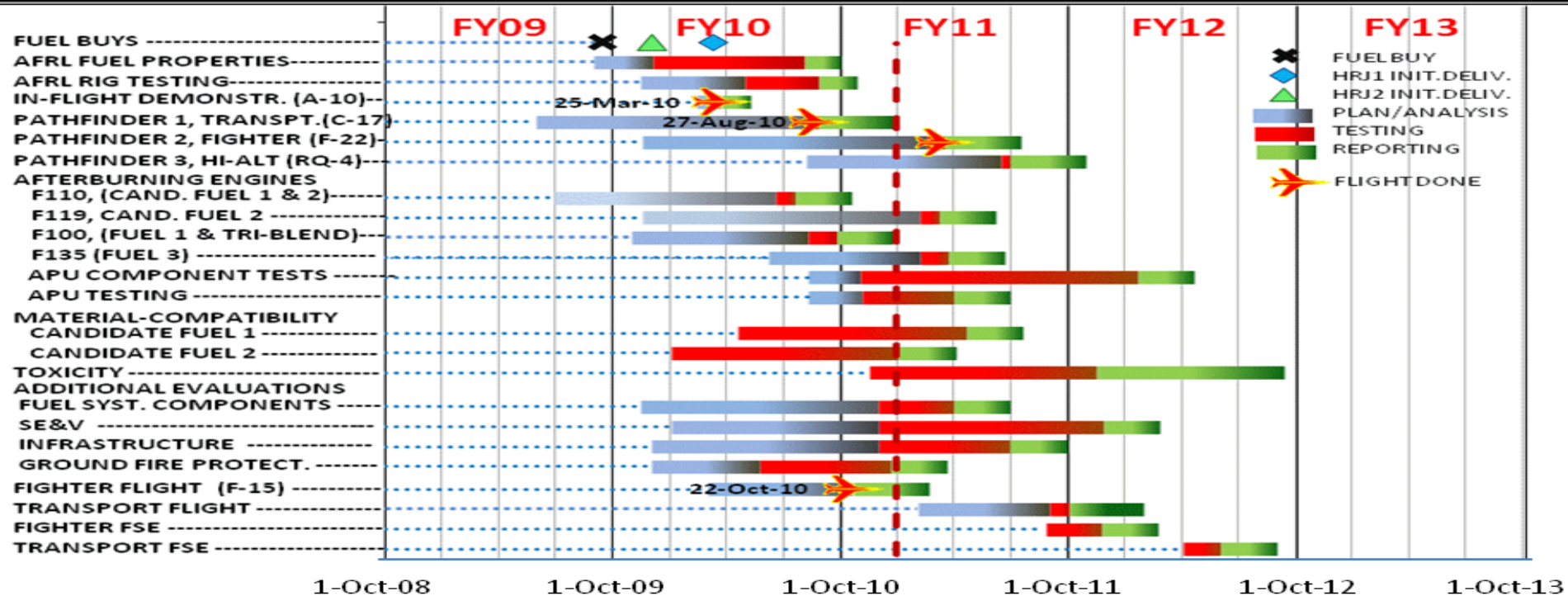
R-1 ITEM NOMENCLATURE

PE 0604796F: Alternative Fuels

PROJECT

645287: Assured Fuels

Alternative Fuels Certification Office Hydro-treated Renewable Jet (HRJ) Certification Schedule



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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0604796F: <i>Alternative Fuels</i>	PROJECT 645287: <i>Assured Fuels</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Certification Efforts	1	2010	4	2012
Flight Tests	1	2010	4	2012
Engine Tests	1	2010	4	2012

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE							
3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>				PE 0604830F: <i>Automated Air-to-Air Refueling</i>							
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	42.978	0.085	-	-	-	-	-	-	-	Continuing	Continuing
642214: <i>Improved Aerial Refueling Systems</i>	42.978	0.085	-	-	-	-	-	-	-	Continuing	Continuing

A. Mission Description and Budget Item Justification

This program develops single channel Precision GPS (PGPS) system to support Automated Aerial Refueling (AAR) for future manned and unmanned air systems (UAS). The FY11 funding will support the close out of the Automated Aerial Refueling Phase II Program. From FY04-08, the Next Generation Bomber PE 0604015F funded critical technology maturation and risk reduction efforts that could feed into a long-range strike platform in the future. AAR Phase II is a critical technology for future manned and unmanned long-range strike operations. AAR Phase I technology has been demonstrated, but it requires additional maturation, development, and integration to be demonstrated for operational utility.

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 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	42.978	0.085	-	-	-
Current President's Budget	42.978	0.085	-	-	-
Total Adjustments	-	-	-	-	-
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-	-	-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force									DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 4: Advanced Component Development & Prototypes (ACD&P)				R-1 ITEM NOMENCLATURE PE 0604830F: Automated Air-to-Air Refueling				PROJECT 642214: Improved Aerial Refueling Systems			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
642214: Improved Aerial Refueling Systems	42.978	0.085	-	-	-	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

This program develops single channel Precision GPS (PGPS) system to support Automated Aerial Refueling (AAR) for future manned and unmanned air systems (UAS). The FY11 funding will support the close out of the Automated Aerial Refueling Phase II Program. From FY04-08, the Next Generation Bomber PE 0604015F funded critical technology maturation and risk reduction efforts that could feed into a long-range strike platform in the future. AAR Phase II is a critical technology for future manned and unmanned long-range strike operations. AAR Phase I technology has been demonstrated, but it requires additional maturation, development, and integration to be demonstrated for operational utility.

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 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: Automated Aerial Refueling (AAR)	42.978	0.085	-	-	-
Description: Development of flight control and precision navigation (PGPS) systems for initial capability of automated air-to-air refueling					
FY 2010 Accomplishments: Integrate and begin demonstration of automated air-to-air refueling precision navigation initial capability using a KC-135 tanker and a limited test aircraft. Continue development of the single channel PGPS and begin close out of the Automated Aerial Refueling Phase II Program. This funding supports open loop flight demonstration of real-time PGPS performance.					
FY 2011 Plans: Complete demonstration of automated air-to-air refueling precision navigation initial capability using a KC-135 tanker and a limited test aircraft (accomplished with FY10 funding). Close-out of Automated Aerial Refueling Program (accomplished with FY11 funding).					
FY 2012 Base Plans:					

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0604830F: <i>Automated Air-to-Air Refueling</i>	PROJECT 642214: <i>Improved Aerial Refueling Systems</i>
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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
none					
<i>FY 2012 OCO Plans:</i>					
none					
Accomplishments/Planned Programs Subtotals	42.978	0.085	-	-	-

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

<u>Line Item</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012 Base</u>	<u>FY 2012 OCO</u>	<u>FY 2012 Total</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• N/A: <i>none</i>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

D. Acquisition Strategy

Principal acquisitions to be performed through Broad Area Announcements (BAA) resulting in competitive Cost Plus Fixed Fee 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.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force											DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE				PROJECT					
3600: Research, Development, Test & Evaluation, Air Force BA 4: Advanced Component Development & Prototypes (ACD&P)				PE 0604830F: Automated Air-to-Air Refueling				642214: Improved Aerial Refueling Systems					
Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Precision GPS Development	C/CPFF	Northrop Grumman:Woodland Hills, CA	9.500	-		-		-		-	0.000	9.500	0.000
Tactical Targeting Network Technology (TTNT)	C/CPFF	Rockwell Collins:Cedar Rapids IA	0.200	-		-		-		-	0.000	0.200	0.000
Phase II System Development and Demonstration	C/CPFF	Boeing:St Louis, MO	18.260	-		-		-		-	0.000	18.260	0.000
Subtotal			27.960	-		-		-		-	0.000	27.960	0.000
Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-	0.000	0.000	0.000
Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Precision GPS Testing	TBD	Calspan:Buffalo, NY	2.000	-		-		-		-	0.000	2.000	0.000
Tanker Modification Development	TBD	Rockwell Collins:Oklahoma City, OK	1.500	-		-		-		-	0.000	1.500	0.000
Refueling Receiver Development	C/CPFF	Calspan:Buffalo, NY	4.000	-		-		-		-	0.000	4.000	0.000
VISTA F-16 Development	C/CPFF	Lockheed Martin:Ft Worth, TX	1.000	-		-		-		-	0.000	1.000	0.000
Flight Test	Various	Various:Various,	4.018	-		-		-		-	0.000	4.018	0.000
Subtotal			12.518	-		-		-		-	0.000	12.518	0.000

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force											DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>				R-1 ITEM NOMENCLATURE PE 0604830F: <i>Automated Air-to-Air Refueling</i>				PROJECT 642214: <i>Improved Aerial Refueling Systems</i>					

Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management	Various	Various:Various	2.500	0.085		-		-		-	0.000	2.585	0.000
Subtotal			2.500	0.085		-		-		-	0.000	2.585	0.000

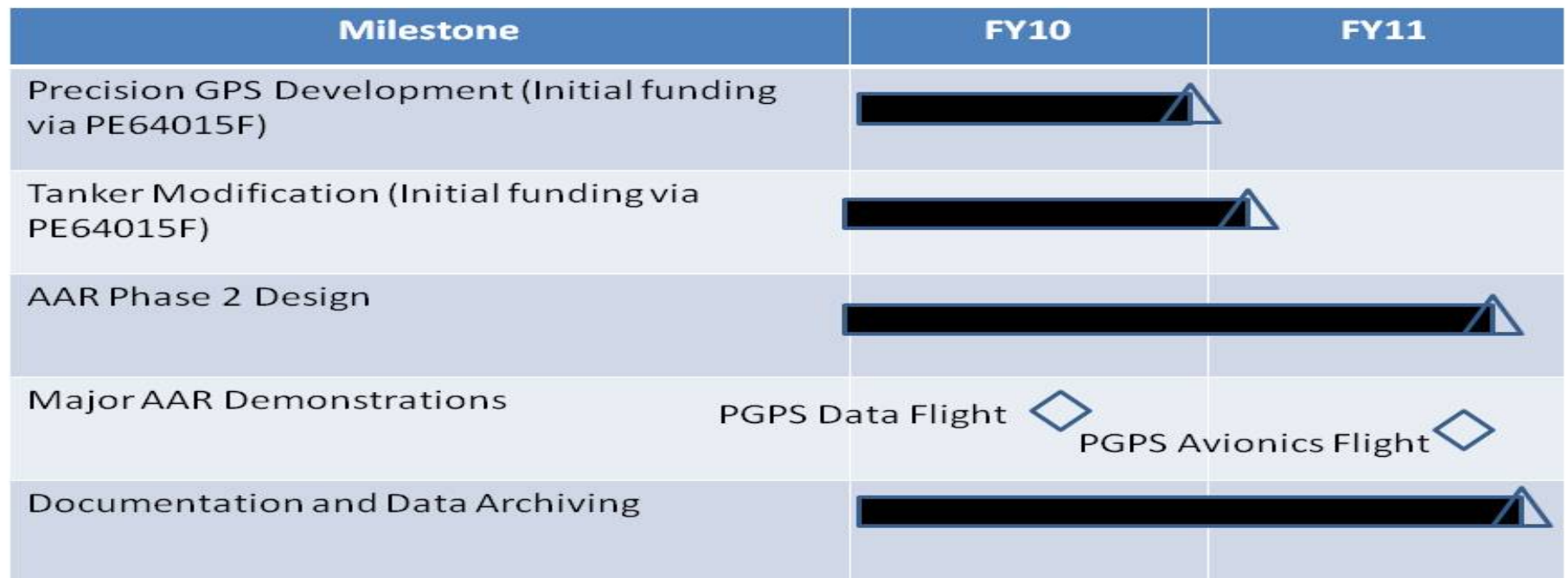
	Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	42.978	0.085		-		-		-	0.000	43.063	0.000

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0604830F: <i>Automated Air-to-Air Refueling</i>	PROJECT 642214: <i>Improved Aerial Refueling Systems</i>

0604830F, chart 7



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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0604830F: <i>Automated Air-to-Air Refueling</i>	PROJECT 642214: <i>Improved Aerial Refueling Systems</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Precision GPS Development (Initial funding via PE64015F)	1	2010	4	2010
Tanker Modification (Initial funding via PE64015F)	1	2010	3	2010
AAR Phase 2 Design	1	2010	3	2010
PGPS Data Flight Demonstration	2	2010	2	2010
PGPS Avionics Flight Demonstration	3	2011	3	2011
Documentation and Data Archiving	2	2010	4	2011

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE							
3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>				PE 0604857F: <i>Operationally Responsive Space</i>							
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	133.785	93.978	86.543	-	86.543	76.386	52.739	123.454	125.566	Continuing	Continuing
64A015: <i>ORS Common Services</i>	23.165	19.450	13.169	-	13.169	13.263	13.539	13.587	13.687	Continuing	Continuing
64A020: <i>AF Funded ORSSats</i>	110.620	74.528	73.374	-	73.374	63.123	39.200	109.867	111.879	Continuing	Continuing

Note

The program funding includes overhead reduction efficiencies that are not intended to impact program content. The efficiencies reductions total \$1.187 in FY12.

A. Mission Description and Budget Item Justification

The successful integration of space-based capabilities into the core of U.S. national security operations has resulted in dramatically increased demand for and dependence upon space capabilities. As a result, U.S. Strategic Command (USSTRATCOM) identified three needs: 1) to rapidly augment existing space capabilities when needed to expand operational capability; 2) to rapidly reconstitute/replenish critical space capabilities to preserve "continuity of operations" capability; 3) to rapidly exploit and infuse space technological or operational innovations to increase U.S. advantage. Operationally Responsive Space (ORS) is designed to both improve the responsiveness of existing space capabilities (e.g., space, launch, and ground segments) and to develop complementary, affordable small satellite/launch vehicle combinations, and associated ground and command and control systems, that can be deployed in operationally relevant timeframes.

ORS is defined as "assured space power focused on timely satisfaction of Joint Force Commanders' needs." The ORS goals are to: 1) Improve robustness--provide a focused, limited capability to augment and reconstitute, with assured warfighter access and control. 2) Respond to urgent needs--deliver effects to joint warfare in response to an urgent or previously unanticipated need. 3) Reduce development/deployment time and cost--complement existing space capabilities with an element focused on increased value and timely delivery. 4) Capitalize on emerging/innovative capabilities--adopt new capabilities from advanced technologies and innovative operational concepts.

When enabling responsiveness conditions are fully established, commanders will have three "tiers" of ORS capabilities for meeting urgent needs. Tier-1 uses existing space systems, operations, and processes to provide highly responsive space effects in minutes to days from when the need is established. Although mission or system utilization analyses may be needed, Tier-1 solutions will not typically involve new material items. The targeted timeframe for deploying usable Tier-2 solutions is days to weeks from the time the JFC need is established. Tier-2 solutions focus on reconstitution, augmentation, or replenishment, of space capabilities through rapid assembly, integration, testing, and deployment of small, low cost satellites. Tier-3 focuses on maturing enablers (launch, range, bus, payloads, command and control, ground architectures, and authorities) necessary to meet future Tier-2 and Tier-3 timelines and on developing new assets rapidly when JFC needs cannot be addressed through Tier-1 or Tier-2 capabilities. Once developed, Tier-3 capabilities will be responsively deployed and employed in the same way as Tier-2 assets. The goal of executing Tier-3 is months to one year from established need to presentation of operational capability.

ORS program funds (along with other Service and Agency funds) are programmed to systematically mature ORS enabling infrastructure to meet the responsiveness timelines required by the USSTRATCOM CONOPS (hours, days, weeks, months...not years) and achieve the price points established in the 2007 NDAA (\$40M

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0604857F: <i>Operationally Responsive Space</i>
--	--

satellite vehicles / \$20M launches). This includes the development of a modular, open-system architecture, including plug and play concepts, to enhance the rapid assembly and integration of mission-specific elements into operational satellites. A focus for these efforts will be the Rapid Response Space Works (RRSW).

ORS will fully develop and demonstrate the end-to-end capability of RRSW by producing an operational, modular Synthetic Aperture Radar (SAR) satellite prototype through the RRSW under specific time constraints. This demonstration of rapid assembly, integration and testing (AI&T) will be in accordance with a concept of operations that dictates a 6-day call up prior to mission launch. In addition to providing operational capability, RRSW will remain a critical enabler for sustained, repeatable AI&T for subsequent satellite vehicles and a means to incorporate innovation while leveraging existing efficiencies. Demonstration and validation of this process is key to ORS's ability to meet future warfighter needs in a responsive manner.

ORS funds will also fund TacSat and ORS launch vehicles and operations support; fund transition of TacSat demos to operational capabilities; and acquire and deploy operational satellites in response to USSTRATCOM urgent needs. When ORS-appropriate USSTRATCOM urgent needs arise during execution year, programmed ORS projects may be modified or delayed to meet those urgent needs.

This program is Budget Activity 04, Advanced Component Development and Prototypes, because it involves operational experimentation and evaluating integrated technologies to assess the performance or cost reduction potential of advanced technologies.

B. Program Change Summary (\$ in Millions)	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012 Base</u>	<u>FY 2012 OCO</u>	<u>FY 2012 Total</u>
Previous President's Budget	124.308	93.978	88.019	-	88.019
Current President's Budget	133.785	93.978	86.543	-	86.543
Total Adjustments	9.477	-	-1.476	-	-1.476
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	9.477	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-	-	-1.476	-	-1.476

Congressional Add Details (\$ in Millions, and Includes General Reductions)

Project: 64A015: *ORS Common Services*

Congressional Add: *LEONIDAS*

Congressional Add: *Micro-Satellite Serial Manufacturing to include Academic Outreach*

Congressional Add: *Space Sensor Data Link Technology*

<u>FY 2010</u>	<u>FY 2011</u>
4.750	-
1.200	-
4.800	-

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force		DATE: February 2011	
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>		R-1 ITEM NOMENCLATURE PE 0604857F: <i>Operationally Responsive Space</i>	
Congressional Add Details (\$ in Millions, and Includes General Reductions)		FY 2010	FY 2011
Congressional Add: <i>Rapid Small Satellite Development Test Facilities</i>		1.600	-
Congressional Add Subtotals for Project: 64A015		12.350	-
Congressional Add Totals for all Projects		12.350	-
Change Summary Explanation			
FY2010: +\$9.477M reprogrammed to complete the FY10 funding requirements for ORS-1.			
FY2012: -\$1.187M reprogrammed due to overhead reduction efficiencies; -\$0.289M for other AF priorities.			

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE				PROJECT			
3600: Research, Development, Test & Evaluation, Air Force BA 4: Advanced Component Development & Prototypes (ACD&P)				PE 0604857F: Operationally Responsive Space				64A015: ORS Common Services			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
64A015: ORS Common Services	23.165	19.450	13.169	-	13.169	13.263	13.539	13.587	13.687	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

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.

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 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: Analysis, modeling, simulation, and program support	10.815	19.450	13.169	-	13.169
Description: Perform concepts and solutions for warfighter urgent needs. Perform modeling, simulations, and analyses for various alternative concepts, and develop conceptual requirements.					
FY 2010 Accomplishments: Obtained final DoD approval for the Rapid Deployable Space (RDS) Capabilities Based Analysis (CBA). Performed the kick-off study for USSTRATCOM Urgent Need #4--Missile Warning. Completed the ground system architecture for communications. Oversee the RRSW Independent Validation & Verification (IV&V) efforts through the RRSW Jumpstart/JOD evaluation process. Completed the first RF modular payload (Synthetic Aperture Radar (SAR)) design study. Performed the tactical electronic support mission design study. Completed the TacSat-3 Military Utility Analysis (MUA). Postponed the TacSat-4 MUA due to delayed TacSat-4 launch to FY11.					
FY 2011 Plans:					

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011			
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				
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Integrate the findings from the RDS CBA. Perform kick off studies for urgent needs. Develop the ground systems architectures for RF modular mission kit and Missile Warning mission kit. Oversee the RRSW IV&V efforts through the RRSW Jumpstart/JOD evaluation process. Conclude the protected communications mission design study. Support the SAR mission kit development. Perform the TacSat-4 and ORS-1 MUAs. FY 2012 Base Plans: Integrate the findings from the RDS CBA into ORS Tier activities. Perform further kick-off studies for urgent needs as presented by JFCs. Continue to develop the ground systems architecture for RF modular mission kit; continue to develop ground systems architecture for Missile Warning mission kit. Oversee the RRSW IV&V efforts through the RRSW Jumpstart/JOD evaluation process. Continue to support the SAR mission kit development. Continue ORS-1 MUA. FY 2012 OCO Plans: Not Applicable						
Accomplishments/Planned Programs Subtotals		10.815	19.450	13.169	-	13.169
		FY 2010	FY 2011			
Congressional Add: LEONIDAS FY 2010 Accomplishments: Work with the Hawaii Space Flight Lab and Sandia National Lab on the Low Earth Orbit Nanosatellite Integrated Defense Autonomous Systems (LEONIDAS) program. Holding System Requirements Review for HawaiiSat-1, CDR for Super Strypi, and begin construction of launch pad structure at the Pacific Missile Range Facility. FY 2011 Plans:		4.750	-			
Congressional Add: Micro-Satellite Serial Manufacturing to include Academic Outreach FY 2010 Accomplishments: The objective of the tasks for the University of Southern California (USC) are to go from design to hardware build for a Cubesat based vehicle, using a design synthesis tool and paperless design approach process. FY 2011 Plans:		1.200	-			
Congressional Add: Space Sensor Data Link Technology		4.800	-			

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force							DATE: February 2011				
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>			R-1 ITEM NOMENCLATURE PE 0604857F: <i>Operationally Responsive Space</i>			PROJECT 64A015: <i>ORS Common Services</i>					

	FY 2010	FY 2011
<i>FY 2010 Accomplishments:</i> Develop space sensor data link technology to support the design and development of the Space-qualified CDL and provide a radiation-hardened CDL prototype for ORS use. The requirement also covers potential development of an Operational complete CDL Transmit-only CDL system (including the RF path and Antenna) for ORS-1. <i>FY 2011 Plans:</i>		
<i>Congressional Add:</i> Rapid Small Satellite Development Test Facilities <i>FY 2010 Accomplishments:</i> The objective of the tasks for the University of New Hampshire (UNH) are to develop and test small payloads. Electromagnetic Interference Test Chambers, Electronic Instrumentation test facilities, and a Partial Discharge Test System (for HV Instrumentation) are being acquired. <i>FY 2011 Plans:</i>	1.600	-
Congressional Adds Subtotals	12.350	-

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

<u>Line Item</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u> <u>Base</u>	<u>FY 2012</u> <u>OCO</u>	<u>FY 2012</u> <u>Total</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• N/A:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

D. Acquisition Strategy
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.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force											DATE: February 2011			
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)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
ORS Concept Development	PO	Aerospace:El Segundo, CA	2.300	2.400	Oct 2010	2.500	Oct 2011	-		2.500	Continuing	Continuing	TBD	
Engineering, Simulation, Analysis, and Support	MIPR	AFRL/RD:KAFB, NM	6.300	-		-		-		-	0.000	6.300	6.300	
LEONIDAS	SS/CPFF	U of Hawaii:Honolulu, HI	9.750	-		-		-		-	0.000	9.750	TBD	
Micro-Satellite serial manufacturing	MIPR	AFRL:Kirtland AFB, NM	2.000	-		-		-		-	0.000	2.000	2.000	
Rapid small satellite development test facilities	PO	U of New Hampshire:Durham, NH	1.600	-		-		-		-	0.000	1.600	1.600	
Space Sensor Data Link Technology	SS/CPAF	L3 Comm:Salt Lake City, UT	4.800	-		-		-		-	0.000	4.800	TBD	
Subtotal			26.750	2.400		2.500		-		2.500				
Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Systems Engineering and Technical Assistance	C/TBD	GSA:San Antonio, TX	0.500	4.200	Oct 2010	4.200	Oct 2011	-		4.200	Continuing	Continuing	TBD	
Subtotal			0.500	4.200		4.200		-		4.200				
Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Subtotal			-	-		-		-		-	0.000	0.000	0.000	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY3600: 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)

Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Perform modeling, simulation, analysis and assess alternative concepts/ requirements & program support	Various	Various:Various,	6.515	12.850	Oct 2010	6.469	Oct 2011	-		6.469	Continuing	Continuing	TBD
Subtotal			6.515	12.850		6.469		-		6.469			
			Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			33.765	19.450		13.169		-		13.169			

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

3600: Research, Development, Test & Evaluation, Air Force
BA 4: Advanced Component Development & Prototypes (ACD&P)

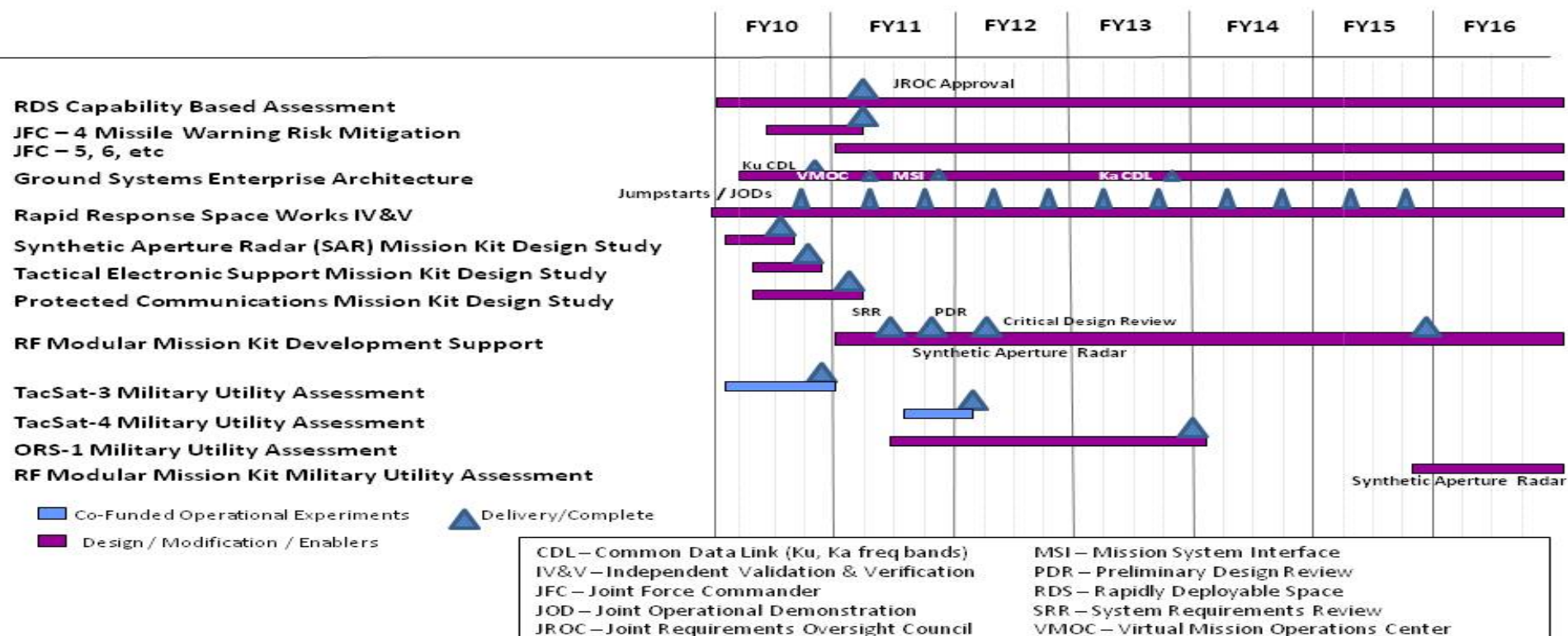
R-1 ITEM NOMENCLATURE

PE 0604857F: Operationally Responsive Space

PROJECT

64A015: ORS Common Services

Operationally Responsive Space (ORS) BPAC A015 Schedule



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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force

DATE: February 2011

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

Events	Start		End	
	Quarter	Year	Quarter	Year
Rapidly Deployable Space (RDS) Capability Based Assessment	1	2010	4	2016
JFC-4 Missile Warning Risk Mitigation	2	2010	1	2011
Additional JFC urgent need analyses	1	2011	4	2016
Ground Systems Enterprise Architecture for surveillance/reconnaissance, communications, and space situational awareness	1	2010	4	2016
RRSW IV&V	4	2010	4	2016
RF Modular (SAR) Mission Kit Design Study	1	2010	3	2010
Tactical Electronic Support Mission Design Study	2	2010	4	2010
Protected Comms Mission Design Study	2	2010	1	2011
SAR Mission Kit Development Support	1	2011	4	2016
TacSat-3 military utility assessment	1	2010	4	2010
TacSat-4 military utility assessment	3	2011	1	2012
ORS-1 military utility assessment	2	2011	4	2013
SAR Modular Mission Kit military utility assessment	4	2015	4	2016

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0604857F: <i>Operationally Responsive Space</i>	PROJECT 64A020: <i>AF Funded ORSSats</i>
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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
64A020: AF Funded ORSSats	110.620	74.528	73.374	-	73.374	63.123	39.200	109.867	111.879	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

Operationally Responsive Space projects are 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. Responsive satellites will be capable of rapid satellite initialization and be networked with other national security space, air and surface systems.

ORS projects provide a broad range of capabilities directly supporting warfighter needs. Potential missions include communications, data exfiltration; blue-force situational awareness; positioning, navigation, and timing; weather; and battlefield intelligence, surveillance, and reconnaissance (ISR). The highest priority for the ORS office is the ORS-1 that is being fielded to respond to CENTCOM's urgent need to rapidly provide ISR for theater warfighters. The second priority of the ORS office is to continue maturing ORS enabling elements including the Radio Frequency (RF) Modular Payload mission kit (this mission kit will enable Synthetic Aperture Radar (SAR), Communications, and Tactical Electronic Support capabilities. The remaining priorities for the ORS office are to satisfy the high priority needs for augmentation and reconstitution, such as Missile Warning, Wideband Protected Communication, Narrowband Communication, Space Situational Awareness, and Hyperspectral Imagery.

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

These funds will support on-going analyses, employment and integration of new concepts and methods for enhancing the responsiveness of the existing capabilities and quick reaction opportunities, such as TacSat-4 launch and orbital support, and the Jumpstart rapid development, integration, and launch demonstrations. When ORS-appropriate USSTRATCOM urgent needs arrive during the execution year, programmed ORS projects are reevaluated and may be modified or even delayed to meet the urgent needs, thus making the urgent needs the number one priority.

ORS Mission Kit Enabler Projects include satellite vehicles, launch, integration, operational experimentation, and interim transitions from ORS derived solutions to operational capabilities. Each mission kit also includes enabler investments to improve the responsiveness and lower the cost of the designing, fabricating, launching and operating ORS space capabilities. These mission kits culminate in on-orbit capabilities ready for operational experimentation and, when desired, transition to enduring operations.

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.

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011				
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				
ORS is developing Common Data Link hardware for space use.							
B. Accomplishments/Planned Programs (\$ in Millions)			FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: Cross Cutting			26.343	5.428	12.674	-	12.674
Description: Perform cross-cutting activities that support all three tiers of ORS activities.							
FY 2010 Accomplishments: Planned the development of the first enabler mission kit launch demonstration and continued responsive launch and range enablers. Developed the requirements, concepts, and solutions for USSTRATCOM's Urgent Need #4 for missile warning. Collaborated with the National Reconnaissance Office on a signals intelligence payload and other efforts. Completed the Space Common Data Link and continued command & control, data processing, and dissemination enablers. Postponed TacSat-4 launch and on-orbit support operations as TacSat-4 launch was delayed to FY11.							
FY 2011 Plans: Provide TacSat-4 launch and on-orbit flight support and performance analysis. Deliver and flight test the small space crypto package. Continue ORS-1 Mission Systems Engineering/Program Management (SEPM) support. Provide assessment and evaluation of Plug 'n Play maturity and technology for follow-on mission kits. Continue SEPM and IV&V for RRSW & MSV. Continue ongoing systems engineering support of future mission development.							
FY 2012 Base Plans: Continue ORS-1 Mission Systems Engineering/Program Management (SEPM) support. Provide assessment and evaluation of Plug 'n Play maturity and technology for follow-on mission kits. Continue SEPM and IV&V for RRSW & MSV. Continue ongoing systems engineering support of future mission development. Continue ORS-1 Mission Operations and Lessons Learned studies. Continue to develop Government Reference Designs for eight ORS Mission Kits. Conduct Modeling and Simulations for Mission Evaluations for eight ORS Mission Kits. Refine ORS CONOPS, Enterprise and Architecture, and Systems Engineering Processes.							
FY 2012 OCO Plans: Not Applicable							
Title: Tier-1			2.600	2.600	2.600	-	2.600
Description: Perform Tier-1 activities, including operational capabilities, development, and integration							

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011		
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 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
FY 2010 Accomplishments: Transitioned the automated toolkit to the Virtual Mission Operations Center (VMOC) as a reference guide of non-National System assets that warfighters use to fill collection shortfalls. Participated in war games and exercises to introduce and apply ORS and ORS-like assets.					
FY 2011 Plans: Coordinate operational demonstrations and assess utility of nano and microsatellites with partners. Conduct operational demonstrations with services and combatant commanders using ORS and ORS-like assets. Release the automated Toolkit for use on VMOC to combatant commanders and other users.					
FY 2012 Base Plans: 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. Develop CONOPs for COCOM use of assets.					
FY 2012 OCO Plans: Not applicable					
Title: Tier-2					
Description: Perform Tier-2 deployment demonstrations to provide field-ready capabilities and enabler maturing projects.					
FY 2010 Accomplishments: Initiated Modular Space Vehicle (MSV) (Bus and modular RF Payload) to provide foundation for rapid integration, assembly, and test of components to demonstrate compressed deployment timelines and achieve more rapid integration of mature, enabling technologies. Awarded contract and implemented Rapid Response Space Works (RRSW) establishing the key processes and relationships that will allow rapid AI&T. Initiated Phase 1 for RRSW facility modifications and purchased long-lead items supporting demonstrations and responses to urgent needs.					
FY 2011 Plans: Design a definitive MSV Bus and modular RF Payload (PDR-level design) with demonstration of end-to-end RRSW capabilities for technology development and integration. Initiate Phase 2 for RRSW-complete facility modifications, major equipment installation, complete clean room and start RRSW initial operations. Conduct limited operations for participation in wargames and exercises to demonstrate rapid assembly, integration, and					

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011		
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 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
test. Complete trials ("Jump Start") for maturing rapid assembly, integration, and test (AI&T) processes to include adaptation for changing payload configurations. FY 2012 Base Plans: Continue to develop end-to-end RRSW capabilities for technology development and integration in preparation for SAR launch in FY2015. Perform Joint Operational Demonstrations to prepare RRSW team for Rapid AI&T in accordance with 6 day call up demonstration of RRSW end-to-end capability. FY 2012 OCO Plans: Not applicable.					
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. FY 2010 Accomplishments: Completed assembly, integration, and test of ORS-1 in preparation for early FY2011 launch. Completed Version 1 of enabler roadmaps (launch and range, command and control, processing, and dissemination, bus, and payload). Designed innovation cell for rapid transition of innovations in science and technology. FY 2011 Plans: Launching ORS-1 to support USCENTCOM urgent need. Launching TacSat-4 for UHF Communications operational demonstration (launch delayed from FY10 target). Conduct enabler demonstration mission for innovation cell (conduit for enabling science and technology capabilities and improvements to architecture). FY 2012 Base Plans: Continue to design the MSV Bus and modular RF Payload (CDR-level design). Focused effort on Multi-mission bus and payload for SAR satellite. Initiate enabler roadmaps in areas of launch and range, command and control, processing and dissemination, bus, and payload architecture for MSV RF modular mission kit. Continue to develop ORS pillars in pursuit of responsive space capabilities. FY 2012 OCO Plans: Not applicable	49.777	25.700	50.900	-	50.900
Accomplishments/Planned Programs Subtotals	110.620	74.528	73.374	-	73.374

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0604857F: <i>Operationally Responsive Space</i>	PROJECT 64A020: <i>AF Funded ORSSats</i>	

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

<u>Line Item</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u> <u>Base</u>	<u>FY 2012</u> <u>OCO</u>	<u>FY 2012</u> <u>Total</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• N/A: None	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

D. Acquisition Strategy

Expediently 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.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force											DATE: February 2011			
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)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
ORS-1 (JFC need #3)	SS/CPFF	Goodrich:Danbury, CT	184.800	15.700	Oct 2010	1.000	Oct 2011	-		1.000	Continuing	Continuing	212.800	
MSV RF modular payload (SAR)	C/CPAF	Sierra Nevada:Sparks, NV	3.250	10.100	Nov 2010	22.600	Oct 2011	-		22.600	Continuing	Continuing	TBD	
MSV RF modular bus	C/CPAF	Northrop Grumman:Redondo Beach, CA	3.250	16.500	Nov 2010	15.300	Oct 2010	-		15.300	Continuing	Continuing	TBD	
MSV RF modular architecture	MIPR	NASA Ames:Sunnyvale, CA	0.500	-	Jan 1901	10.900	Oct 2011	-		10.900	Continuing	Continuing	TBD	
Sys Eng, Launch & range, C², TPED enablers	Various	Various:Various,	16.420	5.528	Oct 2010	10.074	Oct 2011	-		10.074	Continuing	Continuing	TBD	
JFC needs (#1, #2, & #4)	MIPR	AFRL Sandia:Kirtland AFB NM, NM	1.600	1.000	Oct 2010	1.000	Oct 2011	-		1.000	Continuing	Continuing	TBD	
Rapid Response Space Works	C/CPFF	Millenium Eng.:Arlington, VA	5.800	7.100	Oct 2010	7.300	Oct 2011	-		7.300	Continuing	Continuing	TBD	
Tier 1 operational capabilities, development, and integration	Various	Various:Various,	7.200	2.600	Oct 2010	2.600	Oct 2011	-		2.600	Continuing	Continuing	TBD	
Subtotal			222.820	58.528		70.774		-		70.774				
Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Subtotal			-	-		-		-		-	0.000	0.000	0.000	
Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
ORS Sat / TacSat launch vehicles, range operations, and related launch support	C/TBD	Orbital:Chandler, AZ	34.100	16.000	Oct 2010	2.600	Oct 2011	-		2.600	Continuing	Continuing	TBD	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force											DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>				R-1 ITEM NOMENCLATURE PE 0604857F: <i>Operationally Responsive Space</i>				PROJECT 64A020: <i>AF Funded ORSSats</i>					

Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			34.100	16.000		2.600		-		2.600			

Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-	0.000	0.000	0.000

			Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			256.920	74.528		73.374		-		73.374			

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

3600: Research, Development, Test & Evaluation, Air Force
BA 4: Advanced Component Development & Prototypes (ACD&P)

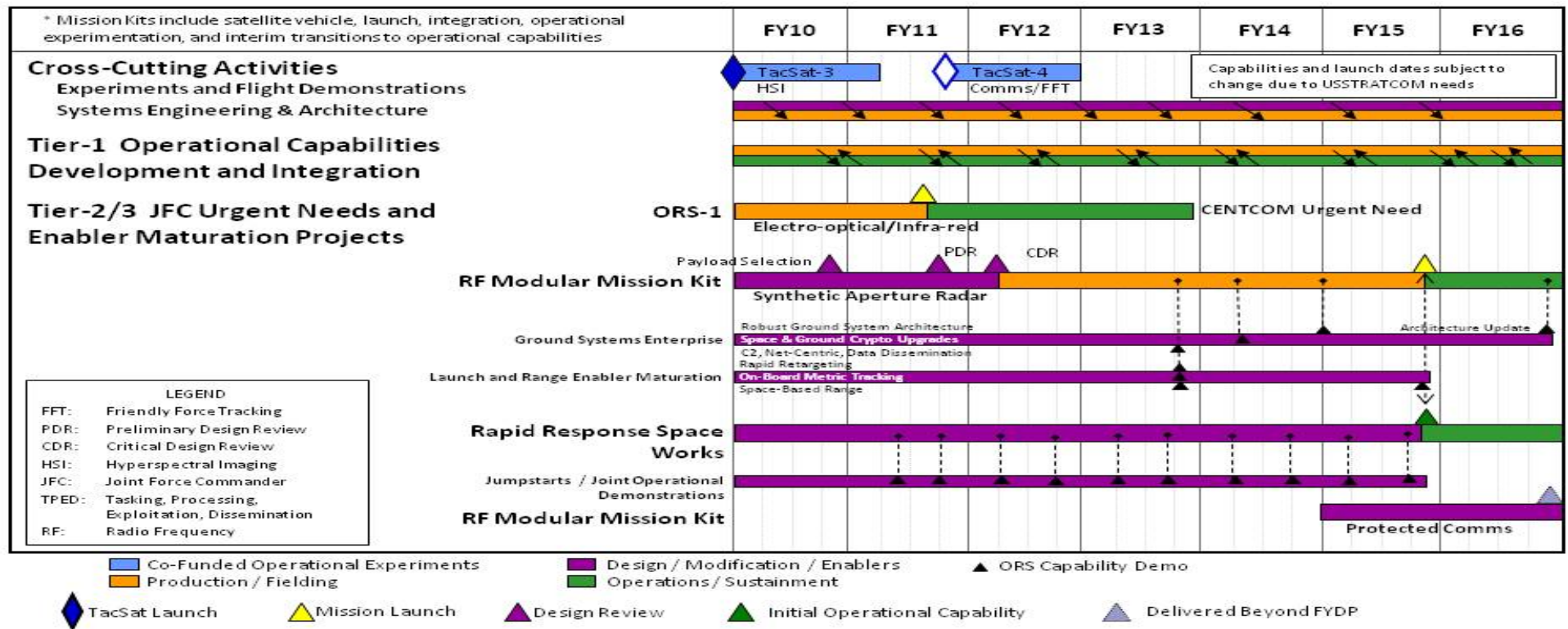
R-1 ITEM NOMENCLATURE

PE 0604857F: Operationally Responsive Space

PROJECT

64A020: AF Funded ORSSats

Operationally Responsive Space (ORS) BPAC A020 Schedule



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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force

DATE: February 2011

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

Events	Start		End	
	Quarter	Year	Quarter	Year
TacSat-3 launch and ops	1	2010	3	2011
TacSat-4 launch and ops	4	2011	4	2012
Cross-Cutting Activities: Systems Engineering & Architecture	1	2010	4	2016
Tier-1 Operational Capabilities Development and Integration	1	2010	4	2016
ORS-1 (CENTCOM Urgent Need)	1	2010	4	2013
RF Modular Mission Kit (SAR)	4	2010	4	2016
Ground Systems Enterprise	1	2010	4	2016
Launch and Range Enabler Maturity	1	2010	4	2015
Rapid Response Space Works	1	2010	4	2016
Jumpstart / Joint Operational Demonstrations	1	2010	4	2014

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY

3600: *Research, Development, Test & Evaluation, Air Force*
BA 4: *Advanced Component Development & Prototypes (ACD&P)*

R-1 ITEM NOMENCLATURE

PE 0604858F: *Technology Transition Program.*

COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	9.275	12.260	2.773	-	2.773	-	-	-	-	Continuing	Continuing
645350: <i>Transition Prioritization</i>	9.275	12.260	2.773	-	2.773	-	-	-	-	Continuing	Continuing

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: (1) prototyping of promising, high-priority concepts and technologies in an operational environment to lower acquisition risk by raising the technology readiness level; (2) performing pre-acquisition systems engineering to facilitate transition from a demonstration program into acquisition programs of record; (3) 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 (4) 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. This effort is in Budget Activity 4, Advanced Component Development and Prototypes, since it involves system specific efforts that help expedite technology transition from the laboratory to operational use.

B. Program Change Summary (\$ in Millions)

	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012 Base</u>	<u>FY 2012 OCO</u>	<u>FY 2012 Total</u>
Previous President's Budget	9.611	12.260	2.782	-	2.782
Current President's Budget	9.275	12.260	2.773	-	2.773
Total Adjustments	-0.336	-	-0.009	-	-0.009
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-0.040	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.296	-			
• Other Adjustments	-	-	-0.009	-	-0.009

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE				PROJECT			
3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>				PE 0604858F: <i>Technology Transition Program.</i>				645350: <i>Transition Prioritization</i>			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
645350: <i>Transition Prioritization</i>	9.275	12.260	2.773	-	2.773	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

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: (1) prototyping of promising, high-priority concepts and technologies in an operational environment to lower acquisition risk by raising the technology readiness level; (2) performing pre-acquisition systems engineering to facilitate transition from a demonstration program into acquisition programs of record; (3) 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 (4) 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. This effort is in Budget Activity 4, Advanced Component Development and Prototypes, since it involves system specific efforts that help expedite technology transition from the laboratory to operational use.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: Major Thrust 1.	9.275	12.260	2.773	-	2.773
Description: Technology transition project execution to facilitate long-term acquisition planning and budget development.					
FY 2010 Accomplishments: Demonstrate and transition an advanced optical self-protection system for protection of aircraft from guided projectiles; a multi-intelligence correlation, visualization, and analysis software tool for rapid integration of multi-source data into a scalable analysis environment supporting combat zone command and control facilities; a no or low collateral damage counter-electronics capability; a satellite communications capability for simultaneous multiple satellite links and advanced antenna control; a command and control facility decision support software tool to aid the planning of Intelligence, Surveillance and Reconnaissance (ISR) support to operations, including dynamic tasking and re-tasking capabilities for emerging operational requirements; and an integrated performance, readiness, test, and training assessment system combining live and simulated					

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0604858F: <i>Technology Transition Program.</i>	PROJECT 645350: <i>Transition Prioritization</i>
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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
<p>aircraft, ground assets, and command and control nodes, allowing operations beyond the limited geographical boundaries of physical training ranges in accordance with the capabilities of modern weapon systems.</p> <p><i>FY 2011 Plans:</i> Demonstrate and transition 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. Funds will also complete supporting the demonstration and transition of an advanced optical self-protection system for protection of aircraft from guided projectiles; a multi-intelligence correlation, visualization and analysis software tool for rapid integration of multi-source data into a scalable analysis environment supporting combat zone command and control facilities; a no or low collateral damage counter-electronics capability; a satellite communications capability for simultaneous multiple satellite links and advanced antenna control; and an integrated performance, readiness, test, and training assessment system combining live and simulated aircraft, ground assets, and command and control nodes, allowing operations beyond the limited geographical boundaries of physical training ranges in accordance with the capabilities of modern weapon systems.</p> <p><i>FY 2012 Base Plans:</i> 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.</p> <p><i>FY 2012 OCO Plans:</i></p>					
Accomplishments/Planned Programs Subtotals	9.275	12.260	2.773	-	2.773

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

<u>Line Item</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012 Base</u>	<u>FY 2012 OCO</u>	<u>FY 2012 Total</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• N/A:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

D. Acquisition Strategy

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 MAJCOM can incorporate the technology into their subsequent budget submission. The AF, through appropriate program offices, will manage the acquisition and development process for the integration and fielding of SAE-approved TTP projects. Each project will have a complete acquisition plan defined and approved as a criterion for subsequent funding.

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0604858F: <i>Technology Transition Program.</i>	PROJECT 645350: <i>Transition Prioritization</i>

E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air 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-3, RDT&E Project Cost Analysis: PB 2012 Air Force										DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE				PROJECT					
3600: Research, Development, Test & Evaluation, Air Force BA 4: Advanced Component Development & Prototypes (ACD&P)				PE 0604858F: Technology Transition Program.				645350: Transition Prioritization					
Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Analyst Support Architecture project	SS/Various	Northrop Grumman Space & Mission Systems Corp:Aurora, CO	0.959	-		-		-		-	Continuing	Continuing	TBD
Analyst Support Architecture project licenses	C/FFP	Objectivity, Inc.:Sunnyvale, CA	0.166	-		-		-		-	Continuing	Continuing	TBD
Geodesic Dome Phased Array Antenna project	C/CPFF	Ball Aerospace & Technologies Corp:Boulder, CO	2.240	0.400	Oct 2010	-		-		-	Continuing	Continuing	TBD
ISR Strategy to Task Assessment of Kill chain Effectiveness project	C/Various	Intelligence Software Solutions:Colorado Springs, CO	0.386	-		-		-		-	Continuing	Continuing	TBD
Affordable Laser Infrared countermeasure Survivable System project	C/TBD	Lockheed Martin MS2:Akron, OH	1.680	-		-		-		-	Continuing	Continuing	TBD
Nellis Performance Assessment and Readiness Test and Training System (NPARTTS) project development	C/CPFF	The Boeing Company:St Louis, MO	1.000	-		-		-		-	Continuing	Continuing	TBD
NPARTTS project technology development	C/CPFF	L3 Communications:Mesa, AZ	0.597	-		-		-		-	Continuing	Continuing	TBD
Various	Various	Various:Various,	2.247	11.860		2.773		-		2.773	Continuing	Continuing	TBD
Subtotal			9.275	12.260		2.773		-		2.773			
Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-	0.000	0.000	0.000

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force											DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 4: Advanced Component Development & Prototypes (ACD&P)				R-1 ITEM NOMENCLATURE PE 0604858F: Technology Transition Program.				PROJECT 645350: Transition Prioritization						
Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Subtotal			-	-		-		-		-	0.000	0.000	0.000	
Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Subtotal			-	-		-		-		-	0.000	0.000	0.000	
			Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract	
Project Cost Totals			9.275	12.260		2.773		-		2.773				
Remarks TBD														

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

3600: Research, Development, Test & Evaluation, Air Force
BA 4: Advanced Component Development & Prototypes (ACD&P)

R-1 ITEM NOMENCLATURE

PE 0604858F: Technology Transition Program.

PROJECT

645350: Transition Prioritization

Technology Transition Program - PE 0604858F

	FY10				FY11				FY12				FY13				FY14				FY15				FY16			
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
FY10 Project Funding Award			▲																									
FY10 Project Progress Rvw					◆																							
FY11 Project Funding Award					▲																							
FY11 Project Progress Rvw							◆		◆																			
FY12 Project Funding Award									▲																			
FY12 Project Progress Rvw										◆		◆																

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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0604858F: <i>Technology Transition Program.</i>	PROJECT 645350: <i>Transition Prioritization</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
FY10 Project Funding Award	3	2010	3	2010
FY10 Project Progress Review	2	2011	2	2011
FY11 Project Funding Award	2	2011	2	2011
FY11 Project Progress Review	4	2011	2	2012
FY12 Project Funding Award	2	2012	2	2012
FY12 Project Progress Review	4	2012	2	2013

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE							
3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>				PE 0305178F: <i>National Polar-Orbiting Op Env Satellite</i>							
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	394.986	325.505	444.900	-	444.900	526.785	515.609	423.723	417.942	Continuing	Continuing
644056: <i>National Polar-orbiting Operational Env. Sat. Syst.</i>	394.986	325.505	444.900	-	444.900	526.785	515.609	423.723	417.942	Continuing	Continuing

Note

The program funding includes overhead reduction efficiencies that are not intended to impact program content. The efficiencies reductions total \$179.701M in FY12.

Starting in the FY12 year of execution, DWSS funds will be transferred to a new PE (0305187F, Defense Weather Satellite System).

Totals include funding for PRCP Program Number 239, NPOESS.

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 will acquire 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 shared common ground system to address civil weather and environmental requirements. The DWSS system will produce environmental data records for regional/global meteorological, oceanographic, environmental, and climatic data, and will provide space environmental remote sensing information. DWSS will enable the anticipation and exploitation of atmospheric and space environment conditions for military operations planning. DWSS data will 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 will 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 a Visible Infrared Imager Radiometer Suite (VIIRS), Space Environment Monitor (SEM-N), and Microwave Imager/Sounder (MIS) sensor suite with an initial launch capability no earlier than 2018.

RDT&E funds through FY 2010 were used to develop and acquire the VIIRS, Cross-track Infrared Sounder (CrIS), and the Ozone Mapping and Profile Suite (OMPS) sensors for the NPOESS Preparatory Project (NPP) and the first two NPOESS Satellites (C-1 and C-2).

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0305178F: <i>National Polar-Orbiting Op Env Satellite</i>
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RDT&E funds in FY 2011 were used for early development of the two DWSS satellites, contract restructure efforts, and continued transition of non-DoD payloads to NASA/NOAA for JPSS.

RDT&E funds in FY 2012 will be used to begin redesign of the NPOESS spacecraft bus to a smaller and lighter version for DWSS. In addition, FY12 funding will allow for continued development of the VIIRS and MIS sensors, spacecraft and sensor subsystems and materials, algorithms, and DoD-specific elements of the common ground system. FY12 RDT&E funding will also support DWSS Program risk reduction by providing the capability to route Defense Meteorological Satellite Program (DMSP) mission data through the DWSS ground system at McMurdo Station, Antarctica. The DWSS program includes development of two satellites and will not utilize procurement funding starting in FY12.

B. Program Change Summary (\$ in Millions)	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012 Base</u>	<u>FY 2012 OCO</u>	<u>FY 2012 Total</u>
Previous President's Budget	394.986	325.505	226.283	-	226.283
Current President's Budget	394.986	325.505	444.900	-	444.900
Total Adjustments	-	-	218.617	-	218.617
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-	-	218.617	-	218.617

Change Summary Explanation

NPOESS restructure continued in FY11 for the DWSS follow-on program. FY12 adjustment reflects initial DWSS cost estimate which was completed in October 2010.

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force									DATE: February 2011		
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 Op Env Satellite				PROJECT 644056: National Polar-orbiting Operational Env. Sat. Syst.			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
644056: National Polar-orbiting Operational Env. Sat. Syst.	394.986	325.505	444.900	-	444.900	526.785	515.609	423.723	417.942	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

Note

Totals include funding for PRCP program number 239, NPOESS.

The FY 2012 request reflects the February 2010 Executive Office of the President (EOP) decision to restructure the NPOESS program. The EOP restructure directed that DoD is responsible for the early morning orbit, and the Department of Commerce (DOC), with NASA as their acquisition agent, is responsible for the afternoon orbit. In June 2010, OSD designated the DoD portion of the NPOESS program as the Defense Weather Satellite System (DWSS).

The DWSS program does not have procurement funding starting in FY 2012. In the FY 2011 year of execution, DWSS funds will be transferred to a new PE (0305187F, Defense Weather Satellite System).

The program funding includes reductions for Overhead Reduction Efficiencies that are not intended to impact program content. The efficiencies reductions total \$179.701M in FY12.

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 will acquire 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 shared common ground system to address civil weather and environmental requirements. The DWSS system will produce environmental data records for regional/global meteorological, oceanographic, environmental, and climatic data, and will provide space environmental remote sensing information. DWSS will enable the anticipation and exploitation of atmospheric and space environment conditions for military operations planning. DWSS data will 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.

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011				
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 Op Env Satellite	PROJECT 644056: National Polar-orbiting Operational Env. Sat. Syst.				
The DWSS program will 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 a Visible Infrared Imager Radiometer Suite (VIIRS), Space Environment Monitor (SEM-N), and Microwave Imager/Sounder (MIS) sensor suite with an initial launch capability no earlier than 2018.							
RDT&E funds through FY 2010 were used to develop and acquire the VIIRS, Cross-track Infrared Sounder (CrIS), and the Ozone Mapping and Profile Suite (OMPS) sensors for the NPOESS Preparatory Project (NPP) and the first two NPOESS Satellites (C-1 and C-2).							
RDT&E funds in FY 2011 were used for early development of the two DWSS satellites, contract restructure efforts, and continued transition of non-DoD payloads to NASA/NOAA for JPSS.							
RDT&E funds in FY 2012 will be used to begin redesign of the NPOESS spacecraft bus to a smaller and lighter version for DWSS. In addition, FY12 funding will allow for continued development of the VIIRS and MIS sensors, spacecraft and sensor subsystems and materials, algorithms, and DoD-specific elements of the common ground system. FY12 RDT&E funding will also support DWSS Program risk reduction by providing the capability to route Defense Meteorological Satellite Program (DMSP) mission data through the DWSS ground system at McMurdo Station, Antarctica. The DWSS program includes development of two satellites and will not utilize procurement funding starting in FY12.							
B. Accomplishments/Planned Programs (\$ in Millions)			FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: DWSS			394.986	325.505	444.900	-	444.900
Description: Develop and acquire DWSS satellites and sensors, fund development of DoD-specific elements within the common ground system, and develop algorithms.							
FY 2010 Accomplishments: Continued development of NPOESS Preparatory Project (NPP) and support. Additionally, used funds to begin implementation of the Presidential decision to restructure NPOESS.							
FY 2011 Plans: Began contract restructure and early development of DWSS. Continued transition of non-DoD payloads to NASA/ NOAA for JPSS.							
FY 2012 Base Plans: Continue development and acquisition of DWSS satellites and sensors, fund development of DoD-specific elements within the common ground system, develop algorithms, and utilize the McMurdo communication system for data processing risk reduction.							
FY 2012 OCO Plans:							

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force										DATE: February 2011		
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 Op Env Satellite				PROJECT 644056: National Polar-orbiting Operational Env. Sat. Syst.				
B. Accomplishments/Planned Programs (\$ in Millions)								FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Not applicable												
Accomplishments/Planned Programs Subtotals								394.986	325.505	444.900	-	444.900
C. Other Program Funding Summary (\$ in Millions)												
Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost	
• PE 0305178F: NPOESS MPAF	3.889	26.308	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing	
D. Acquisition Strategy												
The acquisition strategy for the Defense Weather Satellite System (DWSS) is in the process of being finalized. Known components include a restructured prime contract for two spacecraft with a DoD payload complement and an initial launch capability no earlier than 2018.												
E. Performance Metrics												
Please refer to the Performance Base Budget Overview Book for information on how Air 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-3, RDT&E Project Cost Analysis: PB 2012 Air Force **DATE:** February 2011

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 Op Env Satellite	PROJECT 644056: National Polar-orbiting Operational Env. Sat. Syst.
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Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
DWSS Development and System Integration	C/TBD	Northrop Grumman:Redondo Beach, CA	351.726	233.505	Nov 2010	311.900		-		311.900	Continuing	Continuing	0.000
GFE Sensor Development	MIPR	Naval Research Lab and Johns Hopkins Applied Physics Lab:Laurel, MD & Wash, DC,	31.448	40.000		79.000		-		79.000	Continuing	Continuing	0.000
Common Ground/Algorithm Development	MIPR	TBD:TBD,	-	10.000		11.000		-		11.000	Continuing	Continuing	0.000
Subtotal			383.174	283.505		401.900		-		401.900			0.000

Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
System Program Office (SPO) Support	Various	Support:El Segundo, CA	11.812	42.000	Nov 2010	43.000		-		43.000	Continuing	Continuing	0.000
Subtotal			11.812	42.000		43.000		-		43.000			0.000

Remarks

FY10 support figures do not include DOC contribution to IPO support.

Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-	0.000	0.000	0.000

Remarks

Included in IPO Support for FY12 and out.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force										DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>				R-1 ITEM NOMENCLATURE PE 0305178F: <i>National Polar-Orbiting Op Env Satellite</i>				PROJECT 644056: <i>National Polar-orbiting Operational Env. Sat. Syst.</i>					
Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-	0.000	0.000	0.000
Remarks Included in IPO Support for FY12 and out.													
			Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			394.986	325.505		444.900		-		444.900			0.000
Remarks													

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

3600: Research, Development, Test & Evaluation, Air Force
BA 4: Advanced Component Development & Prototypes (ACD&P)

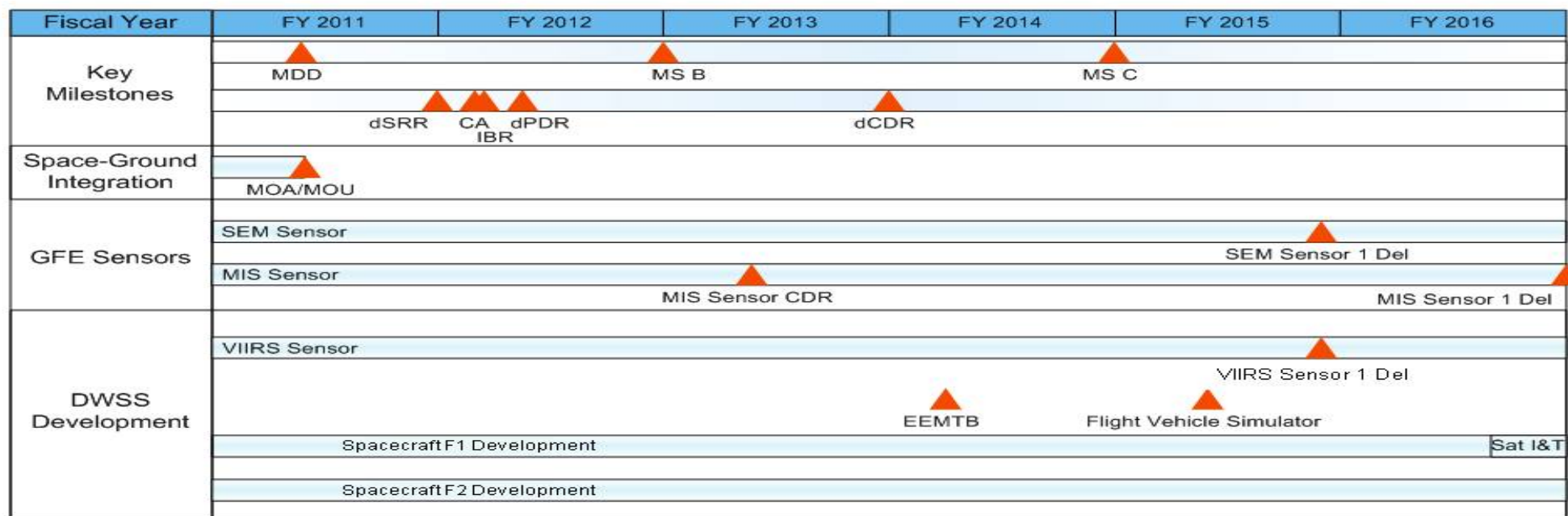
R-1 ITEM NOMENCLATURE

PE 0305178F: National Polar-Orbiting Op Env
Satellite

PROJECT

644056: National Polar-orbiting Operational
Env. Sat. Syst.

DWSS Schedule



Acronym List

MDD	Material Development Decision	IBR	Integrated Baseline Review
MS *	Milestone	MIS	Microwave Imager/Sounder
CA	Contract Award	MOA/MOU	Memorandum of Agreement/Understanding
dCDR	Delta Critical Design Review	Sat I&T	Satellite Integration & Test
Del	Delivery	SEM	Space Environment Monitor
dPDR	Delta Preliminary Design Review	VIIRS	Visible/Infrared Imager and Radiometer Suite
dSRR	Delta System Requirements Review		

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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0305178F: <i>National Polar-Orbiting Op Env Satellite</i>	PROJECT 644056: <i>National Polar-orbiting Operational Env. Sat. Syst.</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Visible Infrared Imager Radiometer Suite (VIIRS) for DWSS F1	2	2011	4	2015
Microwave Sensor for DWSS F1	2	2011	4	2016
Space Environmental Monitor (SEM-N) for DWSS F1	1	2013	4	2015
Delta Preliminary Design Review	2	2012	2	2012
Early Electrical Power Subsystem and Attitude Control Subsystem Electrical Engineering Model Testbed (EEMTB)	1	2012	1	2014
DWSS Critical Design Reviews (CDR)	3	2012	4	2013
DWSS F1 Unit and Spacecraft Bus Manufacturing	1	2012	3	2016
DWSS F1 Spacecraft Integration	3	2016	4	2016

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE							
3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>				PE 0603840F: <i>Global Broadcast Service (GBS)</i>							
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	31.149	18.171	5.680	-	5.680	2.337	-	-	-	Continuing	Continuing
65A023: <i>Satellite Broadcast Management Transition</i>	31.149	18.171	5.680	-	5.680	2.337	-	-	-	Continuing	Continuing

Note

The program funding includes overhead reduction efficiencies that are not intended to impact program content. The efficiencies reductions total \$0.070M in FY12.

Funding for the GBS ACAT I program (Project 4887, Global Broadcast Service) in PE 0603840F completed in FY08.

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.

During FY09-13, the broadcast creation transitions to existing Defense Information Systems Agency (DISA) Defense Enterprise Computing Centers (DECCs). This transition address 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 BPAC was created) to delineate between the current ACAT I GBS program and the ACAT III SBM Transition program.

In FY12, this effort continues to fund SBM transition/upgrade to DECCs, as well as, systems transmission security, test, information assurance, and Operational Requirements Document (ORD) III studies.

Funding is in Budget Activity 5, System Development and Demonstration, since program is fielding pre-production equipment.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0603840F: <i>Global Broadcast Service (GBS)</i>
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B. Program Change Summary (\$ in Millions)	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012 Base</u>	<u>FY 2012 OCO</u>	<u>FY 2012 Total</u>
Previous President's Budget	31.072	18.171	2.269	-	2.269
Current President's Budget	31.149	18.171	5.680	-	5.680
Total Adjustments	0.077	-	3.411	-	3.411
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	0.077	-	3.411	-	3.411

Change Summary Explanation

Additional \$3.411M in FY12 funds completion of GBS broadcast transition from stovepipe solution to Global Information Grid via Defense Information Systems Agency (DISA) Defense Enterprise Computing Centers (DECC).

Additional BTR of \$5.885M in FY10 for GBS SBM to DECC transition requirements. Not currently reflected

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force									DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0603840F: Global Broadcast Service (GBS)				PROJECT 65A023: Satellite Broadcast Management Transition			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
65A023: Satellite Broadcast Management Transition	31.149	18.171	5.680	-	5.680	2.337	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

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.

During FY09-13, the broadcast creation transitions to existing Defense Information Systems Agency (DISA) Defense Enterprise Computing Centers (DECCs). This transition address 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 BPAC was created) to delineate between the current ACAT I GBS program and the ACAT III SBM Transition program.

In FY12, this effort continues to fund SBM transition/upgrade to DECCs, as well as, systems transmission security, test, information assurance, and Operational Requirements Document (ORD) III studies.

Funding is in Budget Activity 5, System Development and Demonstration, since program is fielding pre-production equipment.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: Satellite Broadcast Management Transition	31.149	18.171	5.680	-	5.680

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force							DATE: February 2011				
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)			R-1 ITEM NOMENCLATURE PE 0603840F: Global Broadcast Service (GBS)			PROJECT 65A023: Satellite Broadcast Management Transition					
B. Accomplishments/Planned Programs (\$ in Millions)						FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	
Description: Develop a robust satellite broadcast management architecture and implement systems transmission security (TRANSEC). FY 2010 Accomplishments: Continue development of a robust satellite broadcast management architecture and implement systems transmission security (TRANSEC). FY 2011 Plans: Continue development of a robust satellite broadcast management architecture and implement systems transmission security (TRANSEC). FY 2012 Base Plans: Continue development of a robust satellite broadcast management architecture and implement systems transmission security (TRANSEC). FY 2012 OCO Plans: No OCO funding requested											
Accomplishments/Planned Programs Subtotals						31.149	18.171	5.680	-	5.680	
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• OPAF: PE 0303600F, GBS Transmit Strings	1.672	1.661	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
• OPAF (1): PE 0303601F, GBS Receive Suites/TIPs	14.125	26.602	16.417	0.000	16.417	0.000	0.000	0.000	0.000	Continuing	Continuing
• RDT&E: PE 0303601F, MILSATCOM Terminals, GBS Receive Suites	1.839	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
D. Acquisition Strategy											
Conduct a full and open competition to award a new contract to transfer Satellite Broadcast Management functionality to two Defense Enterprise Computing Center (DECC) facilities. The DECC will utilize a new hardware and software architecture to resolve impending Commercial off the Shelf (COTS) obsolescence, Information											

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0603840F: <i>Global Broadcast Service (GBS)</i>	PROJECT 65A023: <i>Satellite Broadcast Management Transition</i>

Assurance compliance and sustainment issues. The new contract will also implement, as appropriate, follow-on GBS ORD III Pre-Planned Product Improvement capabilities into the GBS DECC-based system, as additional funding becomes available.

E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air 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-3, RDT&E Project Cost Analysis: PB 2012 Air Force										DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0603840F: Global Broadcast Service (GBS)				PROJECT 65A023: Satellite Broadcast Management Transition					
Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
DECC Transition	C/CPFF	Lockheed Martin Information Systems and Global Services:Gaithersburg, MD	23.723	9.541	Oct 2010	1.370	Oct 2011	-		1.370	Continuing	Continuing	0.000
TSBM Upgrade	TBD	TBD:TBD,	-	2.500	Nov 2010	-		-		-	Continuing	Continuing	0.000
Phase 2 Government System Integration	Various	Various:Various,	4.816	4.146	Nov 2010	1.993	Nov 2011	-		1.993	Continuing	Continuing	0.000
Subtotal			28.539	16.187		3.363		-		3.363			0.000
Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Support (Various)	Various	Various:Various,	1.577	1.642	Nov 2010	1.655	Dec 2011	-		1.655	Continuing	Continuing	0.000
Subtotal			1.577	1.642		1.655		-		1.655			0.000
Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Test and Evaluation (Various)	Various	Various:Various,	1.033	0.342	Nov 2010	0.662	Nov 2011	-		0.662	Continuing	Continuing	0.000
Subtotal			1.033	0.342		0.662		-		0.662			0.000
Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-	0.000	0.000	0.000

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force								DATE: February 2011						
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0603840F: Global Broadcast Service (GBS)				PROJECT 65A023: Satellite Broadcast Management Transition						
				Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals				31.149	18.171		5.680		-		5.680			0.000

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

3600: Research, Development, Test & Evaluation, Air Force
BA 5: Development & Demonstration (SDD)

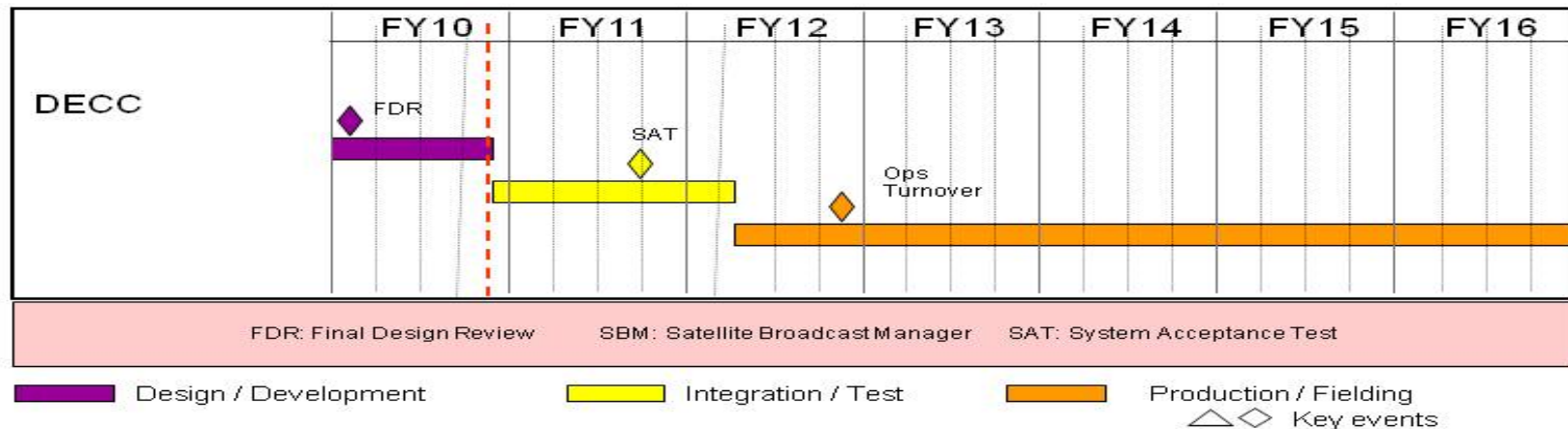
R-1 ITEM NOMENCLATURE

PE 0603840F: Global Broadcast Service (GBS)

PROJECT

65A023: Satellite Broadcast Management Transition

GBS DECC Schedule RDoc



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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0603840F: <i>Global Broadcast Service (GBS)</i>	PROJECT 65A023: <i>Satellite Broadcast Management Transition</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
DECC Transition Contract Award	3	2010	3	2016
Final Design Review	1	2010	1	2010
Systems Acceptance Test	4	2011	4	2011
Operational Turnover	4	2012	4	2012

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE							
3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>				PE 0604222F: <i>Nuclear Weapons Support</i>							
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	41.685	60.545	18.538	-	18.538	24.051	22.844	21.845	39.397	Continuing	Continuing
654236: <i>Engineering Analysis</i>	18.743	14.700	2.891	-	2.891	3.602	2.196	0.318	0.498	Continuing	Continuing
654807: <i>Nuclear Weapons & CP Technologies</i>	6.420	6.533	6.332	-	6.332	6.704	6.805	6.903	7.025	Continuing	Continuing
655708: <i>Nuclear Weapons Support</i>	16.522	39.312	9.315	-	9.315	13.745	13.843	14.624	31.874	Continuing	Continuing

Note

In FY12 B61 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 Joint Fuze efforts were transferred from PE 0604222F, Nuclear Weapons Support, to PE 0604851F, ICBM EMD in order to support Joint Fuze development.

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 is conducting engineering and manufacturing development tasks aimed at meeting validated requirements prior to full-rate production.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604222F: <i>Nuclear Weapons Support</i>
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B. Program Change Summary (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	41.860	60.545	140.045	-	140.045
Current President's Budget	41.685	60.545	18.538	-	18.538
Total Adjustments	-0.175	-	-121.507	-	-121.507
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-0.175	-	-121.507	-	-121.507

Congressional Add Details (\$ in Millions, and Includes General Reductions)

Project: 654236: *Engineering Analysis*

 Congressional Add: *Nuclear Enterprise Tracking System (formerly known as NEST)*

Congressional Add Subtotals for Project: 654236

Congressional Add Totals for all Projects

FY 2010	FY 2011
4.000	-
4.000	-
4.000	-

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force								DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0604222F: Nuclear Weapons Support				PROJECT 654236: Engineering Analysis			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
654236: Engineering Analysis	18.743	14.700	2.891	-	2.891	3.602	2.196	0.318	0.498	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		
Note											
The program funding includes reductions for Overhead Reduction efficiencies that are not intended to impact program content. The efficiencies reductions total \$0.170M in FY12.											
In FY12 Joint Fuze efforts were transferred from PE 0604222F, Nuclear Weapons Support, to PE 0604851F, ICBM EMD in order to support Joint Fuze development.											
A. Mission Description and Budget Item Justification											
Provide engineering analyses for 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, and reliability; operations; modernization; testing; certification; and counterproliferation.											
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; and independent technical reviews of DoE National Laboratory processes.											
Budget Activity Justification: These efforts are Budget Activity 5, System Development and Demonstration, because they include system specific programs to identify and develop life extension programs for, as well as, solutions to problems and/or deficiencies in AF nuclear weapons, nuclear weapon systems, and the supporting infrastructure.											
B. Accomplishments/Planned Programs (\$ in Millions)							FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: Joint Fuze							8.703	9.740	-	-	-
Description: The AF portion of a joint AF-US Navy (USN)-United Kingdom (UK) Ministry of Defense (MoD) project to evaluate/develop new arming and fuzing technologies and components (to include mature modern											

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)	R-1 ITEM NOMENCLATURE PE 0604222F: Nuclear Weapons Support	PROJECT 654236: Engineering Analysis				
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
safety, security, and use control technologies) for use on ballistic missile warheads. Efforts will assess functional requirements, interfaces, environmental requirements, logistics/CONOPs constraints, and technologies/capabilities relating to arming, fuzing, and firing systems (AF&F) for future Air Force, Navy, and UK reentry systems. The primary goal is the development of a joint arming, fuzing, and firing system for application to the Air Force Mk12A, the Navy Mk5, and a UK reentry system, and a common high-surety warhead for the Mk12A/W78 and Mk5/W88. FY 2010 Accomplishments: Defined Arming and Fuzing Assembly baseline requirements, identified legacy issues, parts and technology availability and logistics operation impacts. Evaluated requirements, system-level performance, reentry vehicle performance, issues and gaps. FY 2011 Plans: Evaluate performance requirements, physical characteristics, logistical and operation concepts, and physical environments with the goal of developing common Military Characteristics (MCs) and Stockpile-to-Target Sequence (STS) requirements. Identify potential concepts and technologies and evaluate Technology Readiness Level/Manufacturing Readiness Level (TRL/MRL). FY 2012 Base Plans: Effort moved to ICBM EMD PE 0604851F FY 2012 OCO Plans:						
Title: W78 Description: Execute W78 High Surety 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 (MMIII) and MMIII follow-on missile systems, to include engineering and production development through First Production Unit. FY 2010 Accomplishments:		1.109	1.022	0.373	-	0.373

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)	R-1 ITEM NOMENCLATURE PE 0604222F: Nuclear Weapons Support	PROJECT 654236: Engineering Analysis				
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
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) FY 2011 Plans: Provide DoD leadership, management, and oversight of the Air Force-led ICBM Warheads Project Officer's Group (POG) and W78/W87 stockpile. Prepare for the future W78 Life Extension Program via the W78 Joint Life Extension Study (JLES) FY 2012 Base Plans: Provide DoD leadership, management, and oversight of the Air Force-led ICBM Warheads Project Officer's Group (POG) and W78/W87 stockpile. Prepare for the future W78 Life Extension Program via the W78 Joint Life Extension Study (JLES) FY 2012 OCO Plans:						
Title: Air Force Legacy Nuclear Stockpile Description: 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 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 2010 Accomplishments: 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 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 2011 Plans:		2.000	2.000	2.000	-	2.000

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)		R-1 ITEM NOMENCLATURE PE 0604222F: Nuclear Weapons Support		PROJECT 654236: Engineering Analysis	
B. Accomplishments/Planned Programs (\$ in Millions)					
	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
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 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 Base Plans: 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 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 OCO Plans:					
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 2010 Accomplishments: Worked with national laboratories to recode legacy software so that it will operate on modern computing systems. Also, refined requirements for new codes and developed operational prototypes. Finalized requirements for new codes and updated source term information. Development of Nuclear Weapons support tools and models.					
FY 2011 Plans: Work with national laboratories to recode legacy software so that it will operate on modern computing systems. Develop of Nuclear Weapons support tools and models.					
FY 2012 Base Plans:					
	2.335	1.396	0.518	-	0.518

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)	R-1 ITEM NOMENCLATURE PE 0604222F: Nuclear Weapons Support	PROJECT 654236: Engineering Analysis				
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Work with national laboratories to recode legacy software so that it will operate on modern computing systems. Develop of Nuclear Weapons support tools and models. FY 2012 OCO Plans:						
Title: SAP Security Description: Provide Special Access Program and Sensitive Compartmented Information (SAP/SCI) security. FY 2010 Accomplishments: Created a secure environment to facilitate successful development and execution of multiple programs. Coordinated security matters with all levels of the AF to include subordinate units, major commands (MAJCOMS) and Air Staff. Provided personnel security, first tier adjudication and coordination with Special Access Program Central Office in personnel matters. Provided information security to include training, safeguarding, development and implementation of security operation procedures, test plans and inspections. Provided unique hardware protection method in accordance with Executive Order (EO) 12598, NISPOM, NISPOMSUP, JAFAN, and DCID requirements. FY 2011 Plans: Continue to provide a secure environment to facilitate successful development and execution of programs. Continue to coordinate security matters with all levels of the AF, to include subordinate units, MAJCOMS and Air Staff. Provide personnel security, first tier adjudication and coordination with Special Access Program Central Office in personnel matters. Provide information security to include training, safeguarding, development, and implementation of security operation procedures, test plans and inspections. Provide unique hardware protection method in accordance with EO 12598, NISPOM, NISPOMSUP, JAFAN, and DCID requirements. FY 2012 Base Plans: Organic support FY12. FY 2012 OCO Plans:		0.175	0.042	-	-	-
Title: C-CBRN Description: Provide technical analysis on nuclear weapon systems design and C-CBRN advanced concepts. FY 2010 Accomplishments:		0.421	0.500	-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)	R-1 ITEM NOMENCLATURE PE 0604222F: Nuclear Weapons Support	PROJECT 654236: Engineering Analysis				
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Researched/developed unique technologies and capabilities for defeating WMDs while minimizing collateral effects and ensuring high reliability for overall mission success. Developed, integrated, and tested hardware and software of advanced concepts. Continued GPS-Denied navigation testing of inertial measurement techniques and communications technology for GPS-Denied environments. FY 2011 Plans: Research/develop unique technologies and capabilities for defeating WMDs while minimizing collateral effects and ensuring high reliability for overall mission success. Develop, integrate, and test hardware and software of advanced concepts. Continued GPS-Denied navigation testing of inertial measurement techniques and communications technology for GPS-Denied environments. FY 2012 Base Plans: Effort moved to Project 654807. FY 2012 OCO Plans:						
Accomplishments/Planned Programs Subtotals		14.743	14.700	2.891	-	2.891
		FY 2010	FY 2011			
Congressional Add: Nuclear Enterprise Tracking System (formerly known as NEST) FY 2010 Accomplishments: Began development of a secure, electronic system to track the location and status of nuclear warheads and bombs, and critical nuclear components. Includes civilian payroll for government civilian employees associated with this program. FY 2011 Plans:		4.000	-			
Congressional Adds Subtotals		4.000	-			

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604222F: <i>Nuclear Weapons Support</i>	PROJECT 654236: <i>Engineering Analysis</i>	

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

<u>Line Item</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u> <u>Base</u>	<u>FY 2012</u> <u>OCO</u>	<u>FY 2012</u> <u>Total</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• N/A: None	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

D. Acquisition Strategy

Accomplish studies, analyses, and a limited evaluation of hardware development primarily under the ICBM Prime Integration Contractor (IPIC). 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.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force											DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)					R-1 ITEM NOMENCLATURE PE 0604222F: Nuclear Weapons Support					PROJECT 654236: Engineering Analysis				
Product Development (\$ in Millions)					FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Pre-acquisition technical, engineering and management support	MIPR	SNL/DoE:Albuquerque, NM	3.032	2.522	Jan 2011	1.020	Feb 2012	-		1.020	Continuing	Continuing	TBD	
Joint Fuze	Various	* See Remarks:Various,	8.703	8.349	Jan 2011	-		-		-	Continuing	Continuing	TBD	
Subtotal			11.735	10.871		1.020		-		1.020				
Remarks														
* Northrup Grumman IPIC (Clearfield, UT; San Bernardino, CA); Lockheed Martin (Valley Forge, PA); Boeing (Clearfield, UT); Booz-Allen Hamilton (Clearfield, UT); Contract Type: CPFF														
* Air Force Research Lab (Kirtland AFB, NM); Contract Type: AF Form 616														
* Tecolote Research Ind (Clearfield, UT); Contract Type: T and M														
* Sandia National Laboratories (Albuquerque, NM; Livermore, CA); Contract Type: MIPR														
* URS Corporation (Beavercreek, OH); Contract Type: T and M														
Support (\$ in Millions)					FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Joint Fuze	MIPR	*See Remarks:,	-	1.391	Feb 2011	-		-		-	Continuing	Continuing	TBD	
Life extension/modernization programs	Various	**See Remarks:Various,	2.412	1.896	Feb 2011	1.871	Feb 2012	-		1.871	Continuing	Continuing	TBD	
Subtotal			2.412	3.287		1.871		-		1.871				
Remarks														
*ICBM Systems Division (Hill AFB, UT); AFNWC (Kirtland AFB, NM); AFGSC (Barksdale, LA)														
**ITT Systems, Albuquerque, NM; Los Alamos National Labs, Los Alamos, NM; SAIC, Arlington, VA; ANSER, Arlington, VA														
Test and Evaluation (\$ in Millions)					FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
SAP/SCI Security	MIPR	SNL:Albuquerque, NM	0.175	0.042	Feb 2011	-		-		-	Continuing	Continuing	TBD	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force											DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>				R-1 ITEM NOMENCLATURE PE 0604222F: <i>Nuclear Weapons Support</i>				PROJECT 654236: <i>Engineering Analysis</i>					

Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Nuclear Enterprise Tracking System	TBD	TBD:TBD,	4.000	-		-		-		-	Continuing	Continuing	TBD
GPS-Denied Technology	MIPR	SNL:Albuquerque, NM	0.421	0.500	Jan 2011	-		-		-	Continuing	Continuing	TBD
Subtotal			4.596	0.542		-		-		-			

Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-	0.000	0.000	0.000

	Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	18.743	14.700		2.891		-		2.891			

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

3600: Research, Development, Test & Evaluation, Air Force
 BA 5: Development & Demonstration (SDD)

R-1 ITEM NOMENCLATURE

PE 0604222F: Nuclear Weapons Support

PROJECT

654236: Engineering Analysis

0604222F 654236 Schedule

	FY10	FY11	FY12	FY13	FY14	FY15	FY16
Joint Fuze							
W78 LEP							
AF Legacy Nuclear Stockpile Support							

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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604222F: <i>Nuclear Weapons Support</i>	PROJECT 654236: <i>Engineering Analysis</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Joint Fuze Development	1	2010	4	2016
W78 High Surety LEP	1	2010	4	2016
AF Legacy Nuclear Stockpile Support	1	2010	4	2016

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force									DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0604222F: Nuclear Weapons Support				PROJECT 654807: Nuclear Weapons & CP Technologies			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
654807: Nuclear Weapons & CP Technologies	6.420	6.533	6.332	-	6.332	6.704	6.805	6.903	7.025	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

Perform engineering analyses across the counter chemical, biological, radiological, and nuclear (C-CBRN) pillars for countering Weapons of Mass Destruction (WMD) with emphasis on asymmetric threats, specifically C-CBRN, and other difficult to attack targets.

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.

Budget Activity Justification: These efforts are Budget Activity 5, System Development and Demonstration, because they are system specific programs that result in identifying and developing or modifying weapons to meet new and evolving elimination and offensive capabilities for combating WMD. Efforts also include developing and/or validating target planning software for existing/new concepts and weapons for combating WMD.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: Air Delivered Studies	1.150	1.100	1.150	-	1.150
Description: Analyses of warhead and associated Air Delivered system capabilities and vulnerabilities to provide recommendations for system level implementation to maintain the air delivered leg of our nuclear deterrent.					
FY 2010 Accomplishments: Supported current nuclear weapon system modernization and future system acquisition and an assessment of platform and warhead capabilities in an adversary's environment as requested by OSD, USSTRACOM, and HAF. Current system characterization in various, complex environments was initiated. This effort supported					

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: 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 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
current Air Delivered platforms and warheads as well as aided in defining the design constraints for future platform acquisitions. FY 2011 Plans: Baseline of foreign and domestic threats to Air Delivered (AD) systems and identification of system vulnerabilities will be conducted. Additionally, an assessment of our current AD systems (aircraft, platform, and warheads) capabilities based on current and future threat environments, evaluation of the gaps that currently exist in our required capabilities, and an analysis of technologies and capabilities to address these gaps. Gravity weapons will be evaluated and addressed to maintain current capabilities. This effort will evaluate, direct, and integrate warhead efforts, platform integration, and operational suitability. Cruise missile alternatives will be evaluated and used to support continued system sustainment. FY 2012 Base Plans: Continuation of efforts to address threats to AD systems, warhead, platform, and/or support equipment risks and shortfalls in order to assure system viability. Continue evaluation of the gaps that currently exist in our required capabilities, and an analysis of technologies and capabilities to address these gaps. Gravity weapons will be evaluated and addressed to maintain current capabilities. This effort will evaluate, direct, and integrate warhead efforts, platform integration, and operational suitability. Cruise missile alternatives will be evaluated and used to support continued system sustainment. FY 2012 OCO Plans: Not applicable.						
Title: C-CBRN Description: The Counter Chemical, Biological, Radiological, and Nuclear (C-CBRN) studies and evaluation effort will address capability gaps, and conduct concept studies and technical assessments for countering CBRN threats from state and non-state entities. FY 2010 Accomplishments: Developed a baseline of foreign and domestic threats to counter adversaries CBRN capabilities. Assessed current capabilities to counter CBRN threats based on current and future threat environments, initiated an evaluation of gaps that currently exist in required capabilities, and analyzed technologies and capabilities to address these gaps. Part of the effort included developing, integrating, and testing hardware and software of advanced concepts. Began development and testing of tools such as modeling and simulation algorithms		5.270	5.433	5.182	-	5.182

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: 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 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
to assess the complex weapon interactions necessary in evaluating technological improvements in weapon systems. This effort also enabled continued support of C-CBRN intelligence; specifically to identify orders of battle and provide mapping and data on sites of interest. Continued to develop and maintain mission planning software tools. FY 2011 Plans: Continue the baseline of foreign and domestic threats to counter adversaries CBRN capabilities. Continue an assessment of current capabilities to counter CBRN 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. As part of this effort, some technologies will need to be matured to a higher Technology Readiness Level by developing, integrating, and testing hardware and software of advanced concepts. As part of this effort, tools (such as modeling and simulation algorithms) need to be developed and tested to assess the complex weapon interactions. These tools are necessary in evaluating and improving possible technological improvements in weapon systems. This effort will also enable continued support of C-CBRN intelligence; specifically to identify orders of battle and provide mapping and data on sites of interest. Continue to develop and maintain mission planning software tools. FY 2012 Base Plans: Continue to baseline AF systems against foreign and domestic threats to counter adversaries CBRN capabilities. Additionally, conduct an assessment of current capabilities to counter CBRN threats based on the current and future threat environments, evaluation of the gaps that currently exist in our required capabilities, and an analysis of technologies and capabilities to address these gaps will continue. Specific gaps and capability limitations will be assessed and efforts to address these shortfalls initiated. Tools such as modeling and simulation algorithms will be further refined and developed based on the underlying Science and Technology requirements. This effort will also enable continued support of C-CBRN intelligence; specifically to identify orders of battle and provide mapping and data on sites of interest. Continue to develop and maintain mission planning software tools. FY 2012 OCO Plans: Not applicable.						
Accomplishments/Planned Programs Subtotals		6.420	6.533	6.332	-	6.332

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604222F: <i>Nuclear Weapons Support</i>	PROJECT 654807: <i>Nuclear Weapons & CP Technologies</i>	

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

<u>Line Item</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u> <u>Base</u>	<u>FY 2012</u> <u>OCO</u>	<u>FY 2012</u> <u>Total</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• N/A: None	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

D. Acquisition Strategy

Multiple Cost Plus Award Fee (CPAF) 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 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.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force											DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0604222F: Nuclear Weapons Support				PROJECT 654807: Nuclear Weapons & CP Technologies					
Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-	0.000	0.000	0.000
Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-	0.000	0.000	0.000
Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Air Delivered Studies	MIPR	SNL:Albuquerque, NM	1.150	1.100	Dec 2010	1.150	Dec 2011	-		1.150	Continuing	Continuing	0.000
Engineering Analysis	C/CPAF	*SEE REMARKS:*SEE REMARKS,	5.270	5.433	Jan 2011	5.182	Dec 2011	-		5.182	Continuing	Continuing	0.000
Subtotal			6.420	6.533		6.332		-		6.332			0.000
Remarks													
* Operational Test & Evaluation: ESC/MIT Lincoln Labs, Boston, MA; AFRL, Albuquerque, NM; ITT/AES, Albuquerque, NM; ASC/END, Wright-Patterson AFB, OH													
*Development Test & Evaluation: ELM, SERPENT C-CBRN modeling codes; ASC, Wright-Patterson AFB, OH; AAC, Eglin AFB, FL; DTRA, Ft Belvoir VA; White Sands Missile Range, Alamagordo, NM													
Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-	0.000	0.000	0.000
			Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			6.420	6.533		6.332		-		6.332			0.000

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force							DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY			R-1 ITEM NOMENCLATURE			PROJECT			
3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)			PE 0604222F: Nuclear Weapons Support			654807: Nuclear Weapons & CP Technologies			
	Total Prior Years Cost	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract	
Remarks									

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY3600: *Research, Development, Test & Evaluation, Air Force*
BA 5: *Development & Demonstration (SDD)***R-1 ITEM NOMENCLATURE**PE 0604222F: *Nuclear Weapons Support***PROJECT**654807: *Nuclear Weapons & CP Technologies***0604222F 654807 Schedule**

	FY10	FY11	FY12	FY13	FY14	FY15	FY16
Air Delivered Studies							
C-CBRN Support							

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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604222F: <i>Nuclear Weapons Support</i>	PROJECT 654807: <i>Nuclear Weapons & CP Technologies</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Air Delivered Studies	1	2010	4	2016
C-CBRN Studies and Evaluation Support Activities	1	2010	4	2016

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>				R-1 ITEM NOMENCLATURE PE 0604222F: <i>Nuclear Weapons Support</i>				PROJECT 655708: <i>Nuclear Weapons Support</i>			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
655708: <i>Nuclear Weapons Support</i>	16.522	39.312	9.315	-	9.315	13.745	13.843	14.624	31.874	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

Note

The program funding includes reductions for Overhead Reduction efficiencies that are not intended to impact program content. The efficiencies reductions total \$0.511M in FY12.

In FY12 B61 LEP efforts were transferred from PE 0604222F, Nuclear Weapons Support, to PE 0101125F, Nuclear Weapon Modernization in order to support B61 LEP development.

A. Mission Description and Budget Item Justification

(U) Provide direct technical and engineering support for all Air Force (AF) nuclear weapon systems, support systems, facilities, and special procedures. Perform studies and analyses for nuclear capable aircraft and missile systems to include ground and maintenance support equipment required to meet certification, safety, security, reliability, operational, and other requirements; oversee and manage the AF nuclear certification process; interface with the DoD and DoE to include national laboratories, the Air Staff, operational commands, and AF nuclear weapon system program offices to accomplish nuclear weapon sustainment and life extension programs.

(U) B61 LEP: Provides DoD leadership, management, and oversight of the Air Force-led, joint DoD-DoE B61 Project Officer's Group (POG) to manage the B61 nuclear gravity weapon active and inactive stockpile. Lead the joint DoD-DoE B61 Life Extension Program (LEP) feasibility, design, cost, and downselect study to provide for the refurbishment of the B61 that allows consolidation of multiple B61 variants into one modification and provides safety, security, and use control (surety) improvements to the B61. Provide technical oversight of the DoE nuclear package LEP activities and conduct phase studies, analysis, and evaluation. Develop weapons trainers, test equipment, tech data, and training for the B61 LEP. Conduct ground and flight tests and support aircraft integration for the B61 LEP. Develop and acquire B61 tail subassembly (TSA). Provide for integration of B61 LEP with threshold aircraft.

(U) Identify, evaluate, and assess current and projected innovative concepts for combating Weapons of Mass Destruction (WMD) capabilities. Activities include participating in evaluation of projects; supporting operations, active and passive defense, and consequence management related to C-CBRN weapons and associated manufacturing and bulk storage facilities.

(U) Develop and validate of mission planning software tools for targeting WMD facilities per AF CBRN road map. This program is essential to maintaining current and future safety, security, and reliability of weapons in the AF nuclear stockpile as well as their delivery and support systems. This program also addresses current and future AF nuclear deterrence and combating WMD requirements.

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)	R-1 ITEM NOMENCLATURE PE 0604222F: Nuclear Weapons Support	PROJECT 655708: Nuclear Weapons Support				
(U) Provide Nuclear surety and certification support. Prepare nuclear surety design criteria, standards, specifications, and related requirements documents for all Air Force ground launched missile systems. Includes nuclear certification program management.						
(U) Budget Activity Justification: These efforts are Budget Activity 5, System Development and Demonstration, because they are system specific programs to identify and develop life extension programs as well as solutions to problems and/or deficiencies in AF nuclear weapons, weapon systems and the supporting infrastructure.						
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: B61 LEP Description: Perform B61 Life Extension Program (LEP), Option Studies, and associated DoD acquisition. FY 2010 Accomplishments: Provided DoD leadership, management, and oversight of the Air Force-led Project Officer's Group (POG) and evaluation of B61 Life Extension Program (LEP) Options Studies. FY 2011 Plans: Continue leadership, management, and oversight of the Air Force-led POG and B61 active and inactive stockpile. Perform activities in support of associated DoD acquisition, potential competitive prototype analyses, aircraft and weapon integration efforts. FY 2012 Base Plans: Effort moved to PE 0101125F FY 2012 OCO Plans:		6.382	25.000	-	-	-
Title: Nuclear Surety and Certification Description: Prepare nuclear surety design criteria, standards, specifications, and related requirements documents for all Air Force ground launched missile systems. Includes nuclear certification program management. Portions of this effort in FY10 include civilian pay. All civilian payroll expenses are captured as one line item in FY11 and FY12. FY 2010 Accomplishments:		9.990	5.132	3.743	-	3.743

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)	R-1 ITEM NOMENCLATURE PE 0604222F: Nuclear Weapons Support	PROJECT 655708: Nuclear Weapons Support				
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Initiated a large number of no-fault independent studies and engineering surety actions in support of the AF nuclear weapons community. Actively made safety improvements to AF facilities while studying additional areas of concern. FY 2011 Plans: Continue to perform the engineering and surety analysis role by continuing studies and analyses. Continue to study issues affecting Air Force Materiel Command (AFMC) and AF nuclear weapons facilities and implement improvements as resources allow. FY 2012 Base Plans: Continue to perform the engineering and surety analysis role by continuing studies and analyses. Continue to study issues affecting AFMC and AF nuclear weapons facilities and implement improvements as resources allow. FY 2012 OCO Plans:						
Title: Nuclear Surety Support Description: Support various efforts such as the Nuclear Surety and Certification effort. FY 2010 Accomplishments: FY 2011 Plans: Program engineers will continue to act as Nuclear Project Officer Group (N-POG) lead for delivery systems, implement the aircraft surveillance program, and perform independent surety engineering studies on hardware and software upgrades to delivery systems. Continue oversight of Nuclear Certification activities, which are continuously on-going as new systems and items are introduced or existing systems and items are modified. Continue to provide management and professional services in support of programs as required. FY 2012 Base Plans: Program engineers will continue to act as Nuclear Project Officer Group (N-POG) lead for delivery systems, implement the aircraft surveillance program, and perform independent surety engineering studies on hardware and software upgrades to delivery systems. Continue oversight of Nuclear Certification activities, which are continuously on-going as new systems and items are introduced or existing systems and items are modified. Continue to provide management and professional services in support of programs as required. FY 2012 OCO Plans:		-	9.030	5.572	-	5.572

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force							DATE: February 2011				
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)			R-1 ITEM NOMENCLATURE PE 0604222F: Nuclear Weapons Support			PROJECT 655708: Nuclear Weapons Support					
B. Accomplishments/Planned Programs (\$ in Millions)						FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	
Title: C-CBRN						0.150	0.150	-	-	-	
Description: Identify orders of battle and provide mapping and data on sites of interest for Counter-Chemical, Biological, Radiological, and Nuclear (C-CBRN) requirements. Effort moved to Project 654807.											
FY 2010 Accomplishments: Initiate contractor support for C-CBRN intelligence to provide mapping and data for directed sites of interest.											
FY 2011 Plans: Contractor support for C-CBRN intelligence to provide mapping and data for directed sites of interest.											
FY 2012 Base Plans: Effort moved to Project 654807.											
FY 2012 OCO Plans:											
Accomplishments/Planned Programs Subtotals						16.522	39.312	9.315	-	9.315	
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• PE 0101125F: RDT&E	0.000	0.000	83.941	0.000	83.941	118.823	116.609	57.038	41.281	Continuing	Continuing
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) contacts 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.											

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)	R-1 ITEM NOMENCLATURE PE 0604222F: Nuclear Weapons Support	PROJECT 655708: Nuclear Weapons Support
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Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
B61 Life Extension Program	C/CPAF	TBD:TBD,	5.000	20.000	Jun 2011	-		-		-	Continuing	Continuing	TBD
Studies, Analyses, & Evaluations	Various	*See Remarks:*See Remarks,	2.503	4.728	Jan 2011	3.000	Feb 2012	-		3.000	Continuing	Continuing	TBD
Engineering & Technical Services	C/CPAF	Sverdrup:Albuquerque, NM	1.787	5.105	Jan 2011	2.500	Feb 2012	-		2.500	Continuing	Continuing	TBD
Subtotal			9.290	29.833		5.500		-		5.500			

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)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Management & Professional Support Services	C/CPAF	MacAulay Brown:Albuquerque, NM	0.434	0.474	Jan 2011	0.500	Dec 2011	-		0.500	Continuing	Continuing	TBD
Subtotal			0.434	0.474		0.500		-		0.500			

Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-	0.000	0.000	0.000

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force											DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>				R-1 ITEM NOMENCLATURE PE 0604222F: <i>Nuclear Weapons Support</i>				PROJECT 655708: <i>Nuclear Weapons Support</i>						

Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
In-House Programmatic/ Financial Management (Civilian Payroll)	TBD	AFNWC:Kirtland AFB, NM	6.798	9.005	Oct 2010	3.315	Oct 2011	-		3.315	Continuing	Continuing	TBD
Subtotal			6.798	9.005		3.315		-		3.315			

	Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	16.522	39.312		9.315		-		9.315			

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

3600: Research, Development, Test & Evaluation, Air Force
 BA 5: Development & Demonstration (SDD)

R-1 ITEM NOMENCLATURE

PE 0604222F: Nuclear Weapons Support

PROJECT

655708: Nuclear Weapons Support

0604222F 655708 Schedule

	FY10	FY11	FY12	FY13	FY14	FY15	FY16
B61 LEP		MDD/A		B			
Nuclear Surety/Certification Support							
C-CBRN Support							

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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604222F: <i>Nuclear Weapons Support</i>	PROJECT 655708: <i>Nuclear Weapons Support</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
B61 LEP	1	2010	4	2016
Nuclear Surety/Certification Support	1	2010	4	2016
C-CBRN Support	1	2010	4	2016

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY

3600: *Research, Development, Test & Evaluation, Air Force*
BA 5: *Development & Demonstration (SDD)*

R-1 ITEM NOMENCLATURE

PE 0604233F: *Specialized Undergraduate Pilot Training*

COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	9.900	8.066	21.780	-	21.780	62.662	126.730	84.349	32.190	Continuing	Continuing
654102: <i>Joint Primary Aircraft Training System (JPATS)</i>	8.444	3.724	4.720	-	4.720	3.829	2.327	3.772	2.360	Continuing	Continuing
654376: <i>T-38 Avionics Upgrade Program (AUP)</i>	1.456	1.149	1.151	-	1.151	1.146	1.123	1.100	1.112	Continuing	Continuing
655340: <i>Advanced Trainer Replacement T-X</i>	-	3.193	15.909	-	15.909	57.687	123.280	79.477	28.718	Continuing	Continuing

A. Mission Description and Budget Item Justification

Totals include funding for PRCP program number 560, JPATS.

JPATS Prior Years funding estimate is \$271.9M. To Complete estimate is \$8.8M.

Prior Years and To Complete funding estimates are for the MDAP program and may differ from weapon system funding totals.

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 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) program is a replacement for the T-38 trainer aircraft used in the advanced fighter/bomber SUPT track.

Provides for development and test of upgrades and enhancements to aircraft and the Ground Based Training System (GBTS) hardware and software components.

Provides for studies and development of the next generation of advanced fighter/bomber pilot trainer aircraft and GBTS.

The program funding includes reductions for overhead reduction efficiencies that are not intended to impact program content. The efficiencies reductions total \$0.077M in FY12.

This program element is in Budget Activity 5, System Development and Demonstration (SDD), because it primarily involves the missionization of commercial derivative aircraft, equipment, and components.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604233F: <i>Specialized Undergraduate Pilot Training</i>
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B. Program Change Summary (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	9.900	8.066	8.410	-	8.410
Current President's Budget	9.900	8.066	21.780	-	21.780
Total Adjustments	-	-	13.370	-	13.370
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-	-	13.370	-	13.370

Congressional Add Details (\$ in Millions, and Includes General Reductions)

Project: 654102: *Joint Primary Aircraft Training System (JPATS)*

Congressional Add: *AT-6B ISR*

	FY 2010	FY 2011
	7.000	-
Congressional Add Subtotals for Project: 654102	7.000	-
Congressional Add Totals for all Projects	7.000	-

Change Summary Explanation

FY2012 includes an increase in funding to allow the Advanced Trainer Replacement (T-X) project to complete Material Solution Analysis and begin Engineering and Manufacturing Development activities.

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0604233F: Specialized Undergraduate Pilot Training				PROJECT 654102: Joint Primary Aircraft Training System (JPATS)			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
654102: Joint Primary Aircraft Training System (JPATS)	8.444	3.724	4.720	-	4.720	3.829	2.327	3.772	2.360	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

Totals include funding for PRCP program number 560, JPATS.

JPATS Prior Years funding estimate is \$271.9M. To Complete estimate is \$8.8M.

Prior Years and To Complete funding estimates are for the MDAP program and may differ from weapon system funding totals.

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). 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. FY2010 includes a Congressional increase to develop, integrate and demonstrate Intelligence, Surveillance, and Reconnaissance (ISR) capabilities for the Air National Guard (ANG) using the AT-6 platform. The AT-6 ISR effort is unrelated to the JPATS program. FY2010-FY2016 JPATS funding will be used to develop and test upgrades and enhancements to hardware and software components.

FY2011, 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.

Budget Activity Justification: This program element is in Budget Activity 5, System Development and Demonstration (SDD), because it primarily involves the missionization of commercial derivative aircraft, equipment, and components.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: JPATS	1.444	2.284	4.720	-	4.720
Description: JPATS studies & development efforts					
FY 2010 Accomplishments:					

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)	R-1 ITEM NOMENCLATURE PE 0604233F: Specialized Undergraduate Pilot Training	PROJECT 654102: Joint Primary Aircraft Training System (JPATS)				
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
JPATS studies and development activities such as parachute surveillance study, aircraft weight study, Aircrew Life Support System Integration, and Aircrew Training Device visual system development study. FY 2011 Plans: JPATS studies and development activities such as parachute surveillance study, aircraft weight study, Aircrew Life Support System Integration, and Aircrew Training Device visual system development study. FY 2012 Base Plans: JPATS studies and development activities. FY2012 specifically will include development of a T-6 Power Management Unit (PMU) software upgrade. FY 2012 OCO Plans:						
Title: SECT Description: Simulator for Electronic Combat Technology (SECT) FY 2010 Accomplishments: FY 2011 Plans: Update threat database definitions and threat library FY 2012 Base Plans: FY 2012 OCO Plans:		-	1.440	-	-	-
Accomplishments/Planned Programs Subtotals		1.444	3.724	4.720	-	4.720
		FY 2010	FY 2011			
Congressional Add: AT-6B ISR FY 2010 Accomplishments: Demonstrate an ISR capability in a light attack aircraft such as the AT-6 FY 2011 Plans:		7.000	-			
Congressional Adds Subtotals		7.000	-			

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE	PROJECT
3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)	PE 0604233F: Specialized Undergraduate Pilot Training	654102: Joint Primary Aircraft Training System (JPATS)

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

Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• Related: Activities	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
• PE 0804740F: JPATS, APAF BA 3	12.663	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
• PE 0804740F (2): JPATS, APAF BA 6	2.507	0.457	1.921	0.000	1.921	0.023	0.823	0.827	0.831	Continuing	Continuing
• PE 0804740: JPATS, APAF BA 5	23.582	24.644	15.086	0.000	15.086	16.312	10.630	12.918	13.161	Continuing	Continuing
• PE 0804740F (4): JPATS, APAF BA 7	0.000	9.450	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
• PE 0804741F: MILCON AF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
• PE 0603208N: Training System Aircraft, H1150, JPATS	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
• PE 0804745N: APN BA 3	255.443	266.065	266.906	0.000	266.906	230.366	15.492	0.000	0.000	Continuing	Continuing
• PE 0804745N (8): APN BA 5	3.013	1.831	1.533	0.000	1.533	1.560	1.586	1.614	1.614	Continuing	Continuing
• PE 0804745N (9): APN BA 6	11.254	10.589	7.285	0.000	7.285	7.622	0.000	0.000	0.000	Continuing	Continuing
• PE 0804745N (10): MILCON N	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

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 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. JPATS development efforts are included in annual Fixed Price Incentive (FPI) options to the production contract.

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.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force											DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0604233F: Specialized Undergraduate Pilot Training				PROJECT 654102: Joint Primary Aircraft Training System (JPATS)						
Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
JPATS	C/TBD	HBC:Wichita, KS	273.344	2.284	Dec 2010	4.720	Dec 2011	-		4.720	Continuing	Continuing	TBD	
AT-6B	MIPR	GeorgiaTechnical Research Institute:Atlanta, GA	15.310	-		-		-		-	0.000	15.310	TBD	
SECT Upgrade	C/FFP	AAI Services Corp:Hunt Valley, MD	-	1.440	Jan 2011	-		-		-	Continuing	Continuing	0.000	
Subtotal			288.654	3.724		4.720		-		4.720				
Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Subtotal			-	-		-		-		-	0.000	0.000	0.000	
Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Subtotal			-	-		-		-		-	0.000	0.000	0.000	
Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Subtotal			-	-		-		-		-	0.000	0.000	0.000	
			Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract	
Project Cost Totals			288.654	3.724		4.720		-		4.720				

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force							DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)			R-1 ITEM NOMENCLATURE PE 0604233F: Specialized Undergraduate Pilot Training			PROJECT 654102: Joint Primary Aircraft Training System (JPATS)			
	Total Prior Years Cost	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract	
Remarks									

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

3600: Research, Development, Test & Evaluation, Air Force
BA 5: Development & Demonstration (SDD)

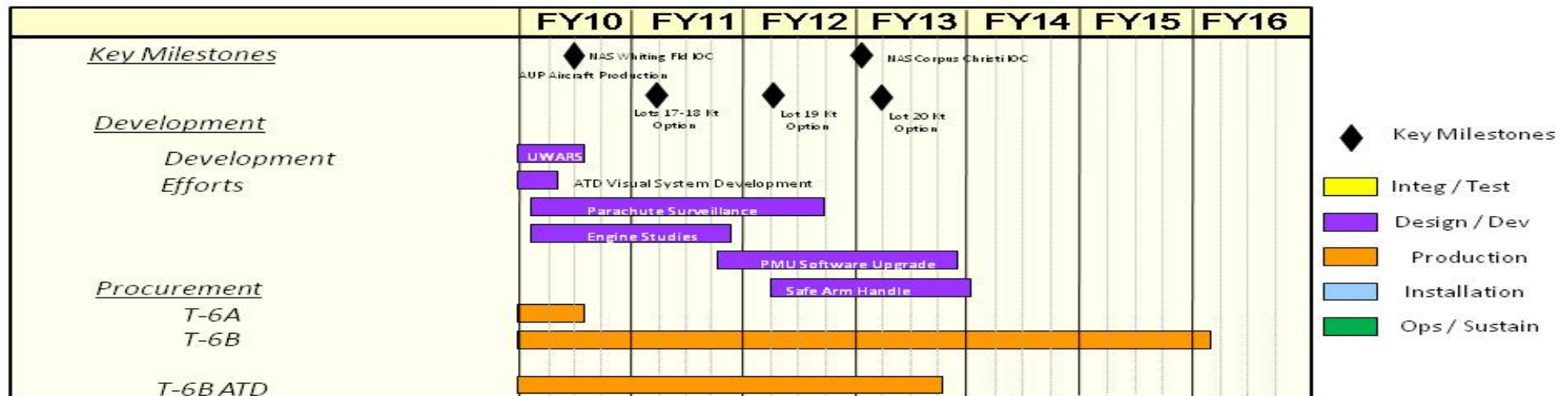
R-1 ITEM NOMENCLATURE

PE 0604233F: Specialized Undergraduate Pilot Training

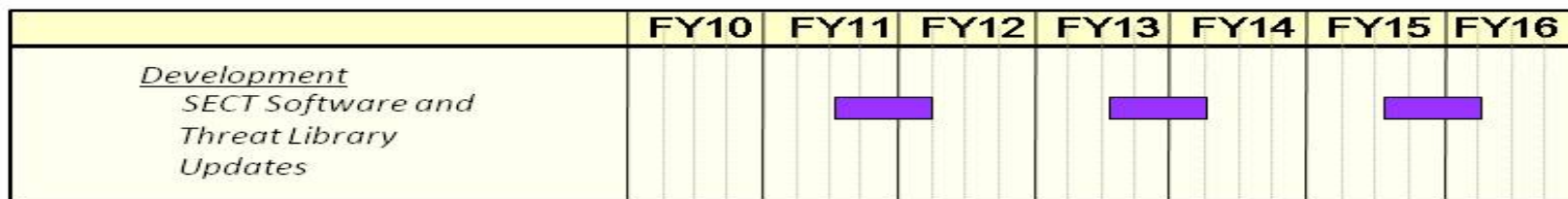
PROJECT

654102: Joint Primary Aircraft Training System (JPATS)

Joint Primary Aircraft Training System (JPATS)



Simulator for Electronic Combat Technology (SECT)



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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

3600: *Research, Development, Test & Evaluation, Air Force*
BA 5: *Development & Demonstration (SDD)*

R-1 ITEM NOMENCLATURE

PE 0604233F: *Specialized Undergraduate Pilot Training*

PROJECT

654102: *Joint Primary Aircraft Training System (JPATS)*

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Complete JPATS Universal Water-Activated Release System (UWARS) Development	1	2010	3	2010
Complete JPATS Aircrew Training Device (ATD) Visual System Development	1	2010	2	2010
JPATS Parachute Surveillance System Development	1	2010	3	2012
JPATS Engine Studies	1	2010	4	2011
JPATS Initial Operational Capability (IOC) NAS Whiting Field	3	2010	3	2010
Award JPATS Lot 17-18 Contract Options	2	2011	2	2011
JPATS Power Management Unit (PMU) Software Upgrade	4	2011	4	2013
Award JPATS Lot 19 Contract Option	2	2012	2	2012
JPATS Arm Handle Development	2	2012	4	2013
JPATS IOC NAS Corpus Christi	1	2013	1	2013
Award JPATS Lot 20 Contract Option	2	2013	2	2013
Complete USAF T-6A Deliveries	1	2010	3	2010
Continue USN T-6B Deliveries	1	2010	1	2016
Continue USN T-6B Aircrew Training Device (ATD) Deliveries	1	2010	4	2013
Update SECT Software and Threat Library (FY2011)	3	2011	1	2012
Update SECT Software and Threat Library (FY2013)	3	2013	1	2014
Update SECT Software and Threat Library (FY2015)	3	2015	1	2016

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force									DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0604233F: Specialized Undergraduate Pilot Training				PROJECT 654376: T-38 Avionics Upgrade Program (AUP)			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
654376: T-38 Avionics Upgrade Program (AUP)	1.456	1.149	1.151	-	1.151	1.146	1.123	1.100	1.112	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

The T-38C Avionics Upgrade Program (AUP) requires regular block upgrades to incorporate software and hardware improvements and new requirements into both the aircraft and Aircrew Training Devices (ATD). This effort also includes support to obtain Joint Mission Planning System (JMPS) certification associated with each block upgrade. The T-38C avionics program is beginning development for Automatic Dependent Surveillance - Broadcast (ADS-B), an FAA mandated system modification. Further, engineering services, studies, analysis and support to determine the feasibility of incorporating changes for making informed lifecycle cost business decisions based on Diminishing Manufacturing Resources and Material Shortages (DMSMS).

Insufficient funding of the T-38C AUP program will negatively affect the Undergraduate Pilot Training (UPT), Introduction to Fighter Fundamentals (IFF) and Euro-NATO Joint Jet Pilot Training (ENJJPT) pilot training programs. A decrease in required funding will increase DMSMS risks and possibly increase future cost to mitigate unknown risks and reduce mission effectiveness.

Budget Activity Justification: This project is in Budget Activity 5, System Development and Demonstration (SDD), because it primarily involves the missionization of NDI or COTS equipment and components.

The program funding includes reductions for Overhead Reduction efficiencies that are not intended to impact program content. The efficiencies reductions total \$0.010M in FY12.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: T-38 AUP	1.456	1.149	1.151	-	1.151
Description: T-38 Avionics Upgrade Program (AUP) block software upgrades					
FY 2010 Accomplishments: Develop and test Block 9 AUP aircraft and ATD hardware/software upgrades, mission planning software, requirements driven by DoD/ FAA/NAS mandates, and/or improvements identified during Test and Evaluation and AETC operations. Block 9 is not scheduled to be complete until FY2012, due to 2 year block upgrade cycle vs. 1 year cycle.					
FY 2011 Plans:					

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>		R-1 ITEM NOMENCLATURE PE 0604233F: <i>Specialized Undergraduate Pilot Training</i>		PROJECT 654376: <i>T-38 Avionics Upgrade Program (AUP)</i>	

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Continue development and test of Block 9 AUP aircraft and ATD hardware/software upgrades, mission planning software, requirements driven by DoD/FAA/NAS mandates, and/or improvements identified during Test and Evaluation and AETC operations. <i>FY 2012 Base Plans:</i> Complete development and test of Block 9 aircraft and Aircrew Training Device (ATD) hardware/software upgrades and JMPS software. Design and develop Block 10 software/hardware upgrades, JMPS software. Design and develop software and/or hardware solutions for requirements driven by DoD and FAA/NAS mandates, and/or improvements identified during test and evaluation and AETC operations. Provide for travel and support costs related to block upgrade activities. <i>FY 2012 OCO Plans:</i>					
Accomplishments/Planned Programs Subtotals	1.456	1.149	1.151	-	1.151

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

<u>Line Item</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012 Base</u>	<u>FY 2012 OCO</u>	<u>FY 2012 Total</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• N/A:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

D. Acquisition Strategy

T-38 AUP block updates are cost plus award fee options executed under a contract negotiated in FY2004.

E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air 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-3, RDT&E Project Cost Analysis: PB 2012 Air Force											DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE				PROJECT					
3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)				PE 0604233F: Specialized Undergraduate Pilot Training				654376: T-38 Avionics Upgrade Program (AUP)					
Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Avionics Upgrade Program (AUP)	C/CPAF	The Boeing Corporation:St. Louis, MO	84.015	0.765	Feb 2011	0.503	Oct 2011	-		0.503	Continuing	Continuing	TBD
Subtotal			84.015	0.765		0.503		-		0.503			
Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
A&AS	C/CPAF	Not specified.:	7.650	0.151		0.155		-		0.155	0.000	7.956	0.000
JMPS Support	C/FFP	Not specified.:	0.220	0.022		0.023		-		0.023	0.000	0.265	0.000
Subtotal			7.870	0.173		0.178		-		0.178	0.000	8.221	0.000
Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Not specified.	C/CPAF	TBD.:	-	0.141		0.400		-		0.400	0.000	0.541	0.000
Subtotal			-	0.141		0.400		-		0.400	0.000	0.541	0.000
Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Travel	Various	Not specified.:	1.050	0.070		0.070		-		0.070	0.000	1.190	0.000
Subtotal			1.050	0.070		0.070		-		0.070	0.000	1.190	0.000
			Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			92.935	1.149		1.151		-		1.151			

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force						DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>			R-1 ITEM NOMENCLATURE PE 0604233F: <i>Specialized Undergraduate Pilot Training</i>			PROJECT 654376: <i>T-38 Avionics Upgrade Program (AUP)</i>			
	Total Prior Years Cost	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract	

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

3600: Research, Development, Test & Evaluation, Air Force
BA 5: Development & Demonstration (SDD)

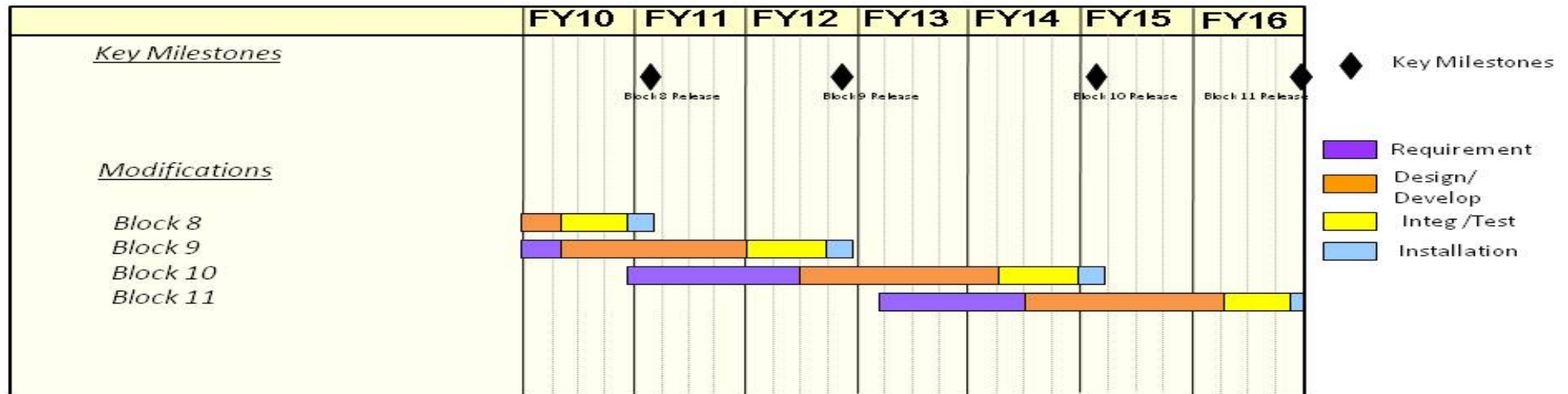
R-1 ITEM NOMENCLATURE

PE 0604233F: Specialized Undergraduate Pilot Training

PROJECT

654376: T-38 Avionics Upgrade Program (AUP)

T-38 Avionics Upgrade Program (AUP)



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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

3600: *Research, Development, Test & Evaluation, Air Force*
BA 5: *Development & Demonstration (SDD)*

R-1 ITEM NOMENCLATURE

PE 0604233F: *Specialized Undergraduate Pilot Training*

PROJECT

654376: *T-38 Avionics Upgrade Program (AUP)*

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
AUP Block 8 Design/Development	1	2010	2	2010
AUP Block 8 Integration/Flight Test	2	2010	4	2010
AUP Block 8 Fielding	4	2010	1	2011
AUP Block 8 Release	1	2011	1	2011
AUP Block 9 Design/Development	2	2010	1	2012
AUP Block 8 Release (1)	1	2011	1	2011
AUP Block 9 Fielding	4	2012	4	2012
AUP Block 9 Release	4	2012	4	2012
AUP Block 10 Requirements	4	2010	2	2012
AUP Block 10 Design/Development	3	2012	2	2014
AUP Block 10 Integration/Flight Test	2	2014	1	2015
AUP Block 10 Fielding	1	2015	2	2015
AUP Block 10 Release	1	2015	1	2015
AUP Block 11 Requirements	2	2013	3	2014
AUP Block 11 Design/Development	3	2014	3	2016
AUP Block 11 Integration/Flight Test	2	2016	4	2016
AUP Block 11 Fielding	2	2016	2	2016
AUP Block11 Release	4	2016	4	2016
AUP Block 11 Release	4	2016	4	2016

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>				R-1 ITEM NOMENCLATURE PE 0604233F: <i>Specialized Undergraduate Pilot Training</i>				PROJECT 655340: <i>Advanced Trainer Replacement T-X</i>			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
655340: <i>Advanced Trainer Replacement T-X</i>	-	3.193	15.909	-	15.909	57.687	123.280	79.477	28.718	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

The Advanced Trainer Replacement, T-X, will replace the USAF T-38 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-38 was first introduced in 1961 and is currently projected to begin phase out in 2017. FY2012 plans include completion of concept development activities and initiation of the Technology Development phase.

The program funding includes reductions for overhead reduction efficiencies that are not intended to impact program content. The efficiencies reductions total \$0.067M in FY12.

Budget Activity Justification. This project is in Budget Activity 5, System Development and Demonstration (SDD), because it primarily involves the missionization of essentially non-developmental aircraft, equipment, and components.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: Advanced Pilot Training (APT) Family of Systems (FoS)	-	3.193	15.909	-	15.909
Description: Perform preliminary activities to acquire a replacement for the T-38 advanced trainer aircraft and Ground Based Training System (GBTS)					
FY 2010 Accomplishments:					
FY 2011 Plans: Conduct studies and analysis of T-X concepts.					
FY 2012 Base Plans: Complete studies and analysis of T-X concepts and initiate the Technology Development phase to include actions necessary for a competitive prototyping source selection.					
FY 2012 OCO Plans:					
Accomplishments/Planned Programs Subtotals	-	3.193	15.909	-	15.909

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604233F: <i>Specialized Undergraduate Pilot Training</i>	PROJECT 655340: <i>Advanced Trainer Replacement T-X</i>	

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

<u>Line Item</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u> <u>Base</u>	<u>FY 2012</u> <u>OCO</u>	<u>FY 2012</u> <u>Total</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• PE 0804741F: <i>O&M AF</i>	1.500	1.500	1.500	0.000	1.500	0.000	0.000	0.000	0.000	Continuing	Continuing

D. Acquisition Strategy

A full and open competitive source selection is anticipated for Technology Development 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.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force											DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>				R-1 ITEM NOMENCLATURE PE 0604233F: <i>Specialized Undergraduate Pilot Training</i>				PROJECT 655340: <i>Advanced Trainer Replacement T-X</i>					

Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Competitive Prototyping	C/TBD	TBD:TBD,	-	-		12.000	May 2012	-		12.000	Continuing	Continuing	TBD
Subtotal			-	-		12.000		-		12.000			

Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-	0.000	0.000	0.000

Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-	0.000	0.000	0.000

Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Office	C/TBD	ASC:Wright-Patterson AFB, OH	-	3.193		3.909		-		3.909	Continuing	Continuing	TBD
Subtotal			-	3.193		3.909		-		3.909			

			Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			-	3.193		15.909		-		15.909			

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

3600: Research, Development, Test & Evaluation, Air Force
BA 5: Development & Demonstration (SDD)

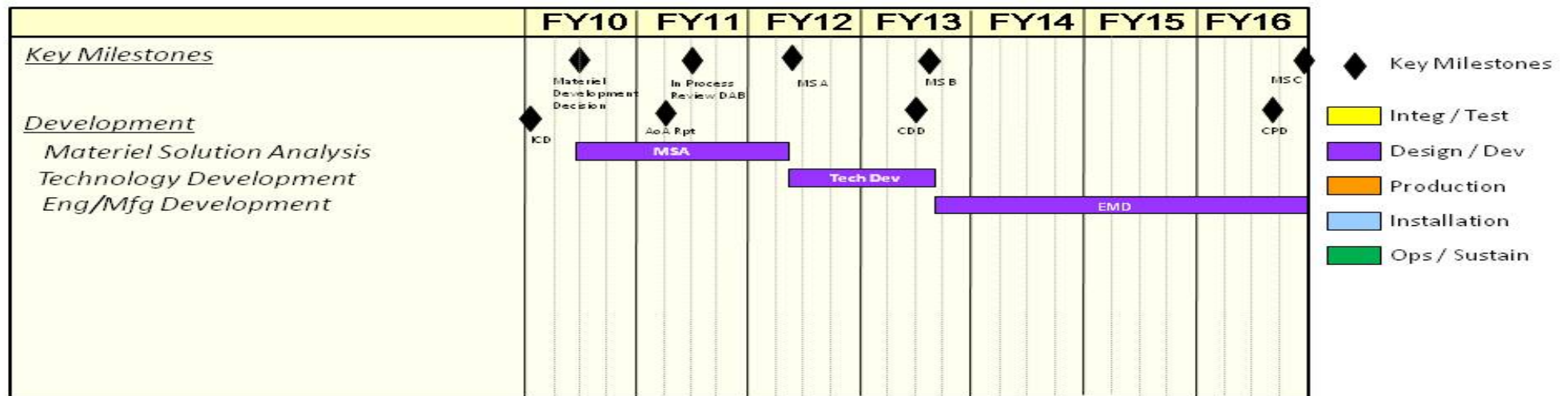
R-1 ITEM NOMENCLATURE

PE 0604233F: Specialized Undergraduate Pilot Training

PROJECT

655340: Advanced Trainer Replacement T-X

T-X (Advanced Pilot Training Family of Systems)



AoA = Analysis of Alternatives
DAB = Defense Acquisition Board
CDD = Capability Development Document
CPD = Capability Production Document
ICD = Initial Capabilities Document
MS = Milestone

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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604233F: <i>Specialized Undergraduate Pilot Training</i>	PROJECT 655340: <i>Advanced Trainer Replacement T-X</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Initial Capabilities Document (ICD) Approved	1	2010	1	2010
Material Development Decision	2	2010	2	2010
Complete Analysis of Alternatives	2	2011	2	2011
In-Process Review (IPR) Defense Acquisition Board (DAB)	3	2011	3	2011
Material Solution Analysis	2	2010	2	2012
Milestone A	2	2012	2	2012
Technology Development	2	2012	3	2013
Capability Development Document (CDD) Approval	3	2013	3	2013
Milestone B	3	2013	3	2013
Engineering and Manufacturing Development	3	2013	4	2016
Capability Production Document (CPD) Approval	3	2016	3	2016
Milestone C	4	2016	4	2016

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE							
3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>				PE 0604270F: <i>EW Development</i>							
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	89.939	89.966	26.880	-	26.880	56.744	76.374	90.059	32.099	Continuing	Continuing
653891: <i>Advanced IR Counter Measures (AIRCM)</i>	-	-	1.963	-	1.963	1.971	1.971	1.990	1.989	Continuing	Continuing
654832: <i>Precision Location and Identification (PLAID)</i>	2.448	0.099	-	-	-	-	-	-	-	Continuing	Continuing
655305: <i>MALD-J</i>	87.491	89.867	-	-	-	-	-	-	-	Continuing	Continuing
657004: <i>MALD-J Increment II</i>	-	-	24.917	-	24.917	54.773	74.403	88.069	30.110	Continuing	Continuing

Note

In FY 2012, Project 653891, Advanced IR Counter Measures (AIRCM), includes new start efforts.

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.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604270F: <i>EW Development</i>
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B. Program Change Summary (\$ in Millions)	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012 Base</u>	<u>FY 2012 OCO</u>	<u>FY 2012 Total</u>
Previous President's Budget	80.275	89.966	25.016	-	25.016
Current President's Budget	89.939	89.966	26.880	-	26.880
Total Adjustments	9.664	-	1.864	-	1.864
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	9.999	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-0.335	-	1.864	-	1.864

Change Summary Explanation

FY10: \$9.999M added for MALD-J (Project 655305)

FY12: Funding for infrared flares testing added as a new start under Advanced IR Counter Measures (AIRCIM) Project 653891.

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force								DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0604270F: EW Development				PROJECT 653891: Advanced IR Counter Measures (AIRCM)			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
653891: Advanced IR Counter Measures (AIRCM)	-	-	1.963	-	1.963	1.971	1.971	1.990	1.989	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		
Note In FY 2012, Project 653891, Advanced IR Counter Measures (AIRCM), includes new start RDT&E funding to test IR flares on aircraft.											
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 advance 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. This program is in budget activity 5 - System Development and Demonstration of common EW systems to meet user requirements.											
B. Accomplishments/Planned Programs (\$ in Millions)							FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: IR Flare Testing NEW START Description: IR flare testing and qualification on aircraft FY 2010 Accomplishments: NA FY 2011 Plans: NA FY 2012 Base Plans: New start FY12. Activities include qualification of IR flare cocktails on F-16 and A-10 aircraft. Flight testing on other platforms TBD. FY 2012 OCO Plans:							-	-	1.963	-	1.963
Accomplishments/Planned Programs Subtotals							-	-	1.963	-	1.963

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604270F: <i>EW Development</i>	PROJECT 653891: <i>Advanced IR Counter Measures (AIRCM)</i>	

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

<u>Line Item</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u> <u>Base</u>	<u>FY 2012</u> <u>OCO</u>	<u>FY 2012</u> <u>Total</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• APAF: <i>War Reserve Munitions - Flares</i>	135.775	57.154	29.244	0.000	29.244	30.932	34.931	64.624	74.853	Continuing	Continuing

D. Acquisition Strategy

Contracts will be awarded through 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.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force											DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0604270F: EW Development				PROJECT 653891: Advanced IR Counter Measures (AIRCM)					

Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-	0.000	0.000	0.000

Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Aircraft/Unit Support	MIPR	TBD:TBD,	-	-		0.859		-		0.859	Continuing	Continuing	0.000
Mission Planning	MIPR	TBD:TBD,	-	-		0.170		-		0.170	Continuing	Continuing	0.000
Subtotal			-	-		1.029		-		1.029			0.000

Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Range Test, Modeling and Sim	MIPR	TBD:TBD,	-	-		0.934		-		0.934	Continuing	Continuing	0.000
Subtotal			-	-		0.934		-		0.934			0.000

Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-	0.000	0.000	0.000

			Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			-	-		1.963		-		1.963			0.000

Remarks													

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604270F: <i>EW Development</i>	PROJECT 653891: <i>Advanced IR Counter Measures (AIRCM)</i>
<p>Program is an FY12 New Start. Schedule in development.</p>		

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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604270F: <i>EW Development</i>	PROJECT 653891: <i>Advanced IR Counter Measures (AIRCM)</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Schedule under development	2	2011	4	2011

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>				R-1 ITEM NOMENCLATURE PE 0604270F: <i>EW Development</i>				PROJECT 654832: <i>Precision Location and Identification (PLAID)</i>			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
654832: <i>Precision Location and Identification (PLAID)</i>	2.448	0.099	-	-	-	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

The AN/ALR-69A radar warning receiver (RWR) is an evolutionary development program consisting of a core digital receiver/processor with growth increments. The core ALR-69A program objectives are to improve identification of threat type, detect threat signals while outside of the threat envelope, and operate in a dense signal environment. Evolutionary growth spirals include single and multi-ship precision geolocation (PG) as well as specific emitter identification (SEI). The underlying technologies and algorithms enabling PG and SEI are often collectively referred to as precision location and identification (PLAID).

ALR-69A development is currently focused on a replacement RWR for AFSOC and AMC C-130 aircraft. The ALR-69A is also under consideration by AFSOC, AMC and ACC for integration and installation in other mission design series aircraft.

This program is in budget activity 5 - System Development and Demonstration of common EW systems to meet user requirements.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: AN/ALR-69A	2.448	0.099	-	-	-
Description: Develop a common digital radar warning receiver for USAF platforms					
FY 2010 Accomplishments: Continued to conduct hardware-in-the-loop testing of upgraded software; continued developmental flight testing					
FY 2011 Plans: Complete developmental testing, operational testing certification requirements, and initial operational test and evaluation (IOT&E)					
FY 2012 Base Plans: NA					
FY 2012 OCO Plans:					
Accomplishments/Planned Programs Subtotals	2.448	0.099	-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604270F: <i>EW Development</i>	PROJECT 654832: <i>Precision Location and Identification (PLAID)</i>	

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

<u>Line Item</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u> <u>Base</u>	<u>FY 2012</u> <u>OCO</u>	<u>FY 2012</u> <u>Total</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• N/A: <i>None</i>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

D. Acquisition Strategy

Acquisition was accomplished through full and open competition. The System Development and Demonstration (SDD) contract was awarded to Raytheon Corporation in August 2001.

E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air 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-3, RDT&E Project Cost Analysis: PB 2012 Air Force										DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0604270F: EW Development				PROJECT 654832: Precision Location and Identification (PLAID)					
Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
CORE SDD	C/CPAF	Raytheon:Goleta, CA	95.891	-		-		-		-	0.000	95.891	0.000
Subtotal			95.891	-		-		-		-	0.000	95.891	0.000
Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Office	WR	BAH:Robins, GA	9.919	0.099	Dec 2010	-		-		-	0.000	10.018	0.000
Engineering	Various	Various:Robins, GA	2.933	-		-		-		-	0.000	2.933	0.000
Group A Support	SS/CPFF	Boeing:Ft Walton Beach, FL	17.570	-		-		-		-	0.000	17.570	0.000
Rapid Replacement of Mission Critical Logistics Electronics Components (RRMCLEC)	SS/TBD	SRC:Atlanta, GA	11.696	-		-		-		-	0.000	11.696	0.000
Subtotal			42.118	0.099		-		-		-	0.000	42.217	0.000
Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Developmental Test and Evaluation	WR	46 Ops Grp Eglin:Eglin, FL	16.902	-		-		-		-	0.000	16.902	0.000
Initial Operational Test and Evaluation	PO	AFOTEC Det 2:Eglin, FL	-	-		-		-		-	0.000	0.000	0.000
Subtotal			16.902	-		-		-		-	0.000	16.902	0.000

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force											DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>				R-1 ITEM NOMENCLATURE PE 0604270F: <i>EW Development</i>				PROJECT 654832: <i>Precision Location and Identification (PLAID)</i>					

Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-	0.000	0.000	0.000

	Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	154.911	0.099		-		-		-	0.000	155.010	0.000

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

3600: Research, Development, Test & Evaluation, Air Force
BA 5: Development & Demonstration (SDD)

R-1 ITEM NOMENCLATURE

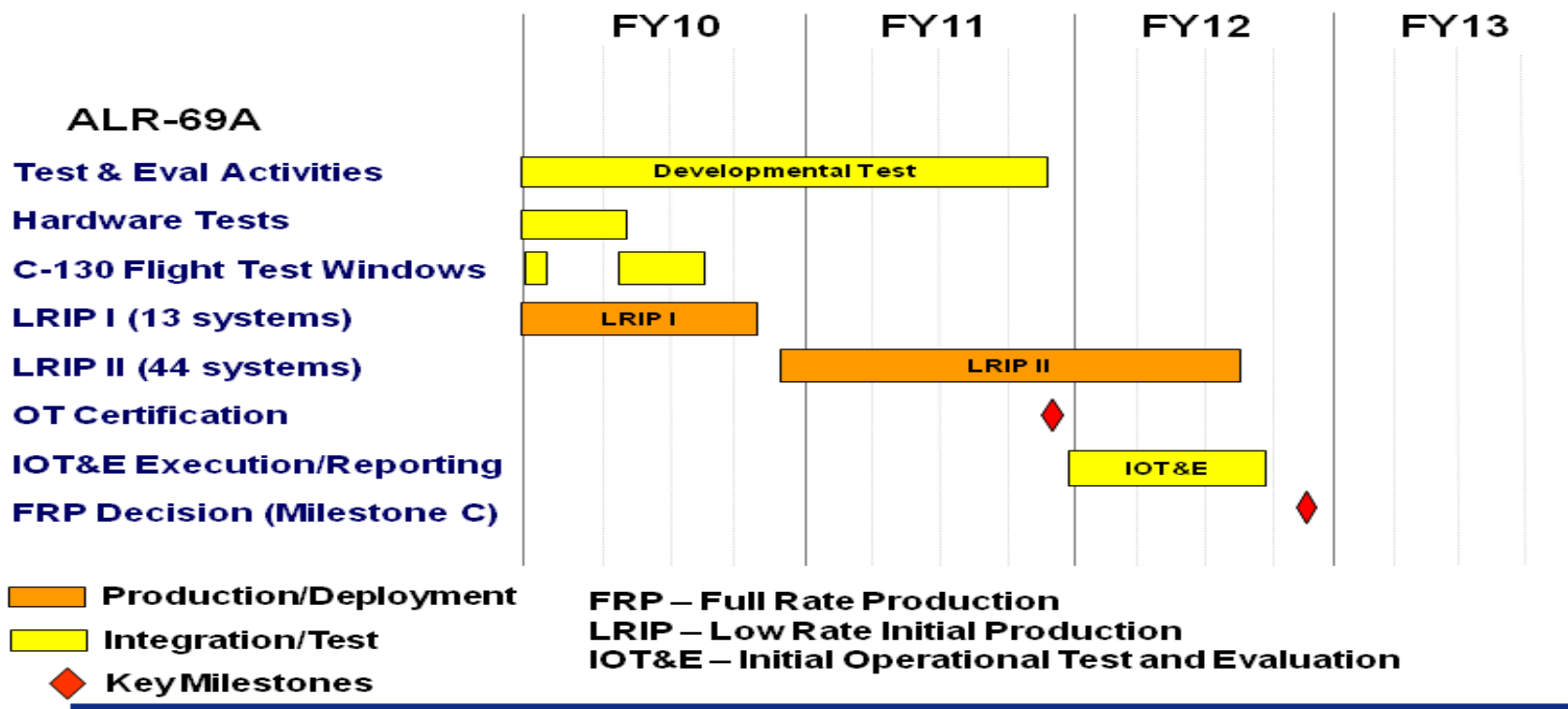
PE 0604270F: EW Development

PROJECT

654832: Precision Location and Identification (PLAID)



ALR-69A Program Schedule



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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604270F: <i>EW Development</i>	PROJECT 654832: <i>Precision Location and Identification (PLAID)</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Developmental Testing and Evaluation	1	2010	4	2011
Initial Operational Test and Evaluation	4	2011	3	2012
Milestone C Decision	3	2012	4	2012

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force									DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0604270F: EW Development				PROJECT 655305: MALD-J			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
655305: MALD-J	87.491	89.867	-	-	-	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		
A. Mission Description and Budget Item Justification											
<p>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 Concepts of Operations. MALD-J will provide stand-in jamming capability for the Airborne Electronic Attack Systems of Systems. It will be launched against a preplanned target and jam specific radars in a stand-in role to degrade or deny the IADS detection of friendly aircraft or munitions.</p> <p>Planned efforts for this program are risk reduction (to include prototyping) and Engineering Manufacturing and Development (EMD) of the jammer configuration and any other direct increment or variant. This will include design, development, test, aircraft integration, and seamless verification.</p> <p>This program is in budget activity 5 - System Development and Demonstration of common EW systems to meet user requirements.</p>											
B. Accomplishments/Planned Programs (\$ in Millions)							FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: Risk Reduction							23.144	-	-	-	-
Description: MALD-J Risk Reduction focused on integrating jammer module and payload into the MALD vehicle, requirements & activities, and initial system level hardware and software.											
FY 2010 Accomplishments: Manufacture and deliver production representative MALD-J payloads with selectivity enhancements incorporated in support of the EMD phase. Implemented design, build, and/or modification of jammer payload Automated Test Equipment and further the Sparta fuselage development and demonstration. Acquired the necessary tooling and fixtures to support Low Rate Initial Production, continued process definition, work instructions, production plans, First Article Inspection, initial system testing and associated reviews.											
FY 2011 Plans: Not applicable											
FY 2012 Base Plans:											

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force				DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)		R-1 ITEM NOMENCLATURE PE 0604270F: EW Development		PROJECT 655305: MALD-J		
B. Accomplishments/Planned Programs (\$ in Millions)						
		FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
NA						
FY 2012 OCO Plans:						
Title: Development		50.348	69.867	-	-	-
Description: MALD-J Engineering and Manufacturing Development will demonstrate the ability of the MALD-J system to operate within the approved Key Performance Parameters, and that system production can be supported by demonstrated manufacturing processes.						
FY 2010 Accomplishments: EMD started captive carry and free flight testing, environmental qualification testing, reliability growth testing, second source fuselage qualification, and electromagnetic interference testing.						
FY 2011 Plans: Completion of MALD-J EMD to include final Development Test & Evaluation and manufacturing readiness. Prepare and accomplish Milestone C to enter the Production and Deployment phase and begin Initial Operational Test & Evaluation.						
FY 2012 Base Plans: NA						
FY 2012 OCO Plans:						
Title: Feasibility Studies		13.999	20.000	-	-	-
Description: Future MALD-J concept refinement to characterize the technological feasibility and capability of a future variant utilizing Gallium Nitride (GaN) technology.						
FY 2010 Accomplishments: Continued payload development and modeling and simulation support. Conducted payload performance and interoperability testing and technical interchange meetings.						
FY 2011 Plans: Continue payload development and modeling and simulation support. Conduct payload performance and interoperability testing and technical interchange meetings.						
FY 2012 Base Plans:						

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force							DATE: February 2011				
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>			R-1 ITEM NOMENCLATURE PE 0604270F: <i>EW Development</i>			PROJECT 655305: <i>MALD-J</i>					
B. Accomplishments/Planned Programs (\$ in Millions)						FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	
NA, funding separated into Project 657004.											
FY 2012 OCO Plans:											
Accomplishments/Planned Programs Subtotals						87.491	89.867	-	-	-	
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• PE0207442F: <i>MALD/MALD-J/Inc</i> <i>II APAF, procurement</i>	109.216	87.628	83.022	0.000	83.022	86.472	88.466	90.173	91.371	Continuing	Continuing
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 Development (EMD) contract was awarded to Raytheon.											
EMD and Milestone C completion expected Summer 2011 with follow-on MALD-J cut-in to production.											
E. Performance Metrics											
Please refer to the Performance Base Budget Overview Book for information on how Air 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-3, RDT&E Project Cost Analysis: PB 2012 Air Force **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604270F: <i>EW Development</i>	PROJECT 655305: <i>MALD-J</i>
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Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Engineering and Manufacturing Development	SS/TBD	Raytheon Missile Systems:Tucson, AZ	26.651	53.465	Jun 2011	-		-		-	0.000	80.116	80.116
Risk Recduction	SS/CPFF	Raytheon Missile Systems:Tucson, AZ	23.144	-		-		-		-	0.000	23.144	23.144
Incentive Fee	SS/TBD	Raytheon Missile Systems:Tucson, AZ	5.379	-		-		-		-	0.000	5.379	5.379
Operational Test Assets and Support	SS/FFP	Raytheon Missile Systems:Tucson, AZ	4.350	1.257	Jun 2011	-		-		-	0.000	5.607	5.607
Range Safety System	SS/FFP	Raytheon Missile Systems:Tucson, AZ	2.343	6.367	Dec 2010	-		-		-	0.000	8.710	8.710
Increment II Studies	SS/CPFF	Raytheon Missile Systems:Tucson, AZ	13.999	20.000	Oct 2010	-		-		-	0.000	33.999	33.999
Mission Planning	Various	Northrup Grumman:Bethpage, NY	3.276	1.869	Jan 2011	-		-		-	0.000	5.145	5.145
B-52 Aircraft Integration	MIPR	B-52 Program Office:Various,	1.642	0.850	Mar 2011	-		-		-	0.000	2.492	2.492
F-16 Aircraft Integration	MIPR	F-16 Program Office:Various,	0.314	0.100	Mar 2011	-		-		-	0.000	0.414	0.414
Subtotal			81.098	83.908		-		-		-	0.000	165.006	165.006

Remarks

FY10 MALD-J Contract Type is FPIF.

Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-	0.000	0.000	0.000

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force										DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0604270F: EW Development				PROJECT 655305: MALD-J					
Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Government Test Planning	Various	Various:Various,	4.770	3.155	Feb 2011	-		-		-	0.000	7.925	7.925
Subtotal			4.770	3.155		-		-		-	0.000	7.925	7.925
Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Contractor Support to AAC/EBJ AAC/EBJM	Various	Various:Various,	1.143	2.131	Feb 2011	-		-		-	0.000	3.274	3.274
Program Office Support for AAC/EBJ AAC/EBJM	Various	Various:Various,	0.480	0.673		-		-		-	0.000	1.153	1.153
Subtotal			1.623	2.804		-		-		-	0.000	4.427	4.427
			Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			87.491	89.867		-		-		-	0.000	177.358	177.358
Remarks													

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

3600: Research, Development, Test & Evaluation, Air Force
BA 5: Development & Demonstration (SDD)

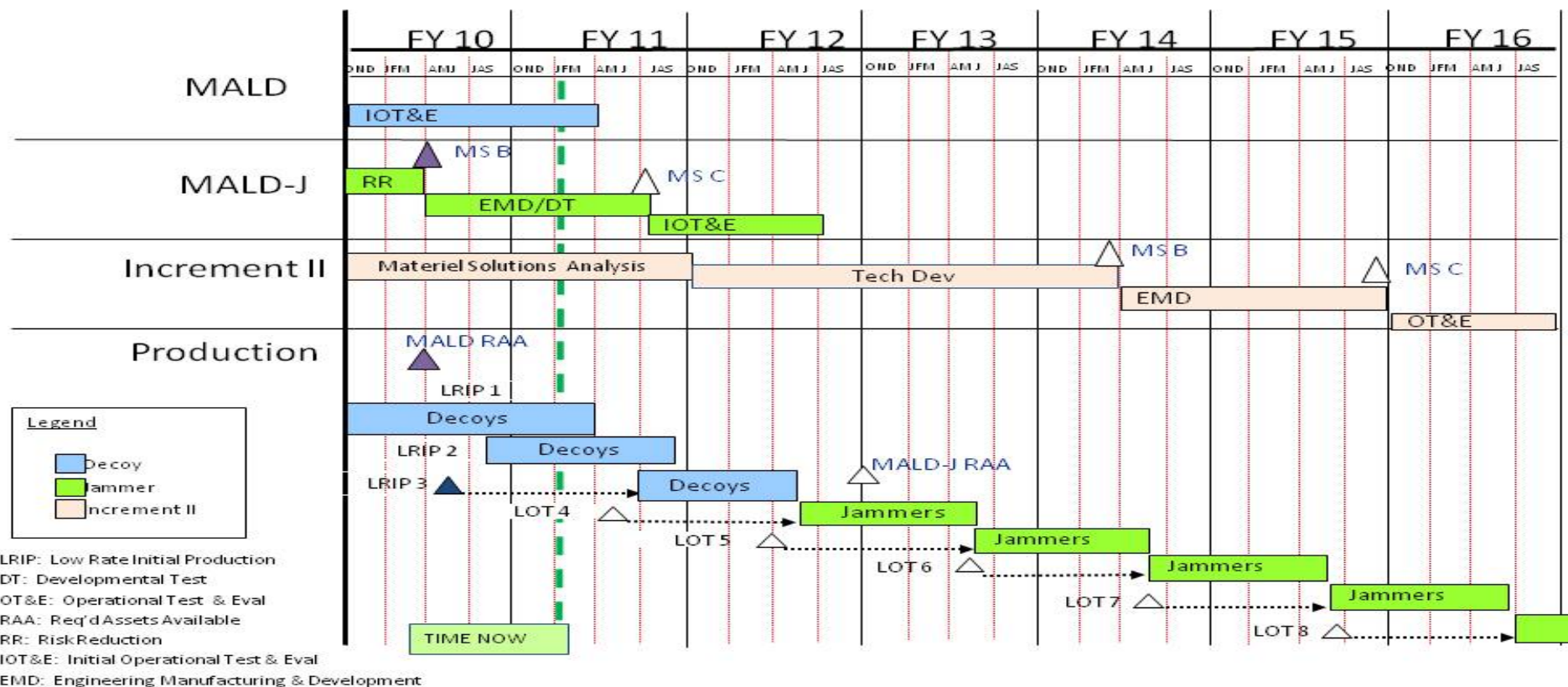
R-1 ITEM NOMENCLATURE

PE 0604270F: EW Development

PROJECT

655305: MALD-J

MALD Integrated Schedule



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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604270F: <i>EW Development</i>	PROJECT 655305: <i>MALD-J</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
MALD-J Engineering and Manufacturing Development	3	2010	4	2011
MALD-J Milestone C	4	2011	4	2011
MALD-J Initial Operational Test and Evaluation	4	2011	4	2012

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force								DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0604270F: EW Development				PROJECT 657004: MALD-J Increment II			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
657004: MALD-J Increment II	-	-	24.917	-	24.917	54.773	74.403	88.069	30.110	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		
Note This project is broken out from BPAC 655305 and is not an FY12 new start.											
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 and 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 Systems of Systems supporting the Air Force Global Strike, Global Response, Space and C4ISR, and the Air and Space Expeditionary Force Concepts 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 detection of friendly aircraft or munitions. Planned efforts for this program include Risk Reduction (with prototyping), Technology Demonstration, and Engineering Manufacturing and Development. This program is in budget activity 5 - System Development and Demonstration of common EW systems to meet user requirements.											
B. Accomplishments/Planned Programs (\$ in Millions)							FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: Development & Demonstration Description: Development to include detailed design and test planning. FY 2010 Accomplishments: FY 2011 Plans: FY 2012 Base Plans: Increment II payload development to include detailed design and test planning. A prototype will be built and an System Requirements Review (SRR) conducted with a requirements flow down and system integration focus. FY 2012 OCO Plans:							-	-	15.000	-	15.000
Title: System Test & Eval/Aircraft Integration Description: Conduct payload performance and interoperability testing.							-	-	9.917	-	9.917

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604270F: <i>EW Development</i>	PROJECT 657004: <i>MALD-J Increment II</i>
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<u>B. Accomplishments/Planned Programs (\$ in Millions)</u>	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
<i>FY 2010 Accomplishments:</i> <i>FY 2011 Plans:</i> <i>FY 2012 Base Plans:</i> Will include design, development, test, aircraft integration and seamless verification. <i>FY 2012 OCO Plans:</i>					
Accomplishments/Planned Programs Subtotals	-	-	24.917	-	24.917

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

<u>Line Item</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012 Base</u>	<u>FY 2012 OCO</u>	<u>FY 2012 Total</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• PE 0207442F: <i>MALD/MALD-J/Inc II, APAF procurement</i>	109.216	87.628	83.022	0.000	83.022	86.472	88.466	90.173	91.371	Continuing	Continuing

D. Acquisition Strategy

Technology Development contract is CPFF. Acquisition strategy approval for Engineering and Manufacturing Development is forecasted for Sep 11.

E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air 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-3, RDT&E Project Cost Analysis: PB 2012 Air Force											DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY					R-1 ITEM NOMENCLATURE				PROJECT					
3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)					PE 0604270F: EW Development				657004: MALD-J Increment II					
Product Development (\$ in Millions)					FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Technology Development and Demonstration	SS/CPFF	Raytheon Missile Systems:Tucson, AZ	-	-		17.360	Nov 2011	-		17.360	0.000	17.360	0.000	
Subtotal			-	-		17.360		-		17.360	0.000	17.360	0.000	
Remarks														
Includes such things as Air Vehicle, Systems Engineering and Containers														
Support (\$ in Millions)					FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Aircraft Integration	MIPR	B-52 and F-16 Program Offices:Various,	-	-		0.858	Dec 2011	-		0.858	0.000	0.858	0.000	
Mission Planning	Various	Various:Various,	-	-		2.057	Jan 2012	-		2.057	0.000	2.057	0.000	
Subtotal			-	-		2.915		-		2.915	0.000	2.915	0.000	
Test and Evaluation (\$ in Millions)					FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Developmental and Operational Test Support/ Modeling & Simulation	Various	Various:,	-	-		1.338		-		1.338	0.000	1.338	0.000	
Subtotal			-	-		1.338		-		1.338	0.000	1.338	0.000	
Management Services (\$ in Millions)					FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Program Office/Government Support	Various	Not specified.:	-	-		3.304		-		3.304	0.000	3.304	0.000	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force										DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>					R-1 ITEM NOMENCLATURE PE 0604270F: <i>EW Development</i>					PROJECT 657004: <i>MALD-J Increment II</i>			

Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		3.304		-		3.304	0.000	3.304	0.000

Remarks
 Program Office/Government Support includes miscellaneous administrative costs, travel, supplies and equipment, program management administration, information technology support, and AAC/EB Directorate Support.

	Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	-		24.917		-		24.917	0.000	24.917	0.000

Remarks
 FY10 and FY11 funding in Project 655305

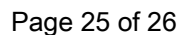
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APPROPRIATION/BUDGET ACTIVITY
3600: *Research, Development, Test & Evaluation, Air Force*
BA 5: *Development & Demonstration (SDD)*

PROJECT
657004: MALD-J Increment II

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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604270F: <i>EW Development</i>	PROJECT 657004: <i>MALD-J Increment II</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Tech Development	1	2012	2	2014
Engineering Manufacturing Development	3	2014	4	2015
Operational Test & Evaluation	1	2016	4	2016

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE							
3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>				PE 0604280F: <i>JOINT TACTICAL RADIO SYSTEMS (JTRS)</i>							
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	-	0.631	-	-	-	124.880	52.693	22.976	21.883	Continuing	Continuing
655068: <i>Joint Tactical Radio System (JTRS)</i>	-	0.631	-	-	-	124.880	52.693	22.976	21.883	Continuing	Continuing

A. Mission Description and Budget Item Justification

The JTRS Budget Item Justification is found in the Navy's FY 2012 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) 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 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	-	0.631	180.364	-	180.364
Current President's Budget	-	0.631	-	-	-
Total Adjustments	-	-	-180.364	-	-180.364
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-	-	-180.364	-	-180.364

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)	R-1 ITEM NOMENCLATURE PE 0604280F: JOINT TACTICAL RADIO SYSTEMS (JTRS)	
<p><u>Change Summary Explanation</u></p> <p>The JTRS development program is a joint program managed through the JTRS JPEO. Each of the joint services, including the Air Force, transfers its funding to the Navy's budget under Joint Tactical Radio System Program (PE 0604280N, BA 5). This annual transfer of funds to the Navy PE is the cause of the seemingly drastic change from current to future fiscal years. The reduction in funding in RDT&E predicted from FY 2013 to 2016 is based upon the anticipated maturation of program development.</p>		

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force									DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0604280F: JOINT TACTICAL RADIO SYSTEMS (JTRS)				PROJECT 655068: Joint Tactical Radio System (JTRS)			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
655068: Joint Tactical Radio System (JTRS)	-	0.631	-	-	-	124.880	52.693	22.976	21.883	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

The JTRS Budget Item Justification is found in the Navy's FY 2012 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) 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 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: JTRS	-	0.631	-	-	-
Description: The JTRS budget justification will be found in the Navy's FY 2012 President's Budget under Joint Tactical Radio System Program (PE 0604280N, BA 5).					
FY 2010 Accomplishments:					
FY 2011 Plans: The JTRS budget justification will be found in the Navy's FY 2012 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 2012 Base Plans:					

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force						DATE: February 2011						
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>			R-1 ITEM NOMENCLATURE PE 0604280F: <i>JOINT TACTICAL RADIO SYSTEMS (JTRS)</i>			PROJECT 655068: <i>Joint Tactical Radio System (JTRS)</i>						
B. Accomplishments/Planned Programs (\$ in Millions)						FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total		
The JTRS budget justification will be found in the Navy's FY 2012 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.												
<i>FY 2012 OCO Plans:</i>												
Accomplishments/Planned Programs Subtotals						-	0.631	-	-	-		
C. Other Program Funding Summary (\$ in Millions)												
	<u>Line Item</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012 Base</u>	<u>FY 2012 OCO</u>	<u>FY 2012 Total</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
•	N/A:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
D. Acquisition Strategy												
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-3, RDT&E Project Cost Analysis: PB 2012 Air Force										DATE: February 2011				
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)					R-1 ITEM NOMENCLATURE PE 0604280F: JOINT TACTICAL RADIO SYSTEMS (JTRS)				PROJECT 655068: Joint Tactical Radio System (JTRS)					
Product Development (\$ in Millions)					FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
The JTRS budget justification will be found in the Navy's FY 2012 President's Budget under Joint Tactical Radio System Program (PE 0604280N, BA 5).	TBD	TBD:TBD,	-	0.631	Oct 2010	-	Oct 2011	-		-	Continuing	Continuing	TBD	
Subtotal			-	0.631		-		-		-				
Support (\$ in Millions)					FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Subtotal			-	-		-		-		-	0.000	0.000	0.000	
Test and Evaluation (\$ in Millions)					FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Subtotal			-	-		-		-		-	0.000	0.000	0.000	
Management Services (\$ in Millions)					FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Subtotal			-	-		-		-		-	0.000	0.000	0.000	
			Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract	
Project Cost Totals			-	0.631		-		-		-				
Remarks														

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

3600: *Research, Development, Test & Evaluation, Air Force*
BA 5: *Development & Demonstration (SDD)*

R-1 ITEM NOMENCLATURE

PE 0604280F: *JOINT TACTICAL RADIO
SYSTEMS (JTRS)*

PROJECT

655068: *Joint Tactical Radio System (JTRS)*



U.S. AIR FORCE

JTRS Development Schedule

The JTRS budget justification will be found in the Navy's FY 2012 Budget under Joint Tactical Radio System program (PE0604280N, BA 5) since the JTRS program is a joint program and the funding resides in the Navy's budget.

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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604280F: <i>JOINT TACTICAL RADIO SYSTEMS (JTRS)</i>	PROJECT 655068: <i>Joint Tactical Radio System (JTRS)</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
The JTRS budget justification will be found in the Navy's FY 2012 Budget under Joint Tactical Radio System Program (PE 0604280N, BA 5) since the JTRS program is a joint program.	1	2010	4	2012

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY

3600: *Research, Development, Test & Evaluation, Air Force*
BA 5: *Development & Demonstration (SDD)*

R-1 ITEM NOMENCLATURE

PE 0604281F: *TACTICAL DATA NETWORKS ENTERPRISE*

COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	160.316	132.941	52.355	-	52.355	32.351	37.081	30.846	31.438	Continuing	Continuing
655050: <i>TDL System Integration</i>	57.784	67.842	34.934	-	34.934	28.135	31.569	30.846	31.438	Continuing	Continuing
655262: <i>Family of Gateways</i>	102.532	65.099	17.421	-	17.421	4.216	5.512	-	-	Continuing	Continuing

Note

FY 2011 funding totals include \$30.0M requested for Overseas Contingency Operations.

The program funding includes reductions for reports/studies/boards efficiencies that are not intended to impact program content. The efficiencies reductions total \$0.509M in FY 2012.

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 waveform development/management 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 networking capabilities to support legacy, current, in-development, and future systems across all domains of information exchange that enables 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 down to the tactical edge in support of the warfighter.

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 Network. 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 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 Tactical Data Link technologies, such as Tactical Targeting Network Technology (TTNT), and Multifunction Advanced Data Link (MADL).

Funding also supports Family of Gateway 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 to produce operational effects not possible within individual networks. Gateway functions include enabling interoperability between data formats, protocols, and communication mediums. Additionally, gateway functions extend the range of connectivity, consolidate data from multiple networks into high capacity links for transmission to key C4ISR nodes, routes information between disadvantaged users, and correlates data from multiple sources to improve accuracy. Gateway functions also provide

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604281F: <i>TACTICAL DATA NETWORKS ENTERPRISE</i>
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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.

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 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	87.444	132.941	67.790	-	67.790
Current President's Budget	160.316	132.941	52.355	-	52.355
Total Adjustments	72.872	-	-15.435	-	-15.435
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	78.192	-			
• SBIR/STTR Transfer	-4.624	-			
• Other Adjustments	-0.696	-	-15.435	-	-15.435

Congressional Add Details (\$ in Millions, and Includes General Reductions)

Project: 655262: *Family of Gateways*

Congressional Add: *Battlefield Airborne Communications Node*

Congressional Add Subtotals for Project: 655262

Congressional Add Totals for all Projects

FY 2010	FY 2011
79.300	-
79.300	-
79.300	-

Change Summary Explanation

FY 2011 budget reflects implementation, testing, and initial fielding of the BACN capability on the Global Hawk platform (under the Family of Gateways project).

FY 2012 funding reduction due to cancellation of Network Enabled Weapons efforts and realignment of funding for higher AF priorities.

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE				PROJECT			
3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>				PE 0604281F: <i>TACTICAL DATA NETWORKS ENTERPRISE</i>				655050: <i>TDL System Integration</i>			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
655050: <i>TDL System Integration</i>	57.784	67.842	34.934	-	34.934	28.135	31.569	30.846	31.438	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

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 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 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. 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 Tactical Data Link technologies, such as Tactical Targeting Network Technology (TTNT), and Multifunction Advanced Data Link (MADL).

The number of Air Force platforms hosting TDLs is expanding from C2 aircraft (E-3, E-8, etc.) to the fighter, bomber, 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.

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), Network Enabled Weapons (NEW), Initial Fielding Support (IFS), Coalition Interoperability, Cursor on Target, 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), Data Link Test Facility (DTF), Air Force Participating Test Unit (AFPTU), Network Centric Capability Assessment (NCCA), the Joint Warfighting Integrated NetOps (JWIN) Joint Concept Technology Demonstration (JCTD), Tactical Communications Suite (TCS), and Global UAS Networking and Interoperability System (GUNIS). Funding will ensure continued enhanced interoperability of Air Force and joint assets through efforts such as the development/coordination of all TDN standards and management capabilities, configuration management, platform/system interoperability assessments, participation in the Future Airborne Capability Environment (FACE) consortium, and interoperability certification testing.

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)	R-1 ITEM NOMENCLATURE PE 0604281F: TACTICAL DATA NETWORKS ENTERPRISE	PROJECT 655050: TDL System Integration				
Activities also include studies and analysis to support both current program planning and execution and future program planning efforts for Tactical Data Networks.						
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 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: Joint Interoperability of Tactical Command and Control Systems (JINTACCS) Description: JINTACCS efforts include JINTACCS, iSMART, and AFPTU. JINTACCS ensures interoperability of AF TDL systems with associated joint, allied, and coalition systems and includes development, interoperability certification, TDL message standard implementation (e.g., Links 11A/B, 16, 22, VMF, IBS, MADL), and configuration management of standards. FY 2010 Accomplishments: Ensured compatibility and interoperability of Tactical Data Links by conducting necessary joint compatibility and interoperability tests. FY 2011 Plans: Ensures compatibility and interoperability of Tactical Data Links by conducting necessary joint compatibility and interoperability tests. FY 2012 Base Plans: Funding will ensure compatibility and interoperability of Tactical Data Links by conducting necessary joint compatibility and interoperability tests. FY 2012 OCO Plans:		5.950	8.876	8.547	-	8.547
Title: Link 16 Support and Sustainment Description: Link 16 Support and Sustainment efforts include enhancements to Link 16. FY 2010 Accomplishments: Supported enhancements to the Link 16 network. FY 2011 Plans:		12.312	15.445	4.360	-	4.360

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011				
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)		R-1 ITEM NOMENCLATURE PE 0604281F: TACTICAL DATA NETWORKS ENTERPRISE		PROJECT 655050: TDL System Integration			
B. Accomplishments/Planned Programs (\$ in Millions)			FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Funding supports and enables enhancements to the Link 16 network to include the development and prototyping of the Enhanced 1553 bus chipset. FY 2012 Base Plans: Funding will support and enable enhancements to the Link 16 network to include the completion of the Enhanced 1553 bus chipset prototype effort. FY 2012 OCO Plans:							
Title: TDN Integration Description: TDN Integration efforts include JSS, IFS, DTF, NCCA, JAN-TE, GUNIS, Coalition Interoperability, JALN AoA, and JWIN JCTD. FY 2010 Accomplishments: Provided training, logistics, development, and certification to individual TDL implementations to joint/allied standards. FY 2011 Plans: Funding provides training, logistics, development, and certification to individual TDL implementations to joint/allied standards. This includes testing and fielding support of JSS. FY 2012 Base Plans: Funding will provide training, logistics, development, and certification to individual TDL implementations to joint/allied standards. This includes completion of JSS technical documentation in preparation for transition to sustainment. FY 2012 OCO Plans:			21.080	16.704	12.581	-	12.581
Title: Network Enabled Weapons (NEW) Description: Network Enabled Weapons efforts standardize weapon additions to the tactical data network; enhance precision-guided munitions effectiveness through target updates, in-flight tracking, hit indication, and abort messages; and improves operational assessment, re-strike decisions, and ISR tasking decisions. FY 2010 Accomplishments:			3.014	1.000	-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)		R-1 ITEM NOMENCLATURE PE 0604281F: TACTICAL DATA NETWORKS ENTERPRISE		PROJECT 655050: TDL System Integration	
B. Accomplishments/Planned Programs (\$ in Millions)					
	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Integrated network enabled weapons into current and future warfighting capabilities within the airborne network enterprise. FY 2011 Plans: Completes Link 16 message standard update allowing the integration of network enabled weapons into current and future warfighting capabilities within the airborne network enterprise. FY 2012 Base Plans: FY 2012 OCO Plans:					
Title: Situational Awareness Data Link (SADL) Description: Situational Awareness Data Link is based on the U.S. Army Enhanced Position Location and Reporting System (EPLRS) radio. SADL provides the means for message translation and Link 16 gateway functionality for tactical exchange of situational awareness and command & control data. FY 2010 Accomplishments: Provided a secure, robust Air-Air and Air-Ground data link and a means to interoperate with Link 16 through a gateway. FY 2011 Plans: FY 2012 Base Plans: Funding will develop and integrate capability enhancements to update crypto, facilitate imagery exchange, and support multiple tactical user groups within the network. FY 2012 OCO Plans:	2.004	-	1.734	-	1.734
Title: Quick Reaction Capabilities Description: Quick Reaction Capabilities include BACN JUON and CABLE. FY 2010 Accomplishments: Supported AF rapid acquisition requirements for communications bridging of waveforms through Gateway technology. FY 2011 Plans:	3.720	4.403	0.685	-	0.685

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force				DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)		R-1 ITEM NOMENCLATURE PE 0604281F: TACTICAL DATA NETWORKS ENTERPRISE		PROJECT 655050: TDL System Integration		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Supports AF rapid acquisition requirements for communications bridging of waveforms through Gateway technology. FY 2012 Base Plans: Funding will support AF rapid acquisition requirements for communications bridging of waveforms through Gateway technology. FY 2012 OCO Plans:						
Title: Common Link Integration Processing (CLIP) Description: Common Link Integration Processing efforts provide Link 16 and Joint Range Extension Application Protocol (JREAP) A & C message processing to the B-1B FIDL and B-52 Platforms via a software upgrade. FY 2010 Accomplishments: FY 2011 Plans: Provides an enterprise solution for Link-16 and Joint Range Extension Application Protocol (JREAP) message processing. FY 2012 Base Plans: FY 2012 OCO Plans:		-	10.657	-	-	-
Title: Joint Air Defense System Integrator (JADSI) Description: Joint Air Defense System Integrator efforts provide command & control centers a common tactical picture by receiving, processing, and correlating TDL, intelligence, and radar feeds. FY 2010 Accomplishments: Provided a software and hardware package that connects and translates between multiple communication devices and provides situational awareness. FY 2011 Plans: FY 2012 Base Plans:		4.664	-	2.285	-	2.285

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)		R-1 ITEM NOMENCLATURE PE 0604281F: TACTICAL DATA NETWORKS ENTERPRISE		PROJECT 655050: TDL System Integration	
B. Accomplishments/Planned Programs (\$ in Millions)					
	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Funding will provide for 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. FY 2012 OCO Plans:					
Title: Cursor on Target (CoT) Description: A set of data and message translation services utilizing an Extensible Mark-up Language (XML) schema and on-line web service to route targeting information to warfighters at the tactical edge of operations. Supports future development, test, certification, and accreditation of modifications to the XML schema. FY 2010 Accomplishments: FY 2011 Plans: FY 2012 Base Plans: Funding will support development, test, certification, and accreditation of modifications to the CoT XML schema. FY 2012 OCO Plans:	-	-	1.495	-	1.495
Title: Other Gateways Description: Other Gateways includes the Link-16 Alaska effort that provides communications infrastructure modernization for the Alaskan AOR through line-of-sight and beyond-line-of-sight Link 16 communications to facilitate early detection, identification, and intercept of potential threat aircraft. FY 2010 Accomplishments: Developed and tested upgrade software for communications infrastructure modernization for the Alaskan AOR through LOS and beyond LOS Link 16 communications. FY 2011 Plans: Provides for developmental and operation testing of communications infrastructure modernization for the Alaskan AOR through LOS and beyond LOS Link 16 communications. FY 2012 Base Plans:	5.040	10.757	3.247	-	3.247

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force									DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0604281F: TACTICAL DATA NETWORKS ENTERPRISE				PROJECT 655050: TDL System Integration			
B. Accomplishments/Planned Programs (\$ in Millions)							FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Funding will provide for completion and transition to sustainment of communications infrastructure modernization for the Alaskan AOR through LOS and beyond LOS Link 16 communications.											
FY 2012 OCO Plans:											
Accomplishments/Planned Programs Subtotals							57.784	67.842	34.934	-	34.934
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• PE 0207445F: Fighter TDL, RDT&E AF	66.592	85.492	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
• PE 0207448F: C2ISR TDL, RDT&E AF	1.604	1.584	1.536	0.000	1.536	1.626	1.650	1.674	1.703	Continuing	Continuing
• PE 0207445F (2): Fighter TDL, APAF	9.585	0.929	0.741	0.000	0.741	0.000	14.609	14.610	14.361	Continuing	Continuing
• PE 0207446F: Bomber TDL, APAF	0.000	0.000	0.000	0.000	0.000	0.000	1.796	1.756	1.506	Continuing	Continuing
• PE 0207448F (4): C2ISR TDL, APAF	0.000	0.000	0.957	0.000	0.957	0.910	0.925	1.726	1.756	Continuing	Continuing
• PE 0604281F: TDN Enterprise, APAF	18.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
• PE 0207448F (6): C2ISR TDL, OPAF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	7.732	15.464	Continuing	Continuing
• PE 0604281F (7): TDN Enterprise, OPAF	34.613	21.742	10.498	0.000	10.498	0.269	0.248	0.169	0.170	Continuing	Continuing
• PE 0207434F: Link 16 Support & Sustainment, O&M AF	18.621	0.000	0.000	0.000	0.000	0.000	1.766	3.333	5.391	Continuing	Continuing
• PE 0207445F (9): Fighter TDL, O&M AF	0.155	0.221	0.217	0.000	0.217	0.246	0.248	0.253	0.259	Continuing	Continuing
• PE 0401839F: Air Mobility TDL, O&M AF	7.862	7.892	2.054	0.000	2.054	0.112	0.149	1.338	1.365	Continuing	Continuing
	261.763	31.318	39.867	0.000	39.867	33.886	36.705	37.662	38.612	Continuing	Continuing

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force										DATE: February 2011	
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>				R-1 ITEM NOMENCLATURE PE 0604281F: <i>TACTICAL DATA NETWORKS</i> <i>ENTERPRISE</i>				PROJECT 655050: <i>TDL System Integration</i>			
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
<ul style="list-style-type: none"> • PE 0604281F (11): <i>TDN Enterprise, O&M AF</i> 											
D. Acquisition Strategy											
<p>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 systems. Platform acquisition strategies vary by program, but the majority of development and integration is normally accomplished by the weapon system prime contractor.</p>											
E. Performance Metrics											
<p>Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.</p>											

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force										DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0604281F: TACTICAL DATA NETWORKS ENTERPRISE				PROJECT 655050: TDL System Integration					
Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
JSS development efforts	C/CPAF	Northrop Grumman:San Diego, CA	75.351	-		-		-		-	Continuing	Continuing	TBD
GUNIS development efforts	SS/FFP	CoCo Communications:Seattle, WA	4.000	-		-		-		-	Continuing	Continuing	TBD
SADL development efforts	SS/TBD	Raytheon:Fullerton, CA	1.008	-		0.749	May 2012	-		0.749	Continuing	Continuing	TBD
CLIP development efforts	C/CPAF	Northrop Grumman:San Diego, CA	-	10.657	Mar 2011	-		-		-	Continuing	Continuing	TBD
JADSI development efforts	SS/TBD	Ultra Electronics:Austin, TX	3.824	-		1.282	Feb 2012	-		1.282	Continuing	Continuing	TBD
LAK development efforts	SS/CPFF	ProLogic:Manassas, VA	5.040	6.229	Mar 2011	1.601	Mar 2012	-		1.601	Continuing	Continuing	TBD
Subtotal			89.223	16.886		3.632		-		3.632			
Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-	0.000	0.000	0.000
Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
46th Test Squadron	PO	46th Test Squadron:Eglin AFB, FL	9.555	2.605	Oct 2010	2.347	Oct 2011	-		2.347	Continuing	Continuing	TBD
JINTACCS efforts	MIPR	DRS Technical Services:Herndon, VA	25.947	4.550	Feb 2011	4.687	Feb 2012	-		4.687	Continuing	Continuing	TBD
iSMART efforts	MIPR	DRS Technical Services:Herndon, VA	10.407	1.158	Feb 2011	1.192	Feb 2012	-		1.192	Continuing	Continuing	TBD
AFPTU efforts	Various	Various:Various,	12.550	3.168	May 2011	3.291	May 2012	-		3.291	Continuing	Continuing	TBD

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force										DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0604281F: TACTICAL DATA NETWORKS ENTERPRISE				PROJECT 655050: TDL System Integration					
Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Link 16 enhancements	SS/FFP	Edgewater Systems:Ottawa, Canada,	13.889	15.445	Jan 2011	4.360	Jan 2012	-		4.360	Continuing	Continuing	TBD
JALN AoA efforts	MIPR	Booz Allen Hamilton:McLean, VA	-	2.373	Jan 2011	1.175	Jan 2012	-		1.175	Continuing	Continuing	TBD
JWIN JCTD efforts	MIPR	TBD:TBD,	-	1.450	Feb 2011	1.000	Feb 2012	-		1.000	Continuing	Continuing	TBD
Quick Reaction Capabilities IDIQ effort	TBD	TBD:TBD,	-	1.500	Jul 2011	-		-		-	Continuing	Continuing	TBD
Various Test Centers, Test Equipment, Vehicle Maintenance, Freight Shipping, etc.	Various	Various:Various,	5.476	2.787	Jan 2011	0.945	Jan 2012	-		0.945	Continuing	Continuing	TBD
Subtotal			77.824	35.036		18.997		-		18.997			
Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
A&AS support	C/Various	Various:Various,	7.680	8.662	Jan 2011	5.552	Jan 2012	-		5.552	Continuing	Continuing	TBD
FFRDC support	C/Various	Various:Various,	9.020	6.392	Oct 2010	6.014	Oct 2011	-		6.014	Continuing	Continuing	TBD
Travel, Government Purchase Cards, Telephones, etc.	Various	Various:Various,	0.467	0.866	Jan 2011	0.739	Jan 2012	-		0.739	Continuing	Continuing	TBD
Subtotal			17.167	15.920		12.305		-		12.305			
			Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			184.214	67.842		34.934		-		34.934			
Remarks													

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

3600: Research, Development, Test & Evaluation, Air Force
BA 5: Development & Demonstration (SDD)

R-1 ITEM NOMENCLATURE

PE 0604281F: TACTICAL DATA NETWORKS
ENTERPRISE

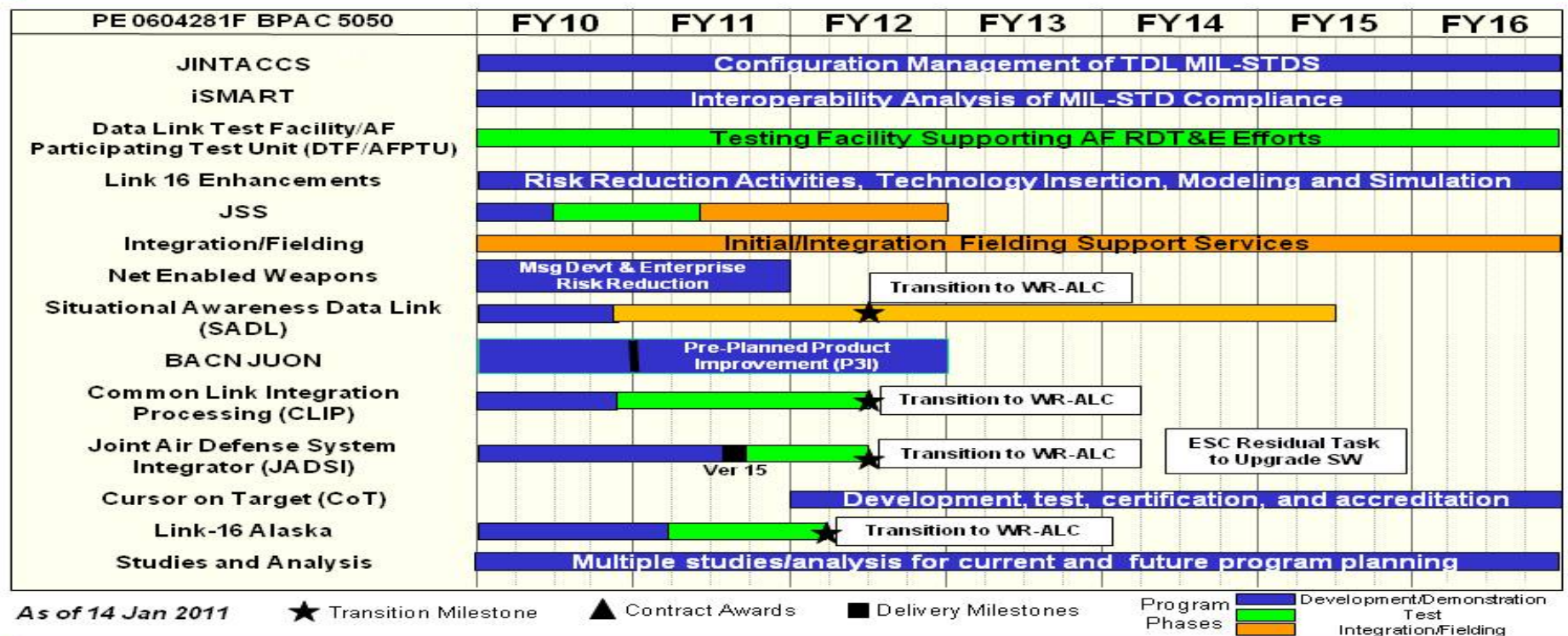
PROJECT

655050: TDL System Integration



Tactical Data Networks Enterprise/ Tactical Data Link System Integration

14 January 2011



Integrity - Service - Excellence

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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

3600: *Research, Development, Test & Evaluation, Air Force*
BA 5: *Development & Demonstration (SDD)*

R-1 ITEM NOMENCLATURE

PE 0604281F: *TACTICAL DATA NETWORKS*
ENTERPRISE

PROJECT

655050: *TDL System Integration*

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Joint Interoperability of Tactical Command and Control Systems (JINTACCS)	1	2010	4	2016
Interoperable System Management and Requirements Transformation (iSMART)	1	2010	4	2016
Data Link Test Facility/Air Force Participating Test Unit (DTF/AFPTU)	1	2010	4	2016
Link 16 Enhancements	1	2010	4	2016
Joint Interoperability Control Officer Support System (JSS) development	1	2010	2	2010
JSS Integration/Fielding	2	2011	4	2012
Integration/Fielding	1	2010	4	2016
Network Enabled Weapons	1	2010	4	2011
Situational Awareness Data Link (SADL) Development	1	2010	4	2010
SADL Integration/Fielding	4	2010	2	2015
SADL Transition to WR-ALC	2	2012	2	2012
Battlefield Airborne Communication Node (BACN) Joint Urgent Operational Need (JUON) Development	1	2010	4	2010
BACN JUON Delivery	4	2010	4	2010
BACN JUON Pre-Planned Product Improvement (P3I)	1	2011	4	2012
Common Link Integration Processing (CLIP) Development	1	2010	3	2010
CLIP Test	4	2010	2	2012
CLIP Transition to WR-ALC	3	2012	3	2012
Joint Air Defense System Integrator (JADSI) Development	1	2010	3	2011
JADSI Test	3	2011	2	2012
JADSI Ver 15 Delivery	3	2011	3	2011
JADSI Transition to WR-ALC	3	2012	3	2012
Cursor on Target	1	2012	4	2016

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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604281F: <i>TACTICAL DATA NETWORKS</i> <i>ENTERPRISE</i>	PROJECT 655050: <i>TDL System Integration</i>	

Events	Start		End	
	Quarter	Year	Quarter	Year
Link 16 Alaska (LAK) Development	1	2010	1	2011
LAK Test	2	2011	1	2012
LAK Transition to WR-ALC	2	2012	2	2012
TDN Integration Studies and Analysis	1	2010	4	2016

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604281F: <i>TACTICAL DATA NETWORKS ENTERPRISE</i>	PROJECT 655262: <i>Family of Gateways</i>
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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
655262: <i>Family of Gateways</i>	102.532	65.099	17.421	-	17.421	4.216	5.512	-	-	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

Note

FY 2011 funding totals include \$30.0M requested for Overseas Contingency Operations.

A. Mission Description and Budget Item Justification

Funding supports Family of Gateway 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 to produce operational effects not possible within individual networks. Gateway functions include enabling interoperability between data formats, protocols, and communication mediums. Additionally, gateway functions extend the range of connectivity, 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) 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.

Efforts in this project include waveform, ground, and quick reaction capability activities.

Waveforms:

Waveform activities include, but are not limited to Common Link Integration Processing (CLIP) and Situational Awareness Data Link (SADL). 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 digitized battlefield via the US Army's Enhanced Position Location Reporting System (EPLRS).

Ground:

Ground activities include, but are not limited to the Joint Air Defense System Integrator (JADSI), Joint Range Extension (JRE) functionality [which includes the JRE Transparent Multi-Platform Gateway (TMPG) Equipment Package (JTEP)], 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:

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)	R-1 ITEM NOMENCLATURE PE 0604281F: TACTICAL DATA NETWORKS ENTERPRISE	PROJECT 655262: Family of Gateways				
Quick Reaction Capability activities include, but are not limited to, BACN, Communications Airborne Layer Expansion (CABLE), and STRATCOM DNC2. Funding will support AF rapid acquisition requirements for communications bridging of waveforms through Gateway technology. Additionally, funding will be utilized for STRATCOM classified capabilities.						
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) 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 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: Common Link Integration Processing (CLIP) Description: Common Link Integration Processing efforts provide Link 16 and Joint Range Extension Application Protocol (JREAP) A & C message processing to the B-1B FIDL and B-52 Platforms via a software upgrade. FY 2010 Accomplishments: Provided an enterprise solution for Link-16 and Joint Range Extension Application Protocol (JREAP) message processing. FY 2011 Plans: Provides an enterprise solution for Link-16 and Joint Range Extension Application Protocol (JREAP) message processing. FY 2012 Base Plans: Funding will provide an enterprise solution for Link-16 and Joint Range Extension Application Protocol (JREAP) message processing. FY 2012 OCO Plans:		16.891	9.618	5.006	-	5.006
Title: Other Gateways Description: Other Gateways includes the Link-16 Alaska effort that provides communications infrastructure modernization for the Alaskan AOR through line-of-sight and beyond-line-of-sight Link 16 communications to facilitate early detection, identification, and intercept of potential threat aircraft. FY 2010 Accomplishments:		3.023	-	-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force				DATE: February 2011				
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)		R-1 ITEM NOMENCLATURE PE 0604281F: TACTICAL DATA NETWORKS ENTERPRISE		PROJECT 655262: Family of Gateways				
B. Accomplishments/Planned Programs (\$ in Millions)				FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Provides for integration of communications infrastructure modernization for the Alaskan AOR through LOS and beyond LOS Link 16 communications. FY 2011 Plans: FY 2012 Base Plans: FY 2012 OCO Plans:								
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 2010 Accomplishments: FY 2011 Plans: Funding supports 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 2012 Base Plans: Funding will support 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 2012 OCO Plans:				-	17.951	12.415	-	12.415
Title: Situational Awareness Data Link (SADL) Description: Situational Awareness Data Link is the Link 16 gateway for exchange of situational awareness and command & control data based on U.S. Army Enhanced Position Location and Reporting System (EPLRS) radio. This activity develops and integrates capability enhancements to update crypto, facilitate imagery exchange, and support multiple tactical user groups within the network. FY 2010 Accomplishments: FY 2011 Plans:				-	3.072	-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force				DATE: February 2011	
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)		R-1 ITEM NOMENCLATURE PE 0604281F: TACTICAL DATA NETWORKS ENTERPRISE		PROJECT 655262: Family of Gateways	
B. Accomplishments/Planned Programs (\$ in Millions)					
	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Provides a secure, robust Air-Air and Air-Ground data link and a means to interoperate with Link 16 through a gateway. FY 2012 Base Plans: FY 2012 OCO Plans:					
Title: Link 16 Pocket J Description: Pocket J efforts provide for the primary ground-based TDL gateway supporting North American Aerospace Defense Command (NORAD) air sovereignty mission for Continental United States (CONUS) and President of the United States support. FY 2010 Accomplishments: FY 2011 Plans: Funding supports update to technical documents and fielding support for the primary ground-based TDL gateway supporting NORAD air sovereignty mission for CONUS and POTUS support. FY 2012 Base Plans: FY 2012 OCO Plans:	-	0.828	-	-	-
Title: Joint Air Defense System Integrator (JADSI) Description: Joint Air Defense System Integrator efforts provide command & control centers a common tactical picture by receiving, processing, and correlating TDL, intelligence, and radar feeds. FY 2010 Accomplishments: FY 2011 Plans: Funding provides for testing of a software and hardware package that connects and translates between multiple communication devices and provides situational awareness. FY 2012 Base Plans: FY 2012 OCO Plans:	-	1.961	-	-	-
Title: J-Range Ext/Transparent Equip Pkg (JRE/JTEP)	3.318	1.669	-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)		R-1 ITEM NOMENCLATURE PE 0604281F: TACTICAL DATA NETWORKS ENTERPRISE		PROJECT 655262: Family of Gateways	
B. Accomplishments/Planned Programs (\$ in Millions)					
	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Description: JRE efforts provide for TDL translation, routing, and forwarding between Link 16 and SADL networks. JTEP efforts provide for connection of line-of-sight networks and long-haul beyond-line-of-sight networks using serial and satellite links. FY 2010 Accomplishments: Supported development and testing (operational and joint interoperability) of a TDL translator, router, and forwarder connection of LOS networks and long-haul BLOS networks using serial and satellite links. FY 2011 Plans: Funding supports fielding and completion of technical activities in preparation for transition to sustainment. FY 2012 Base Plans: FY 2012 OCO Plans:					
Title: Quick Reaction Capabilities Description: Quick Reaction Capabilities include BACN JUON and CABLE. FY 2010 Accomplishments: FY 2011 Plans: OCO funding supports BACN pre-planned product improvement (P3I), development, integration, and testing of multiple, high-capacity voice and data links. FY 2012 Base Plans: FY 2012 OCO Plans:	-	30.000	-	-	-
Accomplishments/Planned Programs Subtotals	23.232	65.099	17.421	-	17.421
	FY 2010	FY 2011			
Congressional Add: Battlefield Airborne Communications Node FY 2010 Accomplishments: Congressional add for BACN previously in PE 0207434, Link 16 Support and Sustainment, due to an error. FY 2011 Plans:	79.300	-			
Congressional Adds Subtotals	79.300	-			

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)	R-1 ITEM NOMENCLATURE PE 0604281F: TACTICAL DATA NETWORKS ENTERPRISE	PROJECT 655262: Family of Gateways	

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

<u>Line Item</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u> <u>Base</u>	<u>FY 2012</u> <u>OCO</u>	<u>FY 2012</u> <u>Total</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• PE 0207445F: <i>Fighter2 TDL, RDT&E AF</i>	66.592	85.492	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
• PE 0207448F: <i>C2ISR TDL, RDT&E AF</i>	1.604	1.584	1.536	0.000	1.536	1.626	1.650	1.674	1.703	Continuing	Continuing
• PE 0207445F (2): <i>Fighter TDL, APAF</i>	9.585	0.929	0.741	0.000	0.741	0.000	14.609	14.610	14.361	Continuing	Continuing
• PE 0207446F: <i>Bomber TDL, APAF</i>	0.000	0.000	0.000	0.000	0.000	0.000	1.796	1.756	1.506	Continuing	Continuing
• PE 0207448F (4): <i>C2ISR TDL, APAF</i>	0.000	0.000	0.957	0.000	0.957	0.910	0.925	1.726	1.756	Continuing	Continuing
• PE 0604281F: <i>TDN Enterprise, APAF</i>	18.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
• PE 0207448F (6): <i>C2ISR TDL, OPAF</i>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	7.732	15.464	Continuing	Continuing
• PE 0604281F (7): <i>TDN Enterprise, OPAF</i>	34.613	21.742	10.498	0.000	10.498	0.269	0.248	0.169	0.170	Continuing	Continuing
• PE 0207434F: <i>Link 16 Support & Sustainment, O&M AF</i>	18.621	0.000	0.000	0.000	0.000	0.000	1.766	3.333	5.391	Continuing	Continuing
• PE 0207445F (9): <i>Fighter TDL, O&M AF</i>	0.155	0.221	0.217	0.000	0.217	0.246	0.248	0.253	0.259	Continuing	Continuing
• PE 0401839F: <i>Air Mobility TDL, O&M AF</i>	7.862	7.892	2.054	0.000	2.054	0.112	0.149	1.338	1.365	Continuing	Continuing
• PE 0604281F (11): <i>TDN Enterprise, O&M AF</i>	261.763	31.318	39.867	0.000	39.867	33.886	36.705	37.662	38.612	Continuing	Continuing

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.

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604281F: <i>TACTICAL DATA NETWORKS</i> <i>ENTERPRISE</i>	PROJECT 655262: <i>Family of Gateways</i>

E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air 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-3, RDT&E Project Cost Analysis: PB 2012 Air Force **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)	R-1 ITEM NOMENCLATURE PE 0604281F: TACTICAL DATA NETWORKS ENTERPRISE	PROJECT 655262: Family of Gateways
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Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
CLIP development efforts	C/CPAF	Northrop Grumman:San Diego, CA	69.253	3.847	Mar 2011	3.414	Mar 2012	-		3.414	Continuing	Continuing	TBD
LAK development efforts	SS/CPFF	ProLogic:Manassas, VA	18.763	-		-		-		-	Continuing	Continuing	TBD
SADL development efforts	SS/TBD	Raytheon:Fullerton, CA	7.753	1.418	May 2011	-		-		-	Continuing	Continuing	TBD
JRE/JTEP development efforts	SS/FFP	L-3 Communications:San Diego, CA	11.911	0.508	Jan 2011	-		-		-	Continuing	Continuing	TBD
Pocket J development efforts	SS/FFP	ProLogic:Fairmont, VA	10.206	0.258	Feb 2011	-		-		-	Continuing	Continuing	TBD
JADSI development efforts	SS/TBD	Ultra Electronics:Austin, TX	13.554	0.669	Feb 2011	-		-		-	Continuing	Continuing	TBD
BACN JUON development efforts	SS/CPFF	Northrop Grumman:San Diego, CA	172.715	18.684	Apr 2011	-		-		-	Continuing	Continuing	TBD
Subtotal			304.155	25.384		3.414		-		3.414			

Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-	0.000	0.000	0.000

Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
46th Test Squadron	PO	46th Test Squadron:Eglin AFB, FL	3.618	0.699	Oct 2010	-		-		-	Continuing	Continuing	TBD
CLIP Navy Support	MIPR	SPAWAR:San Diego, CA	18.101	3.323	Nov 2010	0.330	Nov 2011	-		0.330	Continuing	Continuing	TBD
STRATCOM efforts	MIPR	DMEA:McClellan, CA	-	17.951	Apr 2011	12.415	Apr 2012	-		12.415	Continuing	Continuing	TBD
	Various	Various:Various,	14.082	6.929	Jan 2011	-		-		-	Continuing	Continuing	TBD

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force											DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>				R-1 ITEM NOMENCLATURE PE 0604281F: <i>TACTICAL DATA NETWORKS ENTERPRISE</i>					PROJECT 655262: <i>Family of Gateways</i>					

Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Various Test Centers, Test Equipment, etc.													
Subtotal			35.801	28.902		12.745		-		12.745			

Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
A&AS support	C/Various	Various:Various,	7.703	4.775	Jan 2011	0.732	Jan 2012	-		0.732	Continuing	Continuing	TBD
FFRDC support	C/Various	Various:Various,	6.869	5.238	Oct 2010	0.480	Oct 2011	-		0.480	Continuing	Continuing	TBD
Travel, Government Purchase Cards, Telephones, etc.	Various	Various:Various,	0.216	0.800	Jan 2011	0.050	Jan 2012	-		0.050	Continuing	Continuing	TBD
Subtotal			14.788	10.813		1.262		-		1.262			

			Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			354.744	65.099		17.421		-		17.421			

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

3600: Research, Development, Test & Evaluation, Air Force
BA 5: Development & Demonstration (SDD)

R-1 ITEM NOMENCLATURE

PE 0604281F: TACTICAL DATA NETWORKS
ENTERPRISE

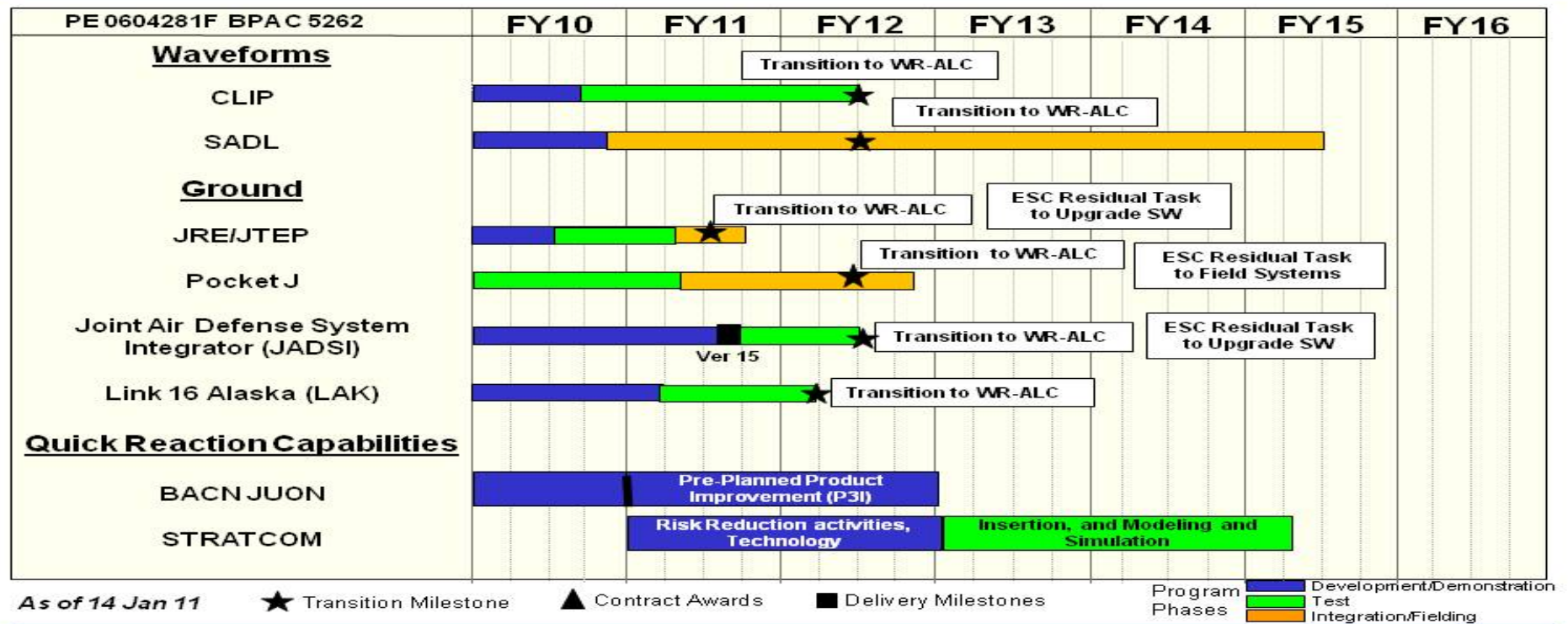
PROJECT

655262: Family of Gateways



Tactical Data Networks Enterprise Family of Gateways Schedules

14 January 2011



Integrity - Service - Excellence

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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

3600: *Research, Development, Test & Evaluation, Air Force*
BA 5: *Development & Demonstration (SDD)*

R-1 ITEM NOMENCLATURE

PE 0604281F: *TACTICAL DATA NETWORKS*
ENTERPRISE

PROJECT

655262: *Family of Gateways*

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Common Link Integration Processing (CLIP) Development	1	2010	3	2010
CLIP Test	4	2010	2	2012
CLIP Transition to WR-ALC	3	2012	3	2012
Situational Awareness Data Link (SADL) Development	1	2010	4	2010
SADL Integration/Fielding	4	2010	2	2015
SADL Transition to WR-ALC	2	2012	2	2012
J-Range Extension/Transparent Equipment Package (JRE/JTEP) Development	1	2010	2	2010
JRE/JTEP Test	3	2010	2	2011
JRE/JTEP Integration/Fielding	2	2011	3	2011
JRE/JTEP Transition to WR-ALC	3	2011	3	2011
Pocket J Test	1	2010	2	2011
Pocket J Integration/Fielding	2	2011	4	2012
Pocket J Transition to WR-ALC	2	2012	2	2012
Joint Air Defense System Integrator (JADSI) Development	1	2010	3	2011
JADSI Test	3	2011	2	2012
JADSI Ver 15 Delivery	3	2011	3	2011
JADSI Transition to WR-ALC	3	2012	3	2012
Link 16 Alaska (LAK) Development	1	2010	1	2011
LAK Test	2	2011	1	2012
LAK Transition to WR-ALC	2	2012	2	2012
Battlefield Airborne Communications Node (BACN) Joint Urgent Operational Need (JUON) Development	1	2010	4	2010
BACN JUON Delivery	4	2010	4	2010

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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604281F: <i>TACTICAL DATA NETWORKS</i> <i>ENTERPRISE</i>	PROJECT 655262: <i>Family of Gateways</i>	

Events	Start		End	
	Quarter	Year	Quarter	Year
BACN JUON Pre-Planned Product Improvement (P3I)	1	2011	4	2012
STRATCOM Risk-Reduction Activities	1	2011	1	2013
STRATCOM Insertion and Modeling and Simulation	1	2013	2	2015

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE							
3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>				PE 0604287F: <i>Physical Security Equipment</i>							
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	0.049	0.050	0.051	-	0.051	0.051	0.050	0.050	0.051	Continuing	Continuing
655120: <i>Physical Security Equipment - SD/ED</i>	0.049	0.050	0.051	-	0.051	0.051	0.050	0.050	0.051	Continuing	Continuing

A. Mission Description and Budget Item Justification

This program is a budget activity level 5 based on the engineering and manufacturing 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 compliment to and in conjunction with the PSE RDT&E programs funded by the DOD Physical Security Equipment Action 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 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.

B. Program Change Summary (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	0.050	0.050	0.051	-	0.051
Current President's Budget	0.049	0.050	0.051	-	0.051
Total Adjustments	-0.001	-	-	-	-
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.001	-			
• Other Adjustments	-	-	-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force									DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0604287F: Physical Security Equipment				PROJECT 655120: Physical Security Equipment - SD/ED			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
655120: Physical Security Equipment - SD/ED	0.049	0.050	0.051	-	0.051	0.051	0.050	0.050	0.051	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

This program is a budget activity level 5 based on the engineering and manufacturing 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 Equipment Action 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 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.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: PHYSICAL SECURITY EQUIPMENT	0.049	0.050	0.051	-	0.051
Description: Demonstration and testing of Physical Security Equipment (PSE) in operational environments					
FY 2010 Accomplishments: Support the demonstration and testing of PSE in operational environments					
FY 2011 Plans: Continue to support the demonstration and testing of PSE in operational environments					
FY 2012 Base Plans: Continue to support the demonstration and testing of PSE in operational environments					
FY 2012 OCO Plans:					
Accomplishments/Planned Programs Subtotals	0.049	0.050	0.051	-	0.051

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604287F: <i>Physical Security Equipment</i>	PROJECT 655120: <i>Physical Security Equipment - SD/ED</i>	

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

<u>Line Item</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u> <u>Base</u>	<u>FY 2012</u> <u>OCO</u>	<u>FY 2012</u> <u>Total</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• N/A:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

D. Acquisition Strategy

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-3, RDT&E Project Cost Analysis: PB 2012 Air Force											DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0604287F: Physical Security Equipment				PROJECT 655120: Physical Security Equipment - SD/ED					

Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost		Cost To Complete	Total Cost	Target Value of Contract
ESC Force Protection (AF)	Various	Hanscom:MA,	0.049	0.050		0.051		-		0.051		0.000	0.150	0.000
Subtotal			0.049	0.050		0.051		-		0.051		0.000	0.150	0.000

Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost		Cost To Complete	Total Cost	Target Value of Contract
			-	-		-		-		-		0.000	0.000	0.000
Subtotal			-	-		-		-		-		0.000	0.000	0.000

Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost		Cost To Complete	Total Cost	Target Value of Contract
			-	-		-		-		-		0.000	0.000	0.000
Subtotal			-	-		-		-		-		0.000	0.000	0.000

Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost		Cost To Complete	Total Cost	Target Value of Contract
			-	-		-		-		-		0.000	0.000	0.000
Subtotal			-	-		-		-		-		0.000	0.000	0.000

			Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total		Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			0.049	0.050		0.051		-		0.051		0.000	0.150	0.000

Remarks

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APPROPRIATION/BUDGET ACTIVITY
3600: *Research, Development, Test & Evaluation, Air Force*
BA 5: *Development & Demonstration (SDD)*

DATE: February 2011

R-1 ITEM NOMENCLATURE
PE 0604287F: *Physical Security Equipment*

PROJECT
655120: <i>Physical Security Equipment - SD/ED</i>

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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604287F: <i>Physical Security Equipment</i>	PROJECT 655120: <i>Physical Security Equipment - SD/ED</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Demonstration and testing of PSE in operational environments	1	2011	4	2012

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY

3600: *Research, Development, Test & Evaluation, Air Force*
BA 5: *Development & Demonstration (SDD)*

R-1 ITEM NOMENCLATURE

PE 0604329F: *Small Diameter Bomb*

COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	150.082	153.505	132.891	-	132.891	124.626	104.357	77.714	40.864	Continuing	Continuing
655191: <i>SDB Increment II</i>	150.082	153.505	132.891	-	132.891	124.626	104.357	77.714	40.864	Continuing	Continuing

Note

*Totals include funding from PRCP Program Number 439, SDBII

A. Mission Description and Budget Item Justification

Small Diameter Bomb Increment II (SDB II) is a joint program, with the Air Force (AF) as the lead service, which provides the warfighter a capability to attack mobile targets from stand-off, in weather. SDB II addresses the following warfighter requirements: attack mobile targets, adverse weather operations, multiple kills per pass, multiple ordnance carriage, precision munitions capability, capability against fixed targets, reduced munitions footprint, increased weapons effectiveness, minimized potential for collateral damage, reduced susceptibility of munitions to countermeasures and provides a net-centric ops capability. The threshold aircraft for the AF is the F-15E, and the threshold aircrafts for the Navy are the F-35B and F-35C. SDB II will be compatible with the BRU-61/A miniature munitions carriage and the SDB I container systems.

Small Diameter Bomb Increment II (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. An EMD contract was awarded on 09 August 2010 to deliver a design that attacks mobile targets from standoff, in weather. Required Assets Available (RAA) on the F-15E is planned to be completed by January 2017. The Navy Initial Operating Capability (IOC) on the F-35B and F-35C is planned to be completed by June 2019. While the complete hardware and software for normal attack, Coordinate Attack (CA), and Semi-Active Laser (SAL) attack will be developed and in place, the normal attack capability will be verified and released first to accelerate capability to the warfighter. Full capability will be delivered in FY 2017 after verification of CA and SAL capability. 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. SDB II will continue development to pursue network centric interoperability. SDB II is a key component of the Air Force's Global Strike Task Force CONOPs.

Prior Years funding estimate is \$365.037M. The To Complete funding estimate is \$433.650M.

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.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604329F: <i>Small Diameter Bomb</i>
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B. Program Change Summary (\$ in Millions)	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012 Base</u>	<u>FY 2012 OCO</u>	<u>FY 2012 Total</u>
Previous President's Budget	155.415	153.505	162.393	-	162.393
Current President's Budget	150.082	153.505	132.891	-	132.891
Total Adjustments	-5.333	-	-29.502	-	-29.502
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-4.685	-			
• Other Adjustments	-0.648	-	-29.502	-	-29.502

Change Summary Explanation

FY12 Other Adjustments:

1) \$-29.503M for higher Air Force priorities

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604329F: <i>Small Diameter Bomb</i>	PROJECT 655191: <i>SDB Increment II</i>
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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
655191: <i>SDB Increment II</i>	150.082	153.505	132.891	-	132.891	124.626	104.357	77.714	40.864	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

Small Diameter Bomb Increment II (SDB II) is a joint program, with the Air Force (AF) as the lead service, which provides the warfighter a capability to attack mobile targets from stand-off, in weather. SDB II addresses the following warfighter requirements: attack mobile targets, adverse weather operations, multiple kills per pass, multiple ordnance carriage, precision munitions capability, capability against fixed targets, reduced munitions footprint, increased weapons effectiveness, minimized potential for collateral damage, reduced susceptibility of munitions to countermeasures and provides a net-centric ops capability. The threshold aircraft for the AF is the F-15E, and the threshold aircrafts for the Navy are the F-35B and F-35C. SDB II will be compatible with the BRU-61/A miniature munitions carriage and the SDB I container systems.

Small Diameter Bomb Increment II (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. An EMD contract was awarded on 09 August 2010 to deliver a design that attacks mobile targets from standoff, in weather. Required Assets Available (RAA) on the F-15E is planned to be completed by January 2017. The Navy Initial Operating Capability (IOC) on the F-35B and F-35C is planned to be completed by June 2019. While the complete hardware and software for normal attack, Coordinate Attack (CA), and Semi-Active Laser (SAL) attack will be developed and in place, the normal attack capability will be verified and released first to accelerate capability to the warfighter. Full capability will be delivered in FY 2017 after verification of CA and SAL capability. 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. SDB II will continue development to pursue network centric interoperability. SDB II is a key component of the Air Force's Global Strike Task Force CONOPs.

Prior Years funding estimate is \$365.037M. The To Complete funding estimate is \$433.650M.

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 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: Development	120.478	110.611	109.897	-	109.897
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					

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)	R-1 ITEM NOMENCLATURE PE 0604329F: Small Diameter Bomb	PROJECT 655191: SDB Increment II				
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
approved SDB II System Performance Specification (SPS) and prepare for production, deployment, and sustainment. FY 2010 Accomplishments: Awarded SDB II EMD contract. Began Integrated Systems Design (ISD) activities to support a Critical Design Review (CDR) in early 2011. ISD verifies that the integrated SDB II components deliver the system capability as specified. Began related activities including: modeling and verification of system reliability; planning and executing interface activities with the threshold aircraft, BRU-61/A carriage, mission planning systems, weapon data link network, and common munitions built-in-test/reprogramming equipment (CMBRE); definition of laboratory, ground, and flight test activities; and planning for a formal Verification, Validation, and Accreditation (VV&A) of the Integrated Flight Simulation. FY 2011 Plans: Completed Integrated Baseline Review (IBR) on the EMD prime contract in November 2010. Complete IBR at major subcontractor. Conduct the SDB II CDR. Continue ISD activities and deliver the first all-up-round (AUR). 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 2012 Base Plans: Continue ISD activity and deliver the first all-up-round (AUR). The first AUR will be used to initiate developmental testing (DT) for the SDB II Normal Attack Mode. Begin reliability testing with a Captive Carry Reliability Test (CCRT) program. 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 2012 OCO Plans:						
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.		23.643	40.669	20.899	-	20.899

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)		R-1 ITEM NOMENCLATURE PE 0604329F: Small Diameter Bomb		PROJECT 655191: SDB Increment II		
B. Accomplishments/Planned Programs (\$ in Millions)						
		FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
FY 2010 Accomplishments: Prepared for FY11 Critical Design Review. Conducted software coding and integration test and electronic systems integration lab. Continue F-15E OFP upgrade to enable aircrew capability to make in-flight cockpit edits of targeting and weapon data link programming if/when required based on the employment scenarios. Procured targets to support DT. Commenced support for datalink encryption, Joint Interoperability Test Command (JITC) support and weapons datalink key management software to distribute National Security Agency (NSA) certified encryption key data to the mission planning environment to secure weapon data link terminal for post-release communications. Provided Aviation and Missile Research Development and Engineering Center (AMRDEC) support and Synthetic Background development required for DT/OT pre and post-flight analysis, Scenario Weapon Effectiveness (SWE)/Weapon Effectiveness (WE) high fidelity performance predictions, M&S VV&A, and requirements verification. Continued to develop mission planning interfaces for the weapon.						
FY 2011 Plans: Conduct flight and ground testing. Continue F-15E OFP upgrades. Continue target acquisition to support testing. Conduct Advanced Joint Effectiveness Model (AJEM) lethality modeling and testing. Continue collaboration with NSA and JITC on weapon datalink key managements software. AMRDEC support is used for modeling and simulation tasks and VV&A. Plan development/modification of an Air and Space Operations Center software application to transmit data link network tasking. Continue to develop mission planning interfaces for the weapon.						
FY 2012 Base Plans: Continue to conduct ground and flight testing. Continue collaboration with NSA and JITC on weapon datalink key managements software. Continue to develop/modify Air and Space Operations Center software application to transmit data link network tasking. Continue to develop mission planning interfaces for the weapon.						
FY 2012 OCO Plans:						
Title: Management		4.361	2.225	2.095	-	2.095
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 2010 Accomplishments:						

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)	R-1 ITEM NOMENCLATURE PE 0604329F: Small Diameter Bomb	PROJECT 655191: SDB Increment II				
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Continued support for Program Office to conduct operations to accomplish its mission. Provided support required to complete source selection, achieve a Milestone B decision, and award EMD contract. FY 2011 Plans: Continue support for Program Office to conduct operations to accomplish its mission. Provide support required to complete a CDR and IBR. FY 2012 Base Plans: Continue support for Program Office to conduct operations to accomplish its mission. FY 2012 OCO Plans:						
Title: MPACT High Pressure Air Compressor Description: Development and qualification of the MPACT High Pressure Air Compressor system as an alternate compressor system for the SDB weapon system. Conduct assembly and system level qualification testing as a continuation of the Phase I contract. The MPACT assembly testing is required to verify it meets all interface and performance requirements to serve as a replacement for the existing BRU-61/A compressor assembly. FY 2010 Accomplishments: Completed assembly level MPACT qualification testing for the Phase I compressor including the natural and induced environments associated with operational, storage, and transportation conditions associated with the use and employment on the F-15E aircraft. Demonstrated the MPACT compressor performance when integrated into a BRU-61/A at various pressure altitude/temperature combinations up to 60,000 feet MSL. Conducted requirements and readiness reviews for qualification and flight testing to the extent of work performed. FY 2011 Plans: Not Applicable FY 2012 Base Plans: Not applicable. FY 2012 OCO Plans:		1.600	-	-	-	-
Accomplishments/Planned Programs Subtotals		150.082	153.505	132.891	-	132.891

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)	R-1 ITEM NOMENCLATURE PE 0604329F: Small Diameter Bomb	PROJECT 655191: SDB Increment II	

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

Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• PE 0207327F: Small Diameter Bomb II, Missile Procurement, AF	0.000	0.000	0.000	0.000	0.000	45.940	83.006	123.602	136.320	Continuing	Continuing
• PE 0604329N: Small Diameter Bomb II, RDT&E, Navy	11.494	44.091	47.635	0.000	47.635	45.883	69.616	94.210	78.209	Continuing	Continuing
• PE 0204162N: Small Diameter Bomb II, Weapon Procurement, Navy	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	29.244	Continuing	Continuing

D. 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 on 9 August 2010. The EMD contract is a Fixed-Price Incentive Firm Target (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. These lots will be negotiated to firm fixed prices prior to the Lot 4 period of performance based on certified cost or pricing data proposals. The Government is buying the SDB II based on the contractor System Performance Specification (SPS). The contractor is accountable for system performance and a system warranty as defined in the SPS. 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 the system performance. The Government formally arranges and funds the use of Government flight test support for DT&E.

E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air 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-3, RDT&E Project Cost Analysis: PB 2012 Air Force										DATE: February 2011	
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)					R-1 ITEM NOMENCLATURE PE 0604329F: Small Diameter Bomb					PROJECT 655191: SDB Increment II	

Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Risk Reduction Contract 1	C/CPFF	Boeing:St. Louis, MO	151.632	-		-		-		-	0.000	151.632	151.632
Risk Reduction Contract 2	C/CPFF	Raytheon:Tucson, AZ	151.632	-		-		-		-	0.000	151.632	151.632
EMD Contract	C/TBD	Raytheon:Tucson, AZ	98.500	96.939	Dec 2010	79.749	Dec 2011	-		79.749	209.005	484.193	401.329
MPACT High Pressure Air Compressor System	SS/FFP	Boeing:St. Charles, MO	3.200	-		-		-		-	0.000	3.200	3.200
F-15E Integration and Test Support	SS/Various	Boeing:St. Louis, MO	29.424	4.502	Mar 2011	3.390	Mar 2012	-		3.390	8.297	45.613	45.613
BRU-61/A Integration and Test Support	SS/Various	Boeing:St. Louis, MO	3.372	0.467	Feb 2011	0.391	Oct 2011	-		0.391	0.000	4.230	4.230
Mission Planning	Various	Various:Various,	3.000	6.601	Jan 2011	3.330	Jan 2012	-		3.330	0.868	13.799	13.799
Data Link Integration & Support	Various	Various:Various,	-	0.012	Jan 2011	2.091	Jan 2012	-		2.091	6.384	8.487	8.487
System Performance & Lethality	Various	Various:Various,	2.218	7.695	Jan 2011	2.622	Jan 2012	-		2.622	4.195	16.730	16.730
Other Product Development	Various	Various:Various,	22.089	3.341	Mar 2011	20.558	Mar 2012	-		20.558	123.207	169.195	169.195
Subtotal			465.067	119.557		112.131		-		112.131	351.956	1,048.711	965.847

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 28 additional developmental tests identified during Milestone B. The addition of the tests 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.

Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Other Government Costs	Various	Various:Various,	20.068	11.589		10.045		-		10.045	32.631	74.333	74.333
Subtotal			20.068	11.589		10.045		-		10.045	32.631	74.333	74.333

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force											DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0604329F: Small Diameter Bomb				PROJECT 655191: SDB Increment II						
Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Remarks None.														
Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
DT&E	PO	46 TW:Eglin AFB, FL	0.521	9.878	Mar 2011	7.108	Mar 2011	-		7.108	38.481	55.988	55.988	
Targets	PO	Various:Various,	3.706	9.206	May 2011	0.234	May 2012	-		0.234	3.051	16.197	16.197	
Other Test Support	Various	Various:Various,	7.436	1.049	Dec 2010	1.278	Dec 2011	-		1.278	4.665	14.428	14.428	
Subtotal			11.663	20.133		8.620		-		8.620	46.197	86.613	86.613	
Remarks None.														
Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Technical Acquisition Management Support (TAMS)	Various	COLSA Corp:Eglin AFB, FL	0.516	0.266	Mar 2011	0.260	Mar 2012	-		0.260	0.280	1.322	1.322	
Technical and Engineering Acquisition Support (TEAS)	Various	Jacobs Technology:Eglin AFB, FL	13.858	0.429	Apr 2011	0.270	Apr 2012	-		0.270	0.000	14.557	14.557	
Program Management Administration (PMA)	Various	Various:Eglin AFB, FL	3.947	1.531	Oct 2010	1.565	Oct 2011	-		1.565	2.586	9.629	9.629	
Subtotal			18.321	2.226		2.095		-		2.095	2.866	25.508	25.508	
Remarks The EMD contract budget and Target Value differ due to: 1) EMD contract is budgeted to the contract ceiling price.														

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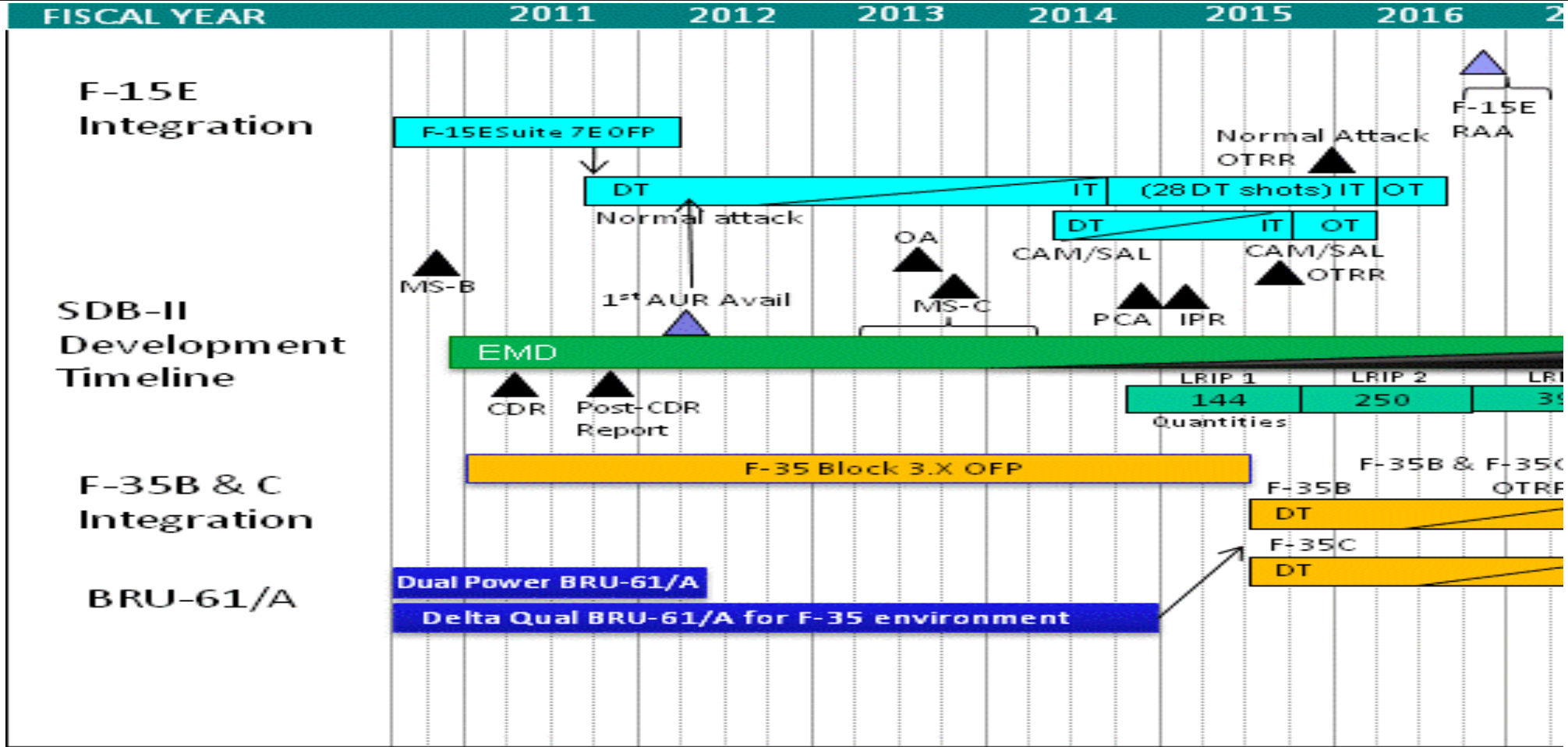
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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force											DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>				R-1 ITEM NOMENCLATURE PE 0604329F: <i>Small Diameter Bomb</i>				PROJECT 655191: <i>SDB Increment II</i>					

Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
2) EMD contract budget includes funding for 28 additional developmental tests identified during Milestone B. The addition of the tests 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.													
			Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			515.119	153.505		132.891		-		132.891	433.650	1,235.165	1,152.301

Remarks
None.

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)	R-1 ITEM NOMENCLATURE PE 0604329F: Small Diameter Bomb	PROJECT 655191: SDB Increment II



Brackets indicate objective and threshold windows for APB schedule events

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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604329F: <i>Small Diameter Bomb</i>	PROJECT 655191: <i>SDB Increment II</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
F-15E Integration and Testing (Normal Attack)	1	2010	4	2016
BRU-61/A Support	1	2010	2	2012
Milestone B	4	2010	4	2010
EMD Contract Award	4	2010	4	2010
Critical Design Review	2	2011	2	2011
Developmental Testing (Normal Attack)	1	2011	4	2016
Milestone C	4	2013	4	2013

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE							
3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>				PE 0604421F: <i>Counterspace Systems</i>							
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	60.141	40.276	31.913	-	31.913	30.579	31.072	31.198	31.622	Continuing	Continuing
65A001: <i>Counter Satellite Communications System</i>	29.320	21.035	19.463	-	19.463	18.171	18.362	18.251	18.460	Continuing	Continuing
65A003: <i>Rapid Identification Detection and Reporting System (RAIDRS)</i>	24.009	11.875	5.016	-	5.016	4.868	5.057	5.180	5.259	Continuing	Continuing
65A005: <i>Offensive Counterspace (OCS) C2</i>	6.812	7.366	7.434	-	7.434	7.540	7.653	7.767	7.903	Continuing	Continuing

Note

The program funding includes reductions for Overhead Reduction efficiencies that are not intended to impact program content. The efficiencies reductions total \$2.099M in FY12.

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. Development and acquisition of counterspace systems will be conducted, capitalizing on the technology development and risk reduction efforts of PE 0603438F, Space Control Technology. 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 supports the demonstration, engineering and manufacturing development of counterspace and space control systems.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604421F: <i>Counterspace Systems</i>
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B. Program Change Summary (\$ in Millions)	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012 Base</u>	<u>FY 2012 OCO</u>	<u>FY 2012 Total</u>
Previous President's Budget	64.248	40.276	34.119	-	34.119
Current President's Budget	60.141	40.276	31.913	-	31.913
Total Adjustments	-4.107	-	-2.206	-	-2.206
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-0.678	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-3.429	-			
• Other Adjustments	-	-	-2.206	-	-2.206

Change Summary Explanation

The program funding includes reductions for Overhead Reduction efficiencies that are not intended to impact program content. The efficiencies reductions total \$2.099M in FY12.

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force								DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0604421F: Counterspace Systems				PROJECT 65A001: Counter Satellite Communications System			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
65A001: Counter Satellite Communications System	29.320	21.035	19.463	-	19.463	18.171	18.362	18.251	18.460	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		
A. Mission Description and Budget Item Justification											
This effort supports concept exploration and follow-on system development of mobile/transportable counter satellite communications capabilities derived from technologies prototyped in PE0603438F, Space Control Technology, in the area of Offensive Counterspace. Future advanced counter satellite communications systems will also be developed in this program. 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 supports the demonstration, engineering and manufacturing development of counterspace and space control systems.											
B. Accomplishments/Planned Programs (\$ in Millions)							FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: CCS Capability Upgrades							1.605	-	-	-	-
Description: Complete capability upgrades to the Block 10 Counter Communications System (CCS). Includes architecture development and program office support.											
FY 2010 Accomplishments: Completed work on the CCS plug-in upgrades. Continued mission area architecture development support.											
FY 2011 Plans:											
FY 2012 Base Plans:											
FY 2012 OCO Plans:											
Title: CCS Pre-planned Product Improvement (P3I)							17.748	12.260	11.517	-	11.517
Description: Develop, integrate, test and field the CCS Pre-planned Product Improvement (P3I) program. Includes architecture development, studies & analysis, and program office support.											
FY 2010 Accomplishments: Use prototype lessons-learned to begin development and integration of the first increment of the CCS P3I.											
FY 2011 Plans:											

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)		R-1 ITEM NOMENCLATURE PE 0604421F: Counterspace Systems		PROJECT 65A001: Counter Satellite Communications System	
B. Accomplishments/Planned Programs (\$ in Millions)					
	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Continue development and integration of Increment 1 of the CCS P3I.					
FY 2012 Base Plans: Continue and complete development, integration and test of Increment 1 of the CCS P3I.					
FY 2012 OCO Plans:					
Title: Next generation prototype					
Description: Study options and perform risk reduction prototyping for the next generation advanced counter communications capability.					
FY 2010 Accomplishments: Study/refine and develop prototype risk reduction.					
FY 2011 Plans:					
FY 2012 Base Plans:					
FY 2012 OCO Plans:					
Title: Architecture Development Support					
Description: Provide support for mission area architecture development.					
FY 2010 Accomplishments: Continued to provide mission area architecture development support.					
FY 2011 Plans: Continue to provide mission area architecture development support.					
FY 2012 Base Plans: Continue to provide mission area architecture development support.					
FY 2012 OCO Plans:					
Title: Program Office and other Technical support					
Description: Provide technical/engineering and other required support to the Program Office.					
FY 2010 Accomplishments:					

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force				DATE: February 2011	
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>		R-1 ITEM NOMENCLATURE PE 0604421F: <i>Counterspace Systems</i>		PROJECT 65A001: <i>Counter Satellite Communications System</i>	

<u>B. Accomplishments/Planned Programs (\$ in Millions)</u>	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Provide technical/engineering and other required support to the Program Office.					
<i>FY 2011 Plans:</i> Provide technical/engineering and other required support to the Program Office.					
<i>FY 2012 Base Plans:</i> Provide technical/engineering and other required support to the Program Office.					
<i>FY 2012 OCO Plans:</i>					
Accomplishments/Planned Programs Subtotals	29.320	21.035	19.463	-	19.463

<u>C. Other Program Funding Summary (\$ in Millions)</u>											
<u>Line Item</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012 Base</u>	<u>FY 2012 OCO</u>	<u>FY 2012 Total</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• Other Procurement: <i>PE</i>	4.200	11.576	10.149	0.000	10.149	13.833	15.311	14.814	13.968	Continuing	Continuing
<i>0604421F Counterspace Systems</i>											

<u>D. Acquisition Strategy</u> 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.

<u>E. Performance Metrics</u> Please refer to the Performance Base Budget Overview Book for information on how Air 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-3, RDT&E Project Cost Analysis: PB 2012 Air Force										DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0604421F: Counterspace Systems				PROJECT 65A001: Counter Satellite Communications System					
Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Architectural Engineering Support	C/CPAF	Aerospace:El Segundo, CA	31.078	3.856	Jan 2011	2.536	Jan 2012	-		2.536	Continuing	Continuing	TBD
Block 10 Capability Upgrades(a)	C/CPAF	General Dynamics:Santa Clara, CA	9.999	-		-		-		-	0.000	9.999	9.999
Block 10 Capability Upgrades(b)	Various	Harris Corp:Melbourne, FL	9.407	-		-		-		-	0.000	9.407	0.000
Block 20 Prototype Development & Future Capability Studies	C/CPAF	SERCO:Colorado Springs, CO	9.801	-		-		-		-	0.000	9.801	11.422
Block 10 P3I Development	C/CPAF	Harris Corp:Melbourne, FL	16.068	12.260	Dec 2010	11.517	Nov 2011	-		11.517	Continuing	Continuing	TBD
Block 10 P3I Development	Various	Various:Various,	1.680	-		-		-		-	0.000	1.680	0.000
Subtotal			78.033	16.116		14.053		-		14.053			
Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
System Program Office Support	Various	SMC:El Segundo, CA	1.849	2.201	Nov 2010	2.939	Nov 2011	-		2.939	Continuing	Continuing	TBD
Security	C/CPAF	Mantech:El Segundo, CA	2.411	2.718	Nov 2010	2.471	Nov 2011	-		2.471	0.000	7.600	0.000
Architectural Engineering Support	C/CPFF	Northrup Grumman:El Segundo, CA	1.367	-		-		-		-	0.000	1.367	0.000
Subtotal			5.627	4.919		5.410		-		5.410			

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force											DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>				R-1 ITEM NOMENCLATURE PE 0604421F: <i>Counterspace Systems</i>				PROJECT 65A001: <i>Counter Satellite Communications System</i>					

Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-	0.000	0.000	0.000

Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-	0.000	0.000	0.000

			Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			83.660	21.035		19.463		-		19.463			

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

3600: Research, Development, Test & Evaluation, Air Force
BA 5: Development & Demonstration (SDD)

R-1 ITEM NOMENCLATURE

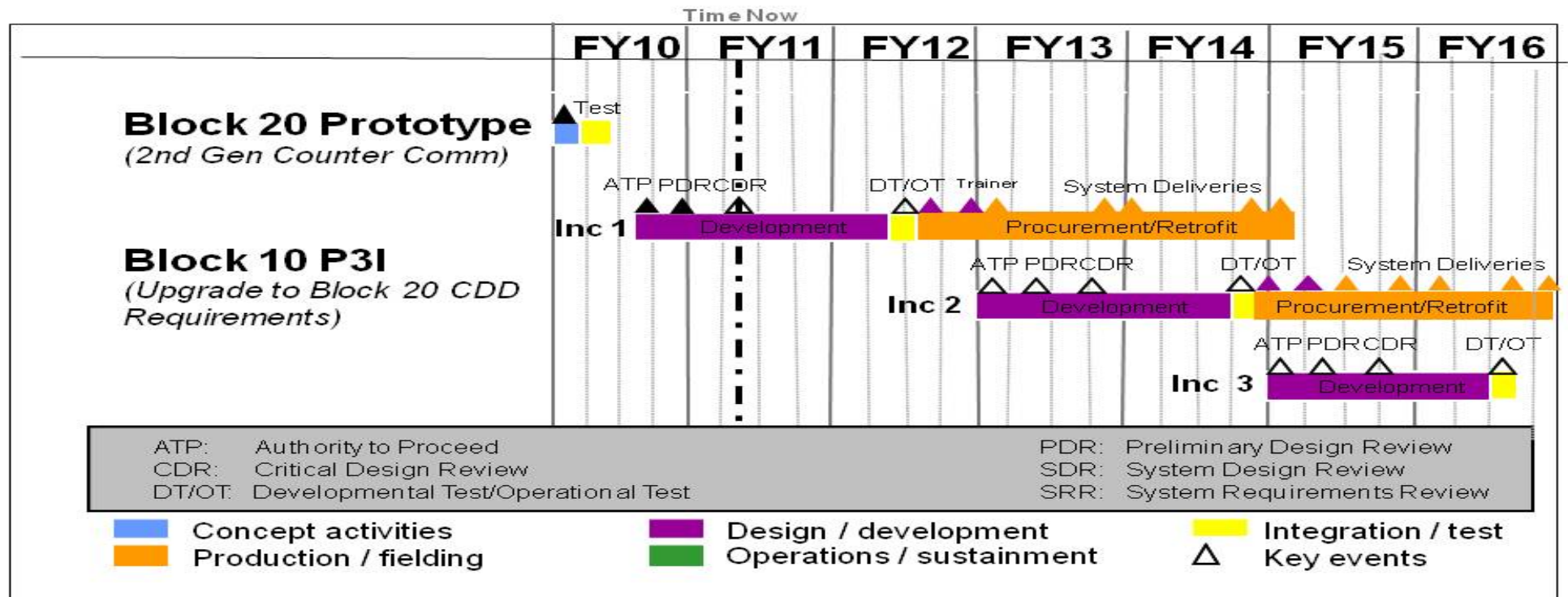
PE 0604421F: Counterspace Systems

PROJECT

65A001: Counter Satellite Communications System



Counter Communications System (CCS)



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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

3600: *Research, Development, Test & Evaluation, Air Force*
BA 5: *Development & Demonstration (SDD)*

R-1 ITEM NOMENCLATURE

PE 0604421F: *Counterspace Systems*

PROJECT

65A001: *Counter Satellite Communications System*

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Block 10 P3I Contract Award	3	2010	3	2010
Block 10 P3I Increment 1 Development	3	2010	2	2012
Block 10 P3I Increment 1 DT/OT	2	2012	3	2012
Block 10 P3I Increment 1 Procurement - Retrofit	3	2012	1	2015
Block 10 P3I Increment 1 Deliveries	4	2012	1	2015
Block 10 P3I Increment 2 Contract Award	1	2013	1	2013
Block 10 P3I Increment 2 Development	1	2013	3	2014
Block 10 P3I Increment 2 DT/OT	4	2014	4	2014
Block 10 P3I Increment 2 Procurement - Retrofit	4	2014	3	2016
Block 10 P3I Increment 2 Deliveries	1	2015	4	2016
Block 10 P3I Increment 3 Contract Award	1	2015	1	2015
Block 10 P3I Increment 3 Development	1	2015	3	2016
Block 10 P3I Increment 3 DT/OT	3	2016	3	2016

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force								DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0604421F: Counterspace Systems				PROJECT 65A003: Rapid Identification Detection and Reporting System (RAIDRS)			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
65A003: Rapid Identification Detection and Reporting System (RAIDRS)	24.009	11.875	5.016	-	5.016	4.868	5.057	5.180	5.259	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		
Note The program funding includes reductions for Knowledge Based Services, Acquisition Program Management Administrative efficiencies that are not intended to impact program content. The efficiencies reductions total \$0.306M in FY12.											
A. Mission Description and Budget Item Justification The RAIDRS program performs attack detection, geolocation, reporting, characterization and mission impact assessment for US owned, operated or used space systems. RAIDRS capabilities, in support of the National Security Strategy of the United States, are procured and deployed in blocks. The first Block (RB-10) 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 RB-10 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 supports the engineering and manufacturing development of counterspace and space control systems.											
B. Accomplishments/Planned Programs (\$ in Millions)							FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
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. Includes architecture development, systems engineering, site activation and program office support and test support. FY 2010 Accomplishments: Continued system development, integration and factory acceptance testing of the RAIDRS system. Completed verification of technical orders. FY 2011 Plans: Complete system development and integration. Develop Type 1 training and prepare for and begin Operational Test and Evaluation. FY 2012 Base Plans:							24.009	11.875	5.016	-	5.016

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force				DATE: February 2011							
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>		R-1 ITEM NOMENCLATURE PE 0604421F: <i>Counterspace Systems</i>		PROJECT 65A003: <i>Rapid Identification Detection and Reporting System (RAIDRS)</i>							
B. Accomplishments/Planned Programs (\$ in Millions)											
	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total						
Continue acceptance testing and Training system development. Will complete OT&E and deliver the FOC Trainer upgrade.											
<i>FY 2012 OCO Plans:</i>											
Accomplishments/Planned Programs Subtotals	24.009	11.875	5.016	-	5.016						
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• Other Procurement: <i>PE 0604421F Counterspace Systems</i>	24.103	14.025	9.169	0.000	9.169	7.597	3.195	3.987	5.079	Continuing	Continuing
D. Acquisition Strategy											
All contracts funded in this program element will be awarded using competitive procedures to the maximum extent possible. System will be designed and acquired in Block increments using a Block Acquisition strategy.											
E. Performance Metrics											
Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.											

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force											DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0604421F: Counterspace Systems				PROJECT 65A003: Rapid Identification Detection and Reporting System (RAIDRS)						
Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Architecture Development & Systems Engineering	Various	Various:Various,	16.370	1.639	Oct 2010	0.719	Oct 2011	-		0.719	Continuing	Continuing	TBD	
RAIDRS Block 10 System Development	C/CPAF	Integral Systems Inc:Columbia, MD	87.317	4.607	Oct 2010	0.795	Oct 2011	-		0.795	Continuing	Continuing	TBD	
RAIDRS Block 10 Training System	C/CPFF	Sonalysts:Waterford, CT	2.604	3.725	Oct 2010	1.862	Oct 2011	-		1.862	Continuing	Continuing	TBD	
Subtotal			106.291	9.971		3.376		-		3.376				
Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Program Office Support for RAIDRS	Various	SMC:El Segundo, CA	11.733	1.190	Oct 2010	0.995	Oct 2011	-		0.995	Continuing	Continuing	TBD	
FFRDC	RO	Aerospace Corp:El Segundo, CA	10.808	0.714	Oct 2010	0.565	Oct 2011	-		0.565	0.000	12.087	0.000	
Subtotal			22.541	1.904		1.560		-		1.560				
Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
RAIDRS Block 10 Test Support	Various	Various:Various,	0.843	-	Oct 2010	0.080	Oct 2011	-		0.080	Continuing	Continuing	TBD	
Subtotal			0.843	-		0.080		-		0.080				
Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Subtotal			-	-		-		-		-	0.000	0.000	0.000	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force						DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>			R-1 ITEM NOMENCLATURE PE 0604421F: <i>Counterspace Systems</i>			PROJECT 65A003: <i>Rapid Identification Detection and Reporting System (RAIDRS)</i>		

	Total Prior Years Cost	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	129.675	11.875	5.016	-	5.016			

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

3600: Research, Development, Test & Evaluation, Air Force
BA 5: Development & Demonstration (SDD)

R-1 ITEM NOMENCLATURE

PE 0604421F: Counterspace Systems

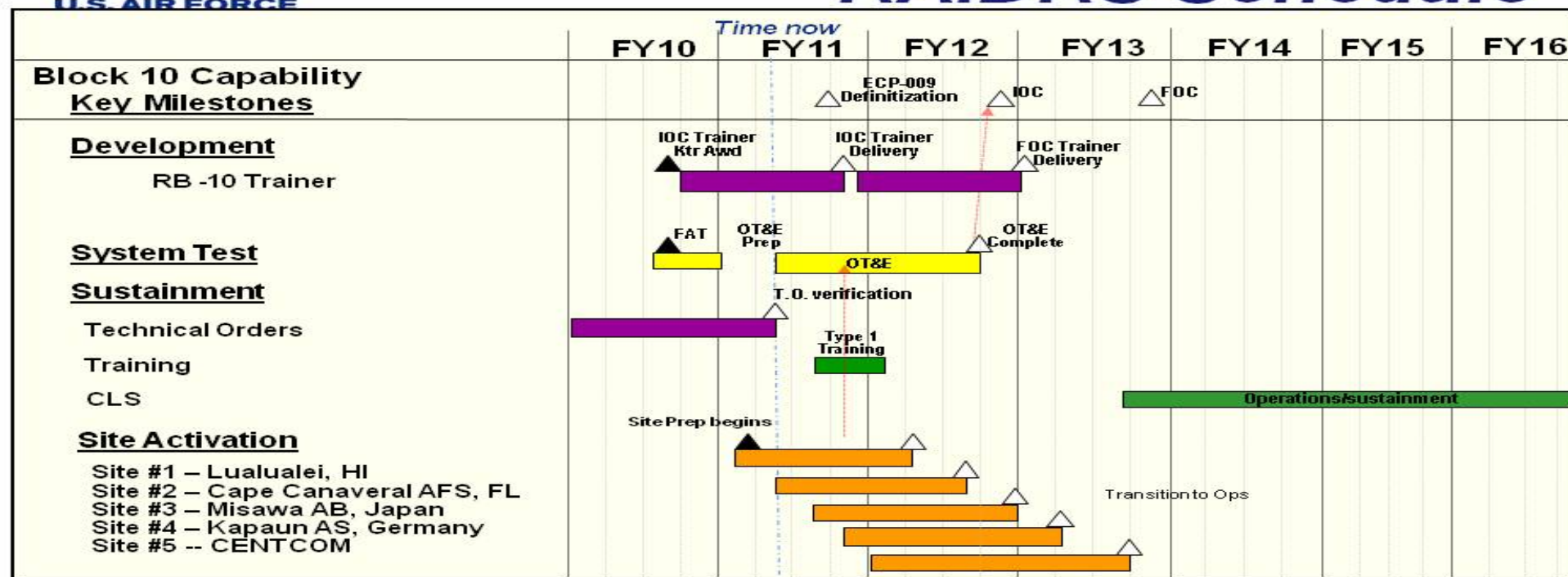
PROJECT

65A003: Rapid Identification Detection and Reporting System (RAIDRS)



U.S. AIR FORCE

Counterspace Systems RAIDRS Schedule



■ Concept activities
■ Production/fielding
■ Design/development
■ Operation/sustainment
■ Integration/test
▲ DT = Development Test
▲ FAT = Factory Acceptance Test
▲ IOC = Initial Operational Capability
▲ FOC = Full Operational Capability
▲ OT&E = Operational Test & Evaluation
▲ Key events
▲ IBR = Integrated Baseline Review
▲ RAA = Required Resources Avail

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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604421F: <i>Counterspace Systems</i>	PROJECT 65A003: <i>Rapid Identification Detection and Reporting System (RAIDRS)</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
RAIDRS IOC	4	2012	4	2012
RAIDRS FOC	4	2013	4	2013
RAIDRS Operational Test and Evaluation	3	2011	4	2012
RAIDRS Operator Training	3	2011	1	2012
Site #1 Activation	1	2011	2	2012
Site #2 Activation	2	2011	3	2012
Site #3 Activation	3	2011	4	2012
Site #4 Activation	4	2011	2	2013
Site #5 Activation	1	2012	4	2013

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>				R-1 ITEM NOMENCLATURE PE 0604421F: <i>Counterspace Systems</i>				PROJECT 65A005: <i>Offensive Counterspace (OCS) C2</i>			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
65A005: <i>Offensive Counterspace (OCS) C2</i>	6.812	7.366	7.434	-	7.434	7.540	7.653	7.767	7.903	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

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 also leverage the Joint Execution and Tasking System for Space (JETSS) efforts in support of space control and the counterspace mission areas. 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 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: Joint Execution and Tasking System for Space (JETSS)	6.812	7.366	7.434	-	7.434
Description: Develop a Counterspace mission planning and command and control capability to support counterspace systems space control warfighter activities.					
FY 2010 Accomplishments: Completed JETSS Spiral 2 development, testing and delivery to the Joint Space Operations Center (JSPOC).					
FY 2011 Plans: Continue JETSS development with Spiral 3 Future System Planning, Deployment Planner and the Data Wizard.					
FY 2012 Base Plans: Complete development of JETSS Spiral 3 and deploy at the Joint Space Operations Center.					
FY 2012 OCO Plans: Not applicable.					
Accomplishments/Planned Programs Subtotals	6.812	7.366	7.434	-	7.434

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604421F: <i>Counterspace Systems</i>	PROJECT 65A005: <i>Offensive Counterspace (OCS) C2</i>	

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

<u>Line Item</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u> <u>Base</u>	<u>FY 2012</u> <u>OCO</u>	<u>FY 2012</u> <u>Total</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• N/A: <i>None</i>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

D. Acquisition Strategy

All contracts 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.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force											DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0604421F: Counterspace Systems				PROJECT 65A005: Offensive Counterspace (OCS) C2						
Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Develop Counterspace Planning and C2 System (JETSS)	C/CPAF	General Dynamics:Santa Clara, CA	19.032	4.769	Jan 2011	4.850	Jan 2012	-		4.850	Continuing	Continuing	TBD	
Subtotal			19.032	4.769		4.850		-		4.850				
Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Counterspace Architecture Development	C/CPFF	Northrup Grumman Mission Systems:Redondo Beach, CA	3.978	0.954	Dec 2010	0.966	Dec 2010	-		0.966	Continuing	Continuing	TBD	
Subtotal			3.978	0.954		0.966		-		0.966				
Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Subtotal			-	-		-		-		-	0.000	0.000	0.000	
Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Program Office and Other Technical Support	Various	SMC:El Segundo, CA	4.578	1.643	Oct 2010	1.618	Oct 2011	-		1.618	Continuing	Continuing	TBD	
Subtotal			4.578	1.643		1.618		-		1.618				

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force								DATE: February 2011						
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0604421F: Counterspace Systems				PROJECT 65A005: Offensive Counterspace (OCS) C2						
				Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals				27.588	7.366		7.434		-		7.434			

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

3600: Research, Development, Test & Evaluation, Air Force
BA 5: Development & Demonstration (SDD)

R-1 ITEM NOMENCLATURE

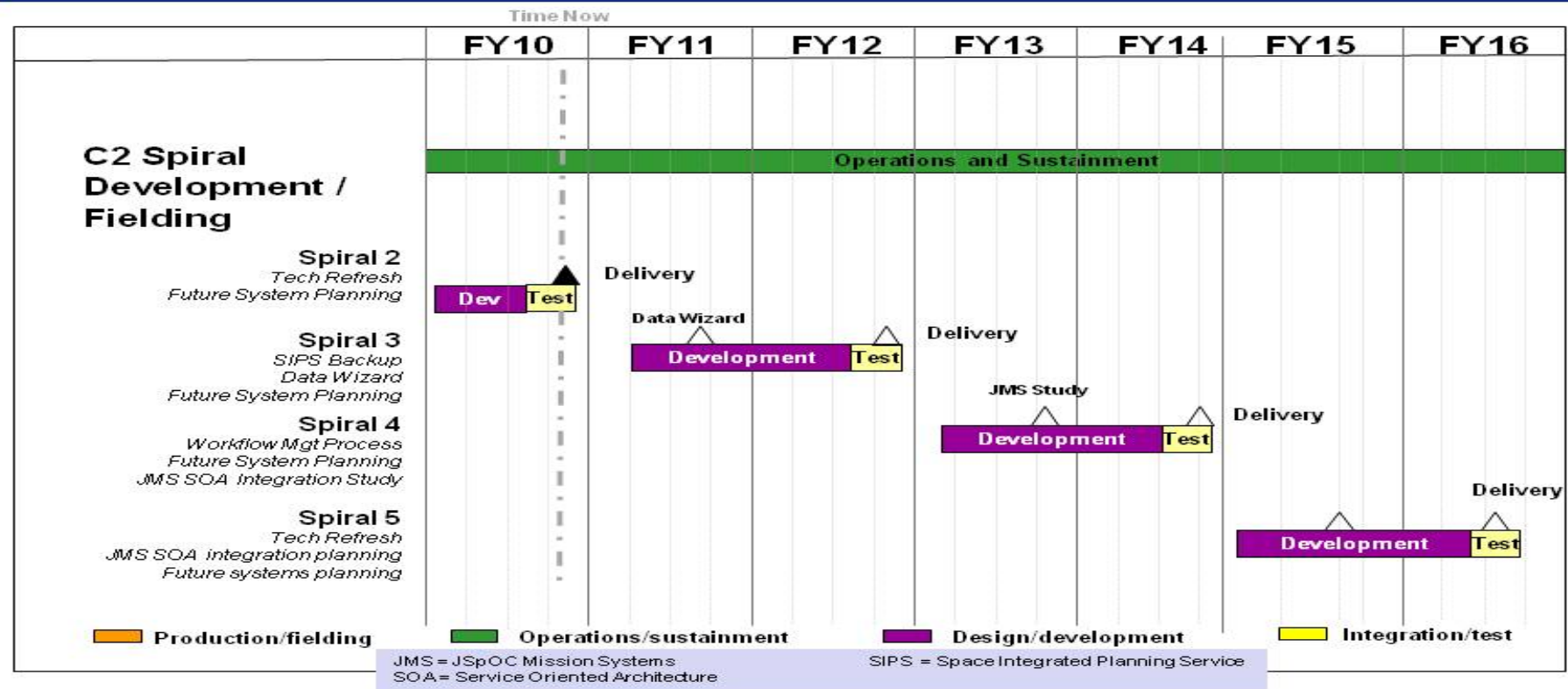
PE 0604421F: Counterspace Systems

PROJECT

65A005: Offensive Counterspace (OCS) C2



Counterspace Systems Counterspace C2 Schedule



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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604421F: <i>Counterspace Systems</i>	PROJECT 65A005: <i>Offensive Counterspace (OCS) C2</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
C2 Spiral #2 Delivery	4	2010	4	2010
C2 Spiral #3 Development	1	2011	3	2012
C2 Spiral #3 Test	3	2012	4	2012
C2 Spiral #3 Delivery	4	2012	4	2012
C2 Spiral #4 Development	1	2013	3	2014
C2 Spiral #4 Test	3	2014	4	2014
C2 Spiral #4 Delivery	4	2014	4	2014
C2 Spiral #5 Development	1	2015	2	2016
C2 Spiral #5 Test	2	2016	4	2016
C2 Spiral #5 Delivery	4	2016	4	2016

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>				R-1 ITEM NOMENCLATURE PE 0604425F: <i>Space Situational Awareness Systems</i>							
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	224.178	426.525	273.689	-	273.689	283.776	350.141	281.788	120.247	Continuing	Continuing
65A006: <i>Space Based Space Surveillance</i>	128.621	185.915	12.616	-	12.616	2.071	-	-	-	Continuing	Continuing
65A009: <i>Space Fence</i>	62.984	164.790	235.460	-	235.460	254.793	323.914	261.574	106.634	Continuing	Continuing
65A012: <i>Net-centric Sensors and Data Sources</i>	17.072	24.435	10.159	-	10.159	12.575	12.018	7.181	-	Continuing	Continuing
65A037: <i>Space Surveillance Telescope</i>	-	1.947	-	-	-	-	-	-	-	Continuing	Continuing
65A038: <i>SSA Environmental Monitoring</i>	15.501	49.438	15.454	-	15.454	14.337	14.209	13.033	13.613	Continuing	Continuing

Note

The program funding in this Program Element includes overhead reductions that are not intended to impact program content. The efficiencies reductions total \$6.663M in FY12.

Totals include funding for PRCP Program Number 328, SBSS Block 10.

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 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 finding, fixing, tracking, and reconnoitering 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

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604425F: <i>Space Situational Awareness Systems</i>
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activities are also required to better integrate the disparate elements of SSA in order to enable rapid, responsive space operations. These efforts are in Budget Activity 5, System Development and Demonstration, because they develop new SSA capabilities.

B. Program Change Summary (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	239.534	426.525	508.259	-	508.259
Current President's Budget	224.178	426.525	273.689	-	273.689
Total Adjustments	-15.356	-	-234.570	-	-234.570
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-2.135	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	3.000	-			
• SBIR/STTR Transfer	-11.221	-			
• Other Adjustments	-5.000	-	-234.570	-	-234.570

Change Summary Explanation

FY12: -\$196.992M SBSS Follow-on zeroed pending OSD directed study

FY12: -\$30M SSAEM reduction

FY12: -\$5.669M AF efficiencies (Space Fence)

FY12: -\$0.360 overhead reduction efficiencies (SBSS)

FY12: -\$0.109 overhead reduction efficiencies (Space Fence)

FY12: -\$0.253 overhead reduction efficiencies (NCSDS)

FY12: -\$0.272 overhead reduction efficiencies (SSAEM)

FY12: -\$0.043 inflation adjustments (SBSS)

FY12: -\$0.785 inflation adjustments (Space Fence)

FY12: -\$0.035 inflation adjustments (NCSDS)

FY12: -\$0.052 inflation adjustments (SSAEM)

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE				PROJECT			
3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)				PE 0604425F: Space Situational Awareness Systems				65A006: Space Based Space Surveillance			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
65A006: Space Based Space Surveillance	128.621	185.915	12.616	-	12.616	2.071	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

Note

Totals include funding for PRCP Program Number 328, SBSS Block 10. SBSS Follow-on was zeroed pending OSD directed study

A. Mission Description and Budget Item Justification

Building upon the success of the Space-Based Visible (SBV) technology demonstration, which proved the utility of surveilling orbiting objects from space, the Space-Based Space Surveillance (SBSS) satellite (launched on 25 September 2010) 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.

This effort is in Budget Activity 5, System Development and Demonstration, because it is developing a new spacecraft system.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: SBSS Block 10	28.117	19.309	10.774	-	10.774
Description: Block 10 design, development, and risk reduction					
FY 2010 Accomplishments: Block 10 system available for launch; continuation of necessary contractor support to accomplish ops readiness risk reduction					
FY 2011 Plans: Block 10 Data Processing improvement and Standardized Space Trainer development					
FY 2012 Base Plans: Block 10 Standardized Space Trainer development and fielding					
FY 2012 OCO Plans:					
Title: SBSS Block 10 LV	19.398	-	-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)		R-1 ITEM NOMENCLATURE PE 0604425F: Space Situational Awareness Systems		PROJECT 65A006: Space Based Space Surveillance	
B. Accomplishments/Planned Programs (\$ in Millions)					
	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Description: Block 10 launch vehicle integration					
FY 2010 Accomplishments: Coordinate range assets; solve launch vehicle technical challenges					
FY 2011 Plans:					
FY 2012 Base Plans:					
FY 2012 OCO Plans:					
Title: SBSS Block 10 ops					
Description: Block 10 contractor ops and interim contractor support					
FY 2010 Accomplishments: Support operations readiness and sustainment planning					
FY 2011 Plans: Support Block 10 launch ops and complete Initial Operational Test & Evaluation (IOT&E)					
FY 2012 Base Plans:					
FY 2012 OCO Plans:					
Title: SBSS Follow-on					
Description: Follow-on design, development, and risk reduction					
FY 2010 Accomplishments: Obtain Milestone Decision Authority (MDA) approval of Materiel Development Decision (MDD); develop and release draft Requests for Proposal (RFPs)					
FY 2011 Plans:					
FY 2012 Base Plans:					
FY 2012 OCO Plans:					
Title: SSA Risk Reduction & Technology Transfer					

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)	R-1 ITEM NOMENCLATURE PE 0604425F: Space Situational Awareness Systems	PROJECT 65A006: Space Based Space Surveillance				
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Description: Technical research, studies, and analyses						
FY 2010 Accomplishments: Technical research, studies, and analyses for future space-based space situational awareness (SSA) sensor technology, risk reduction, and architecture modeling						
FY 2011 Plans: Technical research, studies, and analyses for future space-based space situational awareness (SSA) sensor technology, risk reduction, and architecture modeling and prototyping						
FY 2012 Base Plans:						
FY 2012 OCO Plans:						
Title: Program Office Operations		15.668	15.578	1.842	-	1.842
Description: Program Management Support						
FY 2010 Accomplishments: Program office and related support activities, such as technical studies and analysis, systems engineering and integration						
FY 2011 Plans: Program office and related support activities, such as technical studies and analysis, systems engineering and integration						
FY 2012 Base Plans: Program office and related support activities, such as technical studies and analysis, systems engineering and integration						
FY 2012 OCO Plans:						
Accomplishments/Planned Programs Subtotals		128.621	185.915	12.616	-	12.616

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604425F: <i>Space Situational Awareness Systems</i>	PROJECT 65A006: <i>Space Based Space Surveillance</i>	

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

<u>Line Item</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2012</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To</u>	
			<u>Base</u>	<u>OCO</u>	<u>Total</u>					<u>Complete</u>	<u>Total Cost</u>
• N/A:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

D. Acquisition Strategy

This system is being acquired via a block approach. Block 10 will develop and field a satellite-based capability to replace the SBV sensor with a capability significantly improving the timeliness of data on objects in deep space. Block 10 was awarded competitively under an option on the existing Mission Area Prime Integrating contract for the space control mission area. The planning portion of the Block 10 contractor ops & interim contractor support effort was previously included in the design, development and risk reduction effort.

E. Performance Metrics

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

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force										DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE				PROJECT					
3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)				PE 0604425F: Space Situational Awareness Systems				65A006: Space Based Space Surveillance					
Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Block 10 design and development	C/CPAF	Northrop Grumman:Redondo Beach, CA	535.266	14.793	Nov 2010	7.299		-		7.299	0.000	557.358	0.000
Block 10 Technical risk reduction, mission planning & mission data processing	SS/CPFF	MIT Lincoln Laboratory:Lexington, MA	14.486	4.517	Nov 2010	3.475	Nov 2011	-		3.475	1.794	24.272	0.000
Block 10 Launch vehicle integration	MIPR	Space and Missile Systems Center Det.:Kirtland AFB, NM	85.644	-		-		-		-	0.000	85.644	0.000
Block 10 contractor ops & Interim Contract Support	SS/CPAF	Boeing:Huntington Beach, CA	117.641	52.727	Nov 2010	-		-		-	0.000	170.368	0.000
SBSS Follow-on Design & Development	Various	Various:Various,	8.430	-		-		-		-	0.000	8.430	0.000
SSA risk reduction and technology transfer	Various	Various:Various,	2.843	98.301	Nov 2010	-		-		-	0.000	101.144	0.000
Subtotal			764.310	170.338		10.774		-		10.774	1.794	947.216	0.000
Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Office Support, Technical Support	SS/CPFF	Aerospace:Los Angeles, CA	36.059	9.234	Sep 2010	-		-		-	0.000	45.293	0.000
Engineering and Technical Services	C/FFP	AT&T Government Solutions, Inc:Los Angeles, CA	12.595	4.635	Dec 2010	-		-		-	0.000	17.230	0.000
SMC Financial Services	C/FFP	Tecolote Research, Inc:Los Angeles, CA	3.563	-		-		-		-	0.000	3.563	0.000
Program Office Support, Technical Analysis	Various	Various:Los Angeles, CA	34.126	1.708	Oct 2010	1.842	Oct 2011	-		1.842	0.255	37.931	0.000
Subtotal			86.343	15.577		1.842		-		1.842	0.255	104.017	0.000

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force											DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>				R-1 ITEM NOMENCLATURE PE 0604425F: <i>Space Situational Awareness Systems</i>				PROJECT 65A006: <i>Space Based Space Surveillance</i>					

Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-	0.000	0.000	0.000

Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-	0.000	0.000	0.000

	Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	850.653	185.915		12.616		-		12.616	2.049	1,051.233	0.000

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

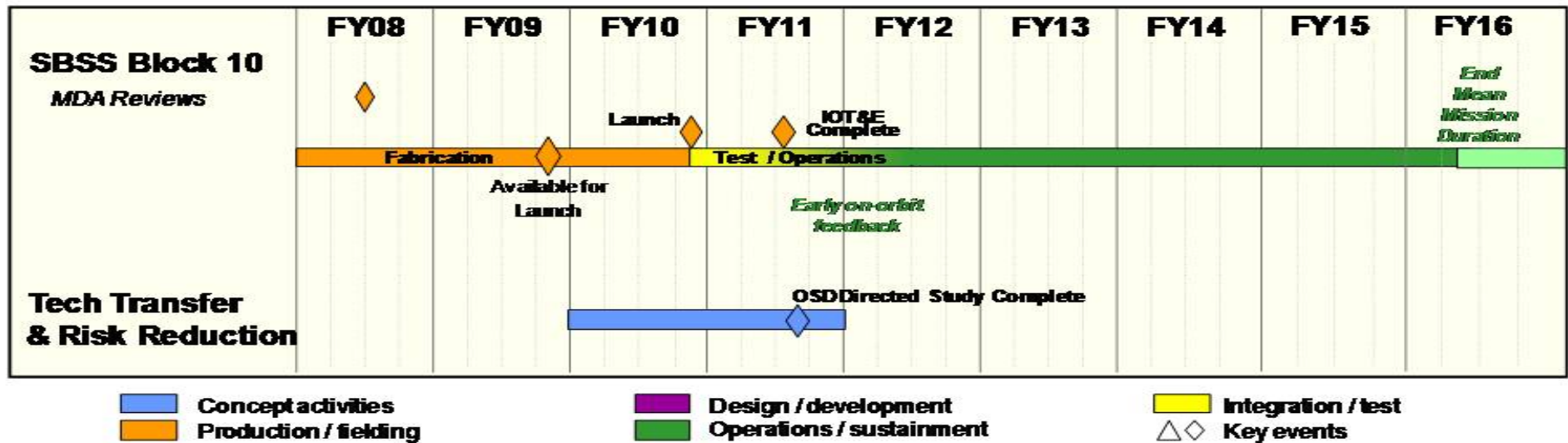
3600: Research, Development, Test & Evaluation, Air Force
BA 5: Development & Demonstration (SDD)

R-1 ITEM NOMENCLATURE

PE 0604425F: Space Situational Awareness
Systems

PROJECT

65A006: Space Based Space Surveillance



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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604425F: <i>Space Situational Awareness Systems</i>	PROJECT 65A006: <i>Space Based Space Surveillance</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Block 10 IOT&E Complete	2	2011	2	2011
OSD Directed Study	1	2010	4	2011

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force								DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>				R-1 ITEM NOMENCLATURE PE 0604425F: <i>Space Situational Awareness Systems</i>				PROJECT 65A009: <i>Space Fence</i>			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
65A009: <i>Space Fence</i>	62.984	164.790	235.460	-	235.460	254.793	323.914	261.574	106.634	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		
A. Mission Description and Budget Item Justification <p>The Space Fence effort will develop a system of ground-based sensors to replace the aging Air Force Space Surveillance System (AFSSS), a Very High Frequency radar operational since 1961. By using higher radio frequencies in conjunction with radar transmitters and receivers co-located at sites dispersed worldwide, the Space Fence will provide timely detection of smaller orbiting objects, primarily those in low-earth orbit (LEO). As a result, it will greatly expand the uncued detection and tracking capacity of the Space Surveillance Network, from just under 20,000 to up to 100,000 objects, while working in concert with other network sensors.</p> <p>This effort is in Budget Activity 5, System Development and Demonstration, because it is developing a new system of ground-based sensors.</p>											
B. Accomplishments/Planned Programs (\$ in Millions)							FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: Space Fence							62.984	164.790	235.460	-	235.460
Description: Space Fence will release Phase A PDR RFP, satisfy Defense Acquisition Executive (DAE) Milestone A Acquisition Decision Memorandum (ADM) criteria, and contractors will complete their Phase A SDR activities and begin Phase A PDR activities. Space Fence will seek MDA approval to release RFP for final Development, Production and Fielding contract, satisfy entry criteria for Milestone B, and award final contract.											
FY 2010 Accomplishments: The three prime contractors completed System Requirements Review (SRR). Government formed high performance team to develop and draft Capabilities Development Document (CDD). Contractors conducted System Design Review (SDR) and demonstrated the prototypes. SDR completed Aug 10.											
FY 2011 Plans: Space Fence will satisfy DAE Milestone A ADM criteria, award follow on contract awards to up to two contractors to continue radar development and prototype activities, to include Preliminary HW/SW Design, and conduct Site Surveys and complete their Pre-CDR Risk Reduction activities.											
FY 2012 Base Plans: Space Fence will seek Milestone Decision Authority (MDA) approval to release RFP for final Development, Production and Fielding contract, and satisfy entry criteria for Milestone B. A Final contract will be awarded for											

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force							DATE: February 2011				
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)			R-1 ITEM NOMENCLATURE PE 0604425F: Space Situational Awareness Systems			PROJECT 65A009: Space Fence					
B. Accomplishments/Planned Programs (\$ in Millions)						FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	
final design and development of the IOC system to include hardware delivery and system build. Program Office and FFRDCs will perform design evaluation and management work.											
FY 2012 OCO Plans:											
Accomplishments/Planned Programs Subtotals						62.984	164.790	235.460	-	235.460	
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• N/A:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
D. Acquisition Strategy											
The Air Force competitively awarded requirements definition contracts for the effort in FY 2006.											
The Air Force competitively awarded three (3) Phase A System Design Review (SDR) contracts in June 2009 to Lockheed Martin, Northrop Grumman, and Raytheon. In February 2010, Northrop Grumman was terminated due to insufficient program funding as a result of a \$30M FY10 appropriations conference funding cut. SDR concluded on 10 December 2010. A full and open competition will occur in FY11 for award of up to two contracts through Preliminary Design Review (PDR). A final full and open competition is planned following PDR and MS B to award for final development, production, fielding and sustainment contract. A phased, incremental capabilities approach will deliver Space Fence capabilities that follow the principles of time-certain capability/development and considers user needs and required delivery dates, technology maturity, program risk, and fiscal constraints. Initial Operational Capability (IOC) consisting of capabilities defined in the CDD and notionally consisting of the first radar site and Space Fence Operations Center is desired no later than FY15. The final schedule will be determined in Phase 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-3, RDT&E Project Cost Analysis: PB 2012 Air Force										DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE				PROJECT					
3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)				PE 0604425F: Space Situational Awareness Systems				65A009: Space Fence					
Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Design and development (Lockheed Martin)	C/FFP	Lockheed Martin:Moorestown, NJ	28.859	1.141	Oct 2010	-		-		-	0.000	30.000	30.000
Design and development (Northrop Grumman)	C/FFP	Northrop Grumman:Linthicum Heights, MD	15.922	-		-		-		-	0.000	15.922	15.922
Design and development (Raytheon)	C/FFP	Raytheon:Sudbury, MA	29.040	0.960	Oct 2010	-		-		-	0.000	30.000	30.000
System design and prototyping (TBD Contractor 1)	C/FFP	TBD Contractor 1:TBD,	-	66.350	Feb 2011	40.650	Oct 2011	-		40.650	Continuing	Continuing	107.000
System design and prototyping (TBD Contractor 2)	C/FFP	TBD Contractor 2:TBD,	-	66.350	Feb 2011	40.650	Oct 2011	-		40.650	Continuing	Continuing	107.000
System development	TBD	TBD:TBD,	-	-		122.900	Jul 2012	-		122.900	Continuing	Continuing	0.000
Design evaluation (Lincoln Lab)	SS/TBD	MIT Lincoln Laboratory:Lexington, MA	8.700	4.547	Oct 2010	3.000	Oct 2011	-		3.000	Continuing	Continuing	0.000
Design evaluation (Mitre)	SS/TBD	MITRE Corp.:Bedford, MA	6.461	5.634	Oct 2010	2.500	Oct 2011	-		2.500	Continuing	Continuing	0.000
Subtotal			88.982	144.982		209.700		-		209.700			289.922
Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Office Support, Technical Studies and Analysis, Systems Engineering and Integration	Various	Electronic Systems Center:Various,	4.544	13.673	Nov 2010	20.550	Nov 2011	-		20.550	Continuing	Continuing	0.000
Development review and management (Odyssey)	C/TBD	Odyssey Systems:Wakefield, MA	3.670	3.038	Feb 2011	2.930	Feb 2012	-		2.930	Continuing	Continuing	0.000
	C/TBD		5.325	3.097	Jan 2011	2.280	Jan 2012	-		2.280	Continuing	Continuing	0.000

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force											DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>				R-1 ITEM NOMENCLATURE PE 0604425F: <i>Space Situational Awareness Systems</i>				PROJECT 65A009: <i>Space Fence</i>					

Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Development review and management (Jacobs)		Jacobs Technology:Tullahoma, TN											
Subtotal			13.539	19.808		25.760		-		25.760			0.000

Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-	0.000	0.000	0.000

Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-	0.000	0.000	0.000

			Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			102.521	164.790		235.460		-		235.460			289.922

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

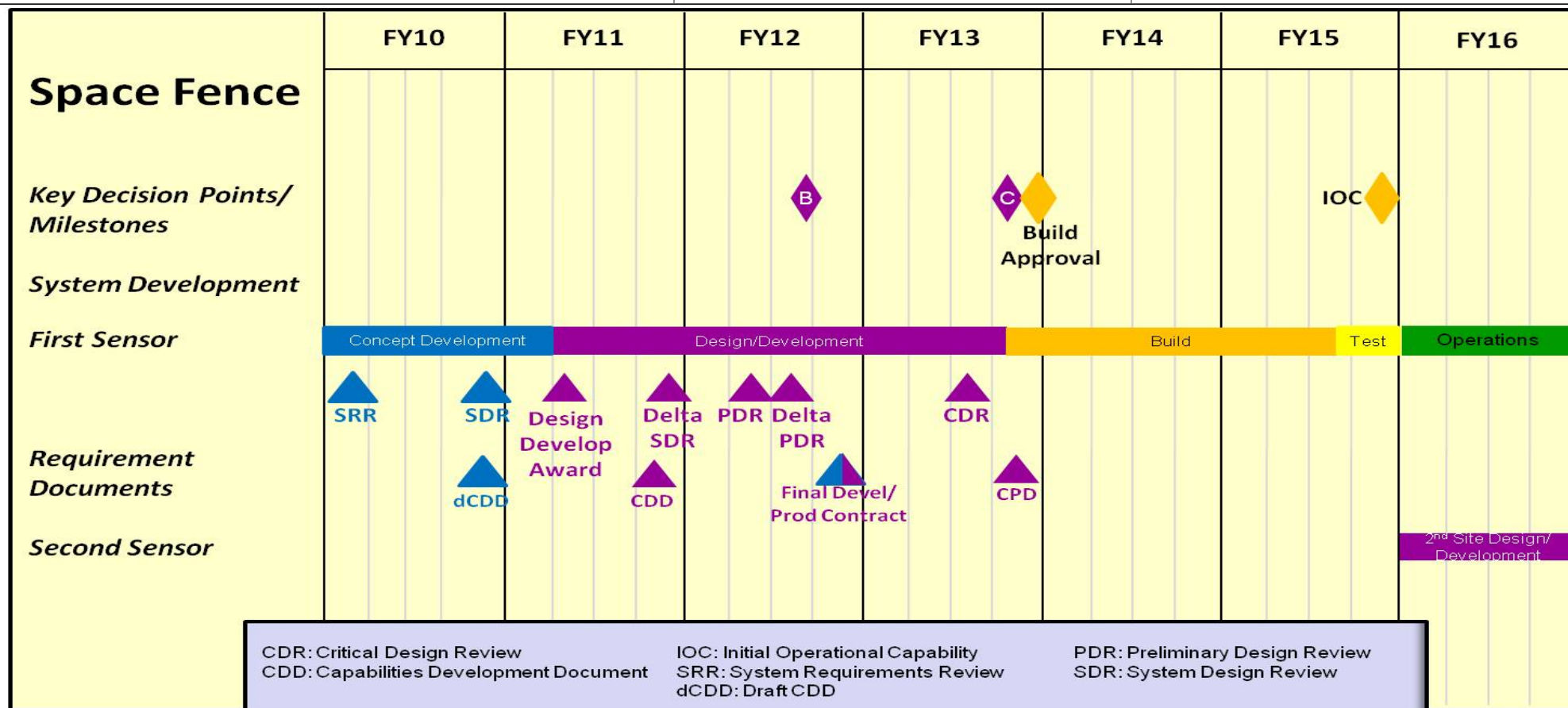
3600: Research, Development, Test & Evaluation, Air Force
BA 5: Development & Demonstration (SDD)

R-1 ITEM NOMENCLATURE

PE 0604425F: Space Situational Awareness
Systems

PROJECT

65A009: Space Fence



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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604425F: <i>Space Situational Awareness Systems</i>	PROJECT 65A009: <i>Space Fence</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
System Requirements Review	1	2010	1	2010
System Design Review	4	2010	4	2010
Draft Capabilities Development Document	4	2010	4	2010
Design Development Award	2	2011	2	2011
Delta System Design Review	4	2011	4	2011
Capabilities Development Document	4	2011	4	2011
Preliminary Design Review	2	2012	2	2012
Delta Preliminary Design Review	3	2012	3	2012
Final Development/Production Contract	4	2012	4	2012
Milestone B	3	2012	3	2012

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force									DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0604425F: Space Situational Awareness Systems				PROJECT 65A012: Net-centric Sensors and Data Sources			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
65A012: Net-centric Sensors and Data Sources	17.072	24.435	10.159	-	10.159	12.575	12.018	7.181	-	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

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 capabilities for better integration of SSA data.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: sensor & data integration & exposure	14.489	23.207	5.982	-	5.982
Description: Providing Data Exposure and Data Source Integration Net-Centrically for consumption and use by the JSPOC and other users					
FY 2010 Accomplishments: Research and analysis for sensor data source roadmapping; traditional / non-traditional SSA sensor and data source exposure, including net-centrally exposing data from GEODSS-Socorro and Milestone sensors (traditional); ESIS & Red Cloud (non-traditional) sensors as well as the following data sources: SAGE, MCERS, and MIDB					
FY 2011 Plans: Research and analysis for sensor data source roadmapping; continuation of traditional / non-traditional SSA sensor and data source exposure to include net-centrally exposing data from GEODSS-Maui, GEODSS-Diego Garcia & Eglin (traditional) as well as TPY-2 (non-traditional) sensors and the following data sources: Road Bed & Wrangler; also complete Blue Force Status Pilot for WGS and Begin BFS for GPS					
FY 2012 Base Plans:					

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force							DATE: February 2011				
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)			R-1 ITEM NOMENCLATURE PE 0604425F: Space Situational Awareness Systems			PROJECT 65A012: Net-centric Sensors and Data Sources					
B. Accomplishments/Planned Programs (\$ in Millions)						FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	
Research and analysis for sensor data source roadmapping; continuation of traditional / non-traditional SSA sensor and data source exposure including net-centrally exposing data from Cape Cod, AFSSS, and Eglin(traditional) sensors; Sea-based X-band (non-traditional) sensor as well as the following data source: Maui Mod Sim											
FY 2012 OCO Plans:											
Title: program office support						2.583	1.228	4.177	-	4.177	
Description: Program Office Support and related support activities											
FY 2010 Accomplishments: program office related support activities such as, technical studies and analysis, systems engineering and integration, and advanced concept technology demonstrations (ACTDs)											
FY 2011 Plans: program office related support activities such as, technical studies and analysis, systems engineering and integration, and advanced concept technology demonstrations (ACTDs)											
FY 2012 Base Plans: program office related support activities such as, technical studies and analysis, systems engineering and integration, and advanced concept technology demonstrations (ACTDs)											
FY 2012 OCO Plans:											
Accomplishments/Planned Programs Subtotals						17.072	24.435	10.159	-	10.159	
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• PE 08036790F: Space Mods Space, OPAF	0.000	0.000	4.312	0.000	4.312	4.482	4.720	4.911	5.000	Continuing	Continuing
D. Acquisition Strategy											
Sensor and data sources activities utilize existing engineering and study contracts and a competitively selected system engineering team. Sensor integration focus is on supporting the migration of the space surveillance network sensors, non-traditional sensors and data sources to a net-centric architecture based on an AFSPC provided prioritization list. The systems engineering team will provide high-level technical oversight support and assist in the proper execution of data exposure.											

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604425F: <i>Space Situational Awareness Systems</i>	PROJECT 65A012: <i>Net-centric Sensors and Data Sources</i>

E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air 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-3, RDT&E Project Cost Analysis: PB 2012 Air Force											DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0604425F: Space Situational Awareness Systems				PROJECT 65A012: Net-centric Sensors and Data Sources						
Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Concept Definition Research and Analysis	Various	Various:Various,	1.000	1.500	Nov 2010	-		-		-	Continuing	Continuing	TBD	
Sensor & Data Source Exposure	Various	Various:Various,	10.429	13.601	Nov 2010	3.482	Nov 2009	-		3.482	Continuing	Continuing	TBD	
Systems Engineering and Integration	Various	Various:Various,	2.960	3.000	Nov 2010	2.500	Nov 2009	-		2.500	Continuing	Continuing	TBD	
ESSA ACTD	Various	MIT Lincoln Laboratory, Lexington, MA:APL, Laurel, MD	0.100	-		-		-		-	0.000	0.100	0.000	
Subtotal			14.489	18.101		5.982		-		5.982				
Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Program Office Operations	Various	Various:Various,	0.747	3.565	Oct 2010	1.546	Oct 2009	-		1.546	Continuing	Continuing	TBD	
FFRDC	SS/CPFF	Aerospace:Los Angeles, CA	1.477	1.558	Oct 2010	1.420	Oct 2011	-		1.420	Continuing	Continuing	TBD	
Engineering and Technical Support	C/FFP	AT&T:Los Angeles, CA	0.359	1.211	Oct 2010	1.211	Oct 2011	-		1.211	Continuing	Continuing	TBD	
Subtotal			2.583	6.334		4.177		-		4.177				
Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Subtotal			-	-		-		-		-	0.000	0.000	0.000	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force											DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>				R-1 ITEM NOMENCLATURE PE 0604425F: <i>Space Situational Awareness Systems</i>				PROJECT 65A012: <i>Net-centric Sensors and Data Sources</i>					

Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-	0.000	0.000	0.000

	Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	17.072	24.435		10.159		-		10.159			

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

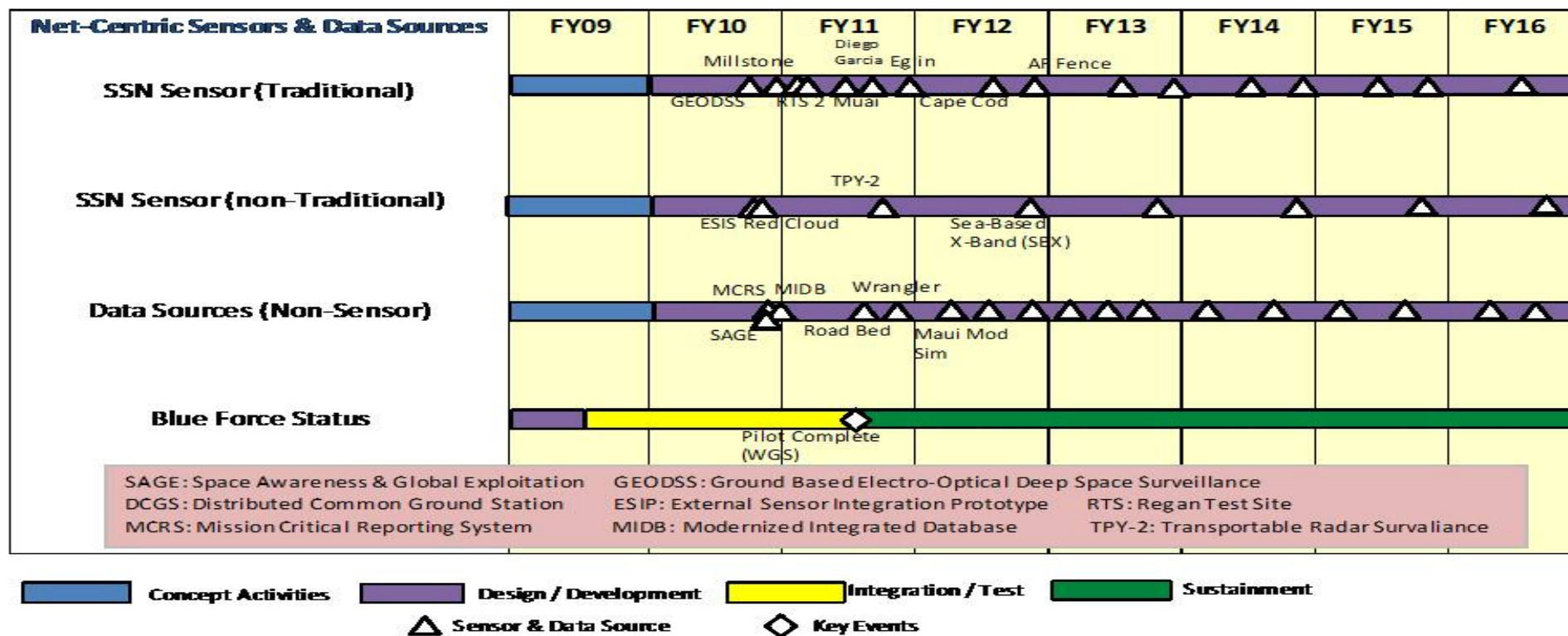
3600: Research, Development, Test & Evaluation, Air Force
BA 5: Development & Demonstration (SDD)

R-1 ITEM NOMENCLATURE

PE 0604425F: Space Situational Awareness Systems

PROJECT

65A012: Net-centric Sensors and Data Sources



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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604425F: <i>Space Situational Awareness Systems</i>	PROJECT 65A012: <i>Net-centric Sensors and Data Sources</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
SSN Sensor (Traditional)	1	2011	4	2011
SSN Sensor (Non-traditional)	2	2011	4	2011
Data Sources (Non-sensor)	2	2011	1	2012

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force									DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0604425F: Space Situational Awareness Systems				PROJECT 65A037: Space Surveillance Telescope			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
65A037: Space Surveillance Telescope	-	1.947	-	-	-	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		
Note											
SST was an FY10 New Start, however, all FY10 funds were subsequently removed by a Congressional Mark. Therefore, FY11 will be the only year in which program funds are allotted.											
A. Mission Description and Budget Item Justification											
The Space Surveillance Telescope (SST) is a Defense Advanced Research Projects Agency (DARPA) program to develop an advanced ground-based optical system to enable detection and tracking of faint objects in deep space, while providing rapid, wide-area search capability. After demonstrating the successful application of state-of-the-art optical, curved charge couple device (CCD) and large telescope control technologies AFSPC will conduct a Military Utility Assessment (MUA). This budget item funds the delivery, evaluation and completion of developmental technical data in order to establish a complete technical baseline of the as-built system, required to operate and support the capability long-term. The SST system will become a contributing Space Surveillance Network sensor during the MUA and a dedicated sensor upon completion of the MUA.											
B. Accomplishments/Planned Programs (\$ in Millions)							FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: Space Surveillance Telescope							-	1.947	-	-	-
Description: Completes technical baseline to allow SST transition to operations.											
FY 2010 Accomplishments:											
FY 2011 Plans:											
Evaluate, complete, and deliver the developmental technical baseline in order to support SST-Initial System during AFSPC's Military Utility Assessment (MUA) and normalized operations and support.											
FY 2012 Base Plans:											
FY 2012 OCO Plans:											
Accomplishments/Planned Programs Subtotals							-	1.947	-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604425F: <i>Space Situational Awareness Systems</i>	PROJECT 65A037: <i>Space Surveillance Telescope</i>
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C. Other Program Funding Summary (\$ in Millions)

			<u>FY 2012</u>	<u>FY 2012</u>	<u>FY 2012</u>					<u>Cost To</u>	
	<u>Line Item</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>Base</u>	<u>OCO</u>	<u>Total</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Complete</u> <u>Total Cost</u>
• N/A:		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing Continuing

D. Acquisition Strategy

This project transitions the SST system, located at White Sands Missile Range, Socorro, New Mexico, from DARPA to the Air Force. It will enable the Air Force to support the system and conduct the MUA beginning in FY11 by obtaining and completing technical baseline documentation available from the DARPA development effort and leverage the significant (~\$90M) DARPA investment to date in this effort.

E. Performance Metrics

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

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force											DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)					R-1 ITEM NOMENCLATURE PE 0604425F: Space Situational Awareness Systems					PROJECT 65A037: Space Surveillance Telescope				
Product Development (\$ in Millions)					FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Space Surveillance Telescope Transition	TBD	MIT Lincoln Laboratory:Lexington, MA	-	1.370	Feb 2011	-		-		-	0.000	1.370	0.000	
Space Surveillance Telescope Data Delivery	C/CPAF	ITT Corporation:Colorado Springs, CO	-	0.391	Feb 2011	-		-		-	0.000	0.391	0.000	
Subtotal			-	1.761		-		-		-	0.000	1.761	0.000	
Support (\$ in Millions)					FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Program Office Support	Various	Electronic Systems Center:Peterson AFB, CO	-	0.186	Feb 2011	-		-		-	0.000	0.186	0.000	
Subtotal			-	0.186		-		-		-	0.000	0.186	0.000	
Test and Evaluation (\$ in Millions)					FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Subtotal			-	-		-		-		-	0.000	0.000	0.000	
Management Services (\$ in Millions)					FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Subtotal			-	-		-		-		-	0.000	0.000	0.000	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force									DATE: February 2011					
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0604425F: Space Situational Awareness Systems				PROJECT 65A037: Space Surveillance Telescope						
				Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals				-	1.947		-		-		-	0.000	1.947	0.000

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

3600: Research, Development, Test & Evaluation, Air Force
BA 5: Development & Demonstration (SDD)

R-1 ITEM NOMENCLATURE

PE 0604425F: Space Situational Awareness
Systems

PROJECT

65A037: Space Surveillance Telescope

Space Surveillance Telescope

Milestones

*System development and
operations*

FY11

FY12

FY13

FY14

FY15

FY16

**First
Light**

**Ops Acceptance-
Contributing
SSN Sensor**

**Notional Dedicated
SSN Sensor**



DARPA
Devel/Demo

Normalization/MUA

Operations/Sustainment

SSN: Space Surveillance Network

MUA: Military Utility Assessment

IOC: Initial Operational Capability

Design / development /DARPA Demo

Integration/Test/MUA

Operations / sustainment

△◇ Key events

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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604425F: <i>Space Situational Awareness Systems</i>	PROJECT 65A037: <i>Space Surveillance Telescope</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Initiate Military Utility Assessment (MUA)	3	2011	4	2013
SSN Contributing Sensor Ops Acceptance	4	2011	4	2011
SSN Dedicated Sensor (notional)	4	2013	4	2013

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force									DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0604425F: Space Situational Awareness Systems				PROJECT 65A038: SSA Environmental Monitoring			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
65A038: SSA Environmental Monitoring	15.501	49.438	15.454	-	15.454	14.337	14.209	13.033	13.613	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

Space Situational Awareness Environmental Monitoring (SSAEM) continues the key space environment measurements of the Defense Meteorological Satellite Program (DMSP) program de-manifested from the planned next generation weather program. These measurements are critical inputs to the nation's space environment analysis and forecasting models supporting the pervasive nature of space environmental support to all aspects of SSA, offensive and defensive space control, GPS accuracy assurance, system anomaly resolution, attribution and responsive actions, and force protection from communication outages/degradation modulated by solar activity. SSAEM includes the fielding of a space-based sensing capability to gather space environment measurement data, developing and procuring sensors, and providing launch and mission assurance. Based on the results of the Alternatives Analysis, SSAEM is pursuing a partnership with the National Oceanic and Atmospheric Administration (NOAA) in the Constellation Observing System for Meteorology, Ionosphere and Climate (COSMIC 2) program or rideshare to host key space weather sensors. SSAEM will fund risk reduction efforts for space sensors by leveraging existing prototypes, operational systems and Joint/Advanced Concept Technology Demonstrations (JCTDs/ACTDs). SSAEM will seamlessly integrate into the overall SSA mission, comply with net-centricity requirements, and provide timely critical decision making data to the SSA battlespace management infrastructure.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: SSAEM	15.501	49.438	15.454	-	15.454
Description: Replenishing critical space weather sensing capability de-manifested from next generation weather program. Develops new on-orbit sensors that will detect ionospheric scintillation and predict effects.					
FY 2010 Accomplishments: Leveraging Joint/Advanced Concept Technology Demonstrations (JCTDs/ACTDs) for risk reduction, and refining and finalizing acquisition/approach for the procurement of sensors in support of initial Key Performance Parameters (KPP) provided by Air Force Space Command. Performing initial development of critical sensors, and funding program office and related support activities such as Acquisition Planning, Technical Studies, Systems Engineering and Integration.					
FY 2011 Plans:					

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force							DATE: February 2011				
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)			R-1 ITEM NOMENCLATURE PE 0604425F: Space Situational Awareness Systems			PROJECT 65A038: SSA Environmental Monitoring					
B. Accomplishments/Planned Programs (\$ in Millions)						FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	
Continues ongoing risk reduction efforts, development of critical sensors and begins procurement of launch vehicles. Funds program office and related support activities, such as Acquisition Planning, Technical Studies, Systems Engineering and Integration.											
FY 2012 Base Plans: Continues ongoing risk reduction efforts, development of critical sensors and contributes to procurement of launch vehicles. Funds program office and related support activities, such as Acquisition Planning, Technical Studies, Systems Engineering and Integration.											
FY 2012 OCO Plans:											
Accomplishments/Planned Programs Subtotals						15.501	49.438	15.454	-	15.454	
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• N/A:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
D. Acquisition Strategy											
Studies have been conducted to determine the optimum strategy for acquiring space-based environmental data sources resulting in a decision to partner with the National Oceanic and Atmospheric Administration (NOAA) in the COSMIC 2 program or rideshare to host SSAEM sensors. Existing sensors with high Technology Readiness Levels (TRL) will be leveraged and technology modernization of SSAEM sensors will be performed by AFRL. The operational SSAEM sensors will be acquired through competitive contract awards. Part of the AF commitment to the Cosmic 2 partnership may require the procurement of launch vehicles through the Space Development Test Wing (SDTW).											
E. Performance Metrics											
Please refer to the Performance Base Budget Overview Book for information on how Air 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-3, RDT&E Project Cost Analysis: PB 2012 Air Force **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)	R-1 ITEM NOMENCLATURE PE 0604425F: Space Situational Awareness Systems	PROJECT 65A038: SSA Environmental Monitoring
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Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Sensor and Spacecraft Launch Integration	C/Various	Air Force Research Laboratory (AFRL)/Space Development and Test Wing:Albuquerque, NM	11.670	36.338		10.500	Jun 2012	-		10.500	Continuing	Continuing	58.510
Subtotal			11.670	36.338		10.500		-		10.500			58.510

Remarks
Sensor development work is currently split between AFRL in Albuquerque, NM, the University of Texas at Dallas, SRI International in Menlo Park, CA, and ITT in North Amityville, NY.

Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management	Various	Space and Missile Systems Center/ AFRL:Los Angeles, CA	3.831	6.400	Oct 2010	3.354	Oct 2011	-		3.354	Continuing	Continuing	13.909
Program Support	Various	Air Force Research Laboratory:Albuquerque, NM	-	2.700	Oct 2010	1.600	Oct 2011	-		1.600	Continuing	Continuing	4.300
Subtotal			3.831	9.100		4.954		-		4.954			18.209

Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Systems Engineering & Mission Assurance	Various	Not specified.,	-	4.000		-		-		-	0.000	4.000	4.000
Subtotal			-	4.000		-		-		-	0.000	4.000	4.000

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force											DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>				R-1 ITEM NOMENCLATURE PE 0604425F: <i>Space Situational Awareness Systems</i>				PROJECT 65A038: <i>SSA Environmental Monitoring</i>					

Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-	0.000	0.000	0.000

	Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	15.501	49.438		15.454		-		15.454			80.719

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

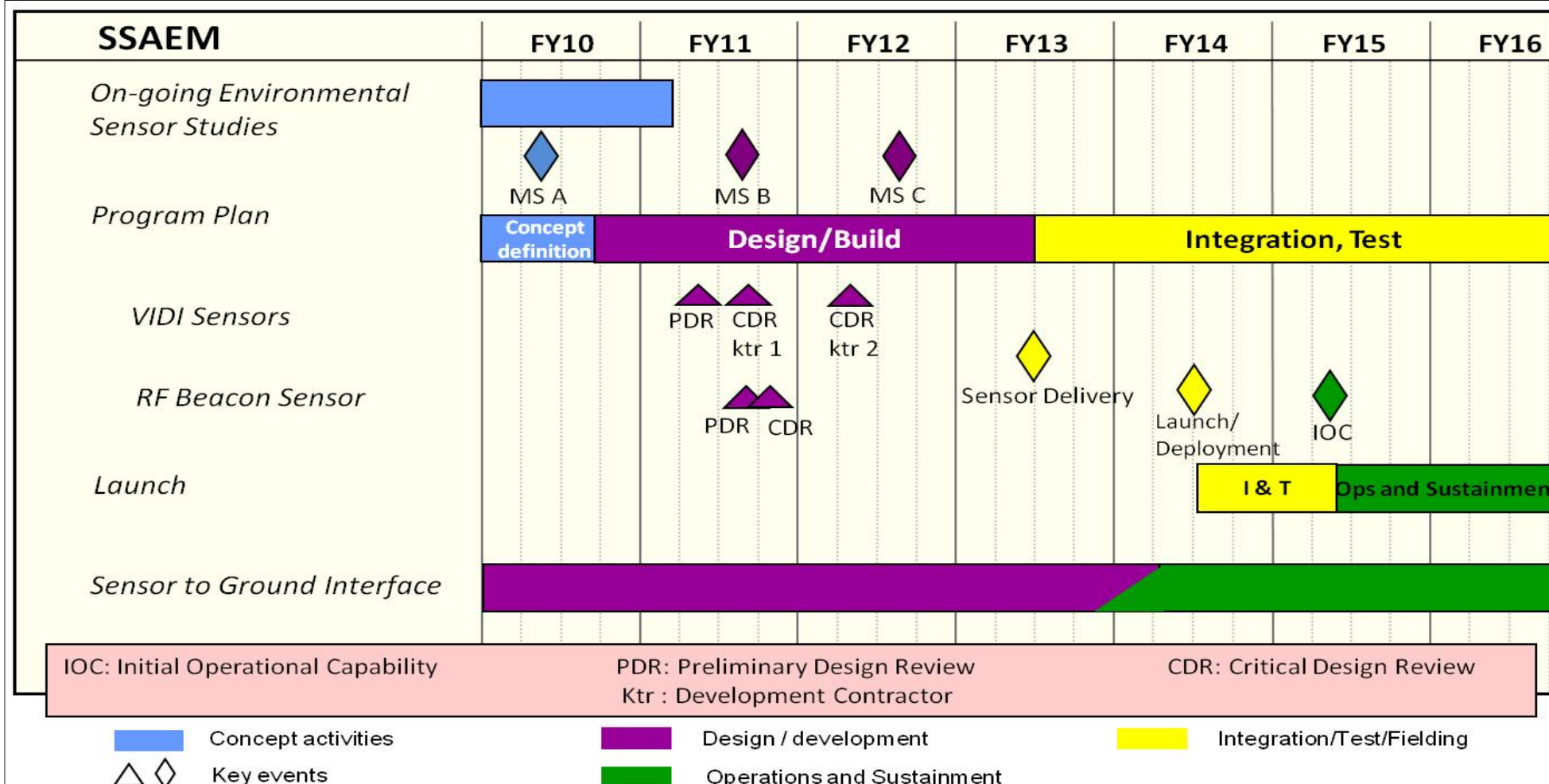
3600: Research, Development, Test & Evaluation, Air Force
BA 5: Development & Demonstration (SDD)

R-1 ITEM NOMENCLATURE

PE 0604425F: Space Situational Awareness Systems

PROJECT

65A038: SSA Environmental Monitoring



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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604425F: <i>Space Situational Awareness Systems</i>	PROJECT 65A038: <i>SSA Environmental Monitoring</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Preliminary Design Review - VIDI Sensors	2	2011	3	2011
Critical Design Review - VIDI Sensors - contractor #1	3	2011	3	2011
Preliminary Design Review - RF Beacon Sensor	3	2011	3	2011
MS B	3	2011	3	2011
Critical Design Review - RF Beacon Sensor	4	2011	4	2011
Critical Design Review - VIDI Sensors - contractor #2	2	2012	2	2012
MS C	3	2012	3	2012
Sensor Delivery - all sensors	2	2013	2	2013
Launch/Deployment of first sensor package	2	2014	2	2014
Initial Operating Capability	2	2015	2	2015

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE							
3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>				PE 0604429F: <i>AIRBORNE ELECTRONIC ATTACK</i>							
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	10.719	25.937	47.100	-	47.100	83.845	20.776	11.471	11.674	Continuing	Continuing
655192: <i>Network & Sys -of-Sys Dev</i>	10.719	6.041	13.858	-	13.858	13.062	11.313	11.471	11.674	Continuing	Continuing
655193: <i>B-52 Stand-Off Jammer</i>	-	19.896	33.242	-	33.242	70.783	9.463	-	-	Continuing	Continuing

A. Mission Description and Budget Item Justification

This program element supports the development of the critical electronic attack capabilities, from technology demonstrations through transition to operational capability, for Air Force and joint operations to include the Global Strike and Persistent Global Attack Concepts of Operations (CONOPS). Based on the 2001 Joint Airborne Electronic Attack (AEA) Analysis of Alternatives (AoA) and the follow-on 2002 Joint Suppression of Enemy Air Defenses (Joint SEAD) presentation to OSD (AT&L), the AEA capability will consist of a number of components working together in a joint system of systems. The Joint SEAD presentation identified the Navy AEA components as the EA-6B Improved Capability (ICAP) III and EA-18G modified escort platforms and indicated the Air Force will be responsible for coordinating overall AEA system of systems requirements. AF component capabilities include the Miniature Air Launched Decoy (MALD) and its stand-in jammer variant called MALD-J, the EC-130H Compass Call Baseline 0 (formerly Block 35) configuration and Active Electronically Scanned Array (AESA) radar equipped aircraft, and potentially, recoverable unmanned stand-in and manned long range stand-off jammer platforms. Additionally, this program element supports the development and demonstration of capabilities for use in Irregular Warfare scenarios against non-Integrated Air Defense System (IADS) targets such as communications networks, remote controlled improvised explosive devices, and man-portable air defenses.

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. Program Change Summary (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	11.107	25.937	47.690	-	47.690
Current President's Budget	10.719	25.937	47.100	-	47.100
Total Adjustments	-0.388	-	-0.590	-	-0.590
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.342	-			
• Other Adjustments	-0.046	-	-0.590	-	-0.590

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APPROPRIATION/BUDGET ACTIVITY
 3600: *Research, Development, Test & Evaluation, Air Force*
 BA 5: *Development & Demonstration (SDD)*

R-1 ITEM NOMENCLATURE
PE 0604429F: *AIRBORNE ELECTRONIC ATTACK*

No significant changes in FY10-FY12.

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force									DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE				PROJECT			
3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)				PE 0604429F: AIRBORNE ELECTRONIC ATTACK				655192: Network & Sys -of-Sys Dev			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
655192: Network & Sys -of-Sys Dev	10.719	6.041	13.858	-	13.858	13.062	11.313	11.471	11.674	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

This project 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, 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 an advanced electronic attack capability for use in Irregular Warfare scenarios against non-IADS targets such as communications networks, remote controlled improvised explosive devices, and man-portable air defenses.

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 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: System Engineering Studies	7.221	4.541	9.474	-	9.474
Description: Apply systems engineering rigor to manage Air Force AEA program requirements, designs, and operational concepts.					
FY 2010 Accomplishments: Demonstrated effectiveness of high power low/mid frequency phased array transmitters and digital techniques generator technologies against a typical IADs system; updated AF EW Roadmap with latest information including assisting with development and production of the AF EW Vision 2030 (EV2030); updated the AF EW					

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: 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 2010	FY 2011	FY 2012 Base
<p>Capability Investment Strategy with studies of common dispenser systems for a variety of aircraft and solutions to close identified AF EW infrastructure gaps; and conducted analysis to identify appropriate platform(s) to carry and operate an advanced electronic attack capability.</p> <p>FY 2011 Plans: Analyze contributions of multiple AEA SoS components coupled with legacy and new development self-protection systems; update AF EW Roadmap and develop Implementation Plan for AF EW Vision 2030 as directed by HQ AF; update the AF EW Capability Investment Strategy with studies approved by the sponsoring MAJCOMS in support of AF EW Roadmap initiatives.</p> <p>FY 2012 Base Plans: Analyze contributions of multiple AEA SoS components to both IADS and non-IADS scenarios for both major warfare and irregular warfare; update AF EW Roadmap as directed by HQ AF; update the AF EW Capability Investment Strategy with studies approved by the sponsoring MAJCOMS in support of AF EW Roadmap initiatives.</p> <p>FY 2012 OCO Plans:</p>					
<p>Title: Capability Planning</p> <p>Description: Provide capability planning to the Air Force electronic warfare portfolio and constructive modeling and simulation and analysis management.</p> <p>FY 2010 Accomplishments: Provided updated non-IADS and irregular warfare scenarios for digital modeling and simulation to enable the AF, other Services, and DoD to have a common database from which to analyze EW effectiveness.</p> <p>FY 2011 Plans: Conduct additional AEA SoS simulations to assess effectiveness of newly emerging/upgraded systems (EA-18G, MALD-J, EC-130H upgrades, Comms EA Pod, etc.) operating together in stressing IADS environments and Irregular Warfare/non-IADS environments.</p> <p>FY 2012 Base Plans:</p>			3.498	1.500	4.384
					-
					4.384

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force						DATE: February 2011					
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>				R-1 ITEM NOMENCLATURE PE 0604429F: <i>AIRBORNE ELECTRONIC</i> <i>ATTACK</i>				PROJECT 655192: <i>Network & Sys -of-Sys Dev</i>			
B. Accomplishments/Planned Programs (\$ in Millions)											
						FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	
Conduct additional AEA SoS simulations to assess effectiveness of newly emerging/upgraded systems (EA-18G, MALD-J, EC-130H upgrades, Comms EA Pod, etc.) operating together in stressing IADS environments and Irregular Warfare/non-IADS environments.											
<i>FY 2012 OCO Plans:</i>											
Accomplishments/Planned Programs Subtotals						10.719	6.041	13.858	-	13.858	
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• N/A: <i>None</i>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
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.											

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604429F: <i>AIRBORNE ELECTRONIC ATTACK</i>	PROJECT 655192: <i>Network & Sys -of-Sys Dev</i>
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Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
AEA system of systems engineering	C/CPFF	Various:Various,	57.598	2.541	Dec 2010	6.879	Dec 2011	-		6.879	Continuing	Continuing	0.000
Subtotal			57.598	2.541		6.879		-		6.879			0.000

Remarks
Includes system of systems engineering; architecture development; network requirements development; EW assessments; technology maturation; working group support; engineering, and test planning.

Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
AEA requirements support	MIPR	Various:Various,	5.432	1.000	Dec 2010	1.421	Dec 2010	-		1.421	Continuing	Continuing	0.000
Subtotal			5.432	1.000		1.421		-		1.421			0.000

Remarks
Requirements support includes contracted requirements refinement support for ACC and AF/A5R

Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
AEA Virtual test/AFEWICS/Technology Demonstrations	Various	Various:Various,	33.825	1.500	Dec 2010	4.168	Dec 2011	-		4.168	Continuing	Continuing	0.000
Subtotal			33.825	1.500		4.168		-		4.168			0.000

Remarks
AEA virtual test element includes modeling and simulation for SoS EW assessments, conducting technology risk mitigation demonstrations, DoD scenario initiation & distribution, SoS test planning/rehearsal, and supports Air Force Electronic Warfare Capability Investment Strategy (AFEWCIS) roadmap development, maintenance, & assessments

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force											DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>					R-1 ITEM NOMENCLATURE PE 0604429F: <i>AIRBORNE ELECTRONIC ATTACK</i>					PROJECT 655192: <i>Network & Sys -of-Sys Dev</i>				

Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
ASC/XR (AEA Synch office)	Various	Various:Various,	5.949	1.000	Nov 2010	1.390	Nov 2011	-		1.390	Continuing	Continuing	0.000
Subtotal			5.949	1.000		1.390		-		1.390			0.000

Remarks
 Element includes miscellaneous administrative costs incurred in the day-to-day operations by program offices. Costs include travel, office equipment, office supplies, printing, contract services, program management administrative and communications expenses.

	Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	102.804	6.041		13.858		-		13.858			0.000

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

3600: Research, Development, Test & Evaluation, Air Force
BA 5: Development & Demonstration (SDD)

R-1 ITEM NOMENCLATURE

PE 0604429F: AIRBORNE ELECTRONIC
ATTACK

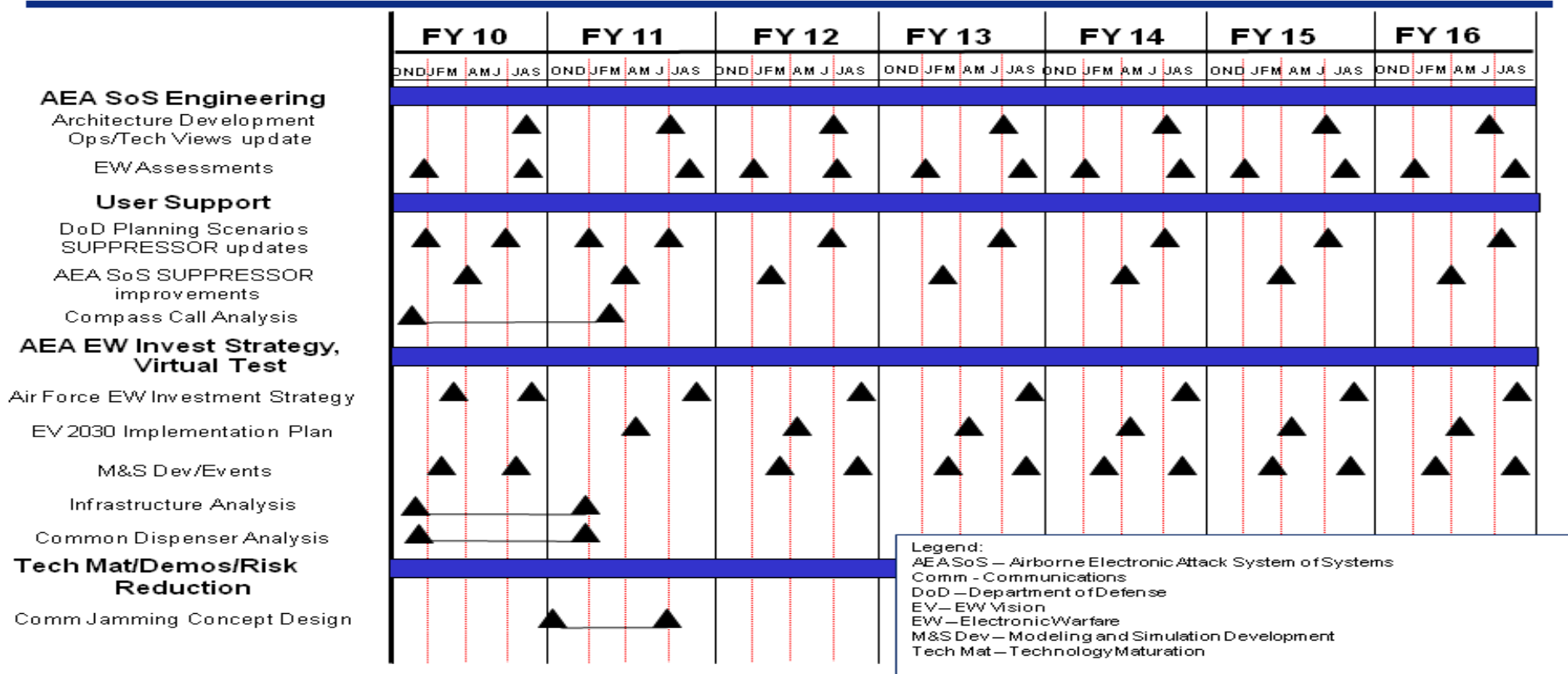
PROJECT

655192: Network & Sys -of-Sys Dev



AEA SoS Schedule

BPAC 655192



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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604429F: <i>AIRBORNE ELECTRONIC</i> <i>ATTACK</i>	PROJECT 655192: <i>Network & Sys -of-Sys Dev</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Continuing to support EW assessments	1	2010	4	2016
Comm Jamming Concept Design	4	2010	4	2011

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force								DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0604429F: AIRBORNE ELECTRONIC ATTACK				PROJECT 655193: B-52 Stand-Off Jammer			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
655193: B-52 Stand-Off Jammer	-	19.896	33.242	-	33.242	70.783	9.463	-	-	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		
Note											
The program funding includes reductions for overhead reduction efficiencies that are not intended to impact program content. The efficiencies reductions total \$.433M in FY12.											
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.											
B. Accomplishments/Planned Programs (\$ in Millions)							FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: Initial Development Efforts							-	5.000	5.000	-	5.000
Description: Initiate development of an advanced electronic attack irregular warfare jamming capability.											
FY 2010 Accomplishments:											
FY 2011 Plans:											
Finalize detailed requirements via acquisition strategy baseline planning and analysis, modeling and simulation, systems/sustaining engineering strategy and analysis, risk analysis, test and evaluation strategy, life cycle cost estimates, and sustainment/logistics analysis.											
FY 2012 Base Plans:											
Complete planning and analysis needed to support Risk Reduction and prepare for Engineering Manufacturing and Development.											
FY 2012 OCO Plans:											
Title: Risk Reduction							-	14.896	28.242	-	28.242

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force				DATE: February 2011							
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>		R-1 ITEM NOMENCLATURE PE 0604429F: <i>AIRBORNE ELECTRONIC ATTACK</i>		PROJECT 655193: <i>B-52 Stand-Off Jammer</i>							
B. Accomplishments/Planned Programs (\$ in Millions)											
		FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total					
Description: Electronic Attack Pod risk reduction will focus on jammer technology, concept design, demonstrations and initial integration efforts.											
FY 2010 Accomplishments:											
FY 2011 Plans: Begin Risk Reduction efforts to include lab demonstrations.											
FY 2012 Base Plans: Continue Risk Reduction, moving from lab to flight demonstrations.											
FY 2012 OCO Plans:											
Accomplishments/Planned Programs Subtotals		-	19.896	33.242	-	33.242					
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• PE 0207442F: <i>APAF</i>	0.000	0.000	0.000	0.000	0.000	0.000	18.170	73.879	8.300	Continuing	Continuing
D. Acquisition Strategy A full and open competition is planned.											
E. Performance Metrics Please refer to the Performance Base Budget Overview Book for information on how Air 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-3, RDT&E Project Cost Analysis: PB 2012 Air Force											DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0604429F: AIRBORNE ELECTRONIC ATTACK				PROJECT 655193: B-52 Stand-Off Jammer					
Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
EA System Development	TBD	Not specified.:	-	18.796		27.122		-		27.122	Continuing	Continuing	0.000
Subtotal			-	18.796		27.122		-		27.122			0.000
Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Engineering and Integration Support	Various	Not specified.:	-	-		1.670		-		1.670	Continuing	Continuing	0.000
Subtotal			-	-		1.670		-		1.670			0.000
Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Developmental and Operational Test Planning and Support	C/Various	Not specified.:	-	-		1.100		-		1.100	Continuing	Continuing	0.000
Subtotal			-	-		1.100		-		1.100			0.000
Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
ASC/XR	Various	Various:Various,	-	1.100		3.350		-		3.350	Continuing	Continuing	0.000
Subtotal			-	1.100		3.350		-		3.350			0.000
			Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			-	19.896		33.242		-		33.242			0.000

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force						DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>			R-1 ITEM NOMENCLATURE PE 0604429F: <i>AIRBORNE ELECTRONIC ATTACK</i>			PROJECT 655193: <i>B-52 Stand-Off Jammer</i>			
	Total Prior Years Cost	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract	
Remarks									

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

3600: *Research, Development, Test & Evaluation, Air Force*
BA 5: *Development & Demonstration (SDD)*

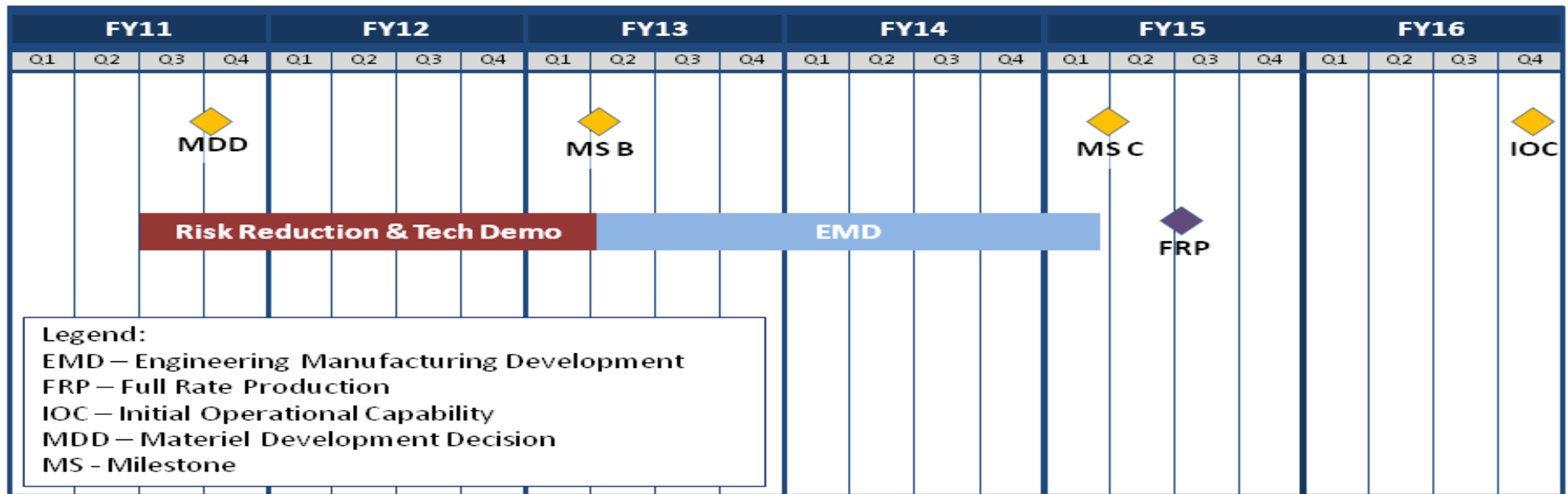
R-1 ITEM NOMENCLATURE

PE 0604429F: *AIRBORNE ELECTRONIC
ATTACK*

PROJECT

655193: *B-52 Stand-Off Jammer*

Notional Schedule



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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604429F: <i>AIRBORNE ELECTRONIC</i> <i>ATTACK</i>	PROJECT 655193: <i>B-52 Stand-Off Jammer</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Materiel Development Decision	4	2011	4	2011
Milestone B Decision	2	2013	2	2013
Milestone C Decision	2	2015	2	2015

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE							
3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>				PE 0604441F: <i>Spaced Based Infrared System (SBIRS) High</i>							
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	521.470	530.047	621.629	-	621.629	572.960	427.234	29 .552	299.134	Continuing	Continuing
653616: <i>SBIRS High Element EMD</i>	521.470	511.847	605.111	-	605.111	572.960	427.234	29 .552	299.134	Continuing	Continuing
65A040: <i>Commercially Hosted Infrared Payload (CHIRP)</i>	-	18.200	16.518	-	16.518	-	-	-	-	Continuing	Continuing

Note

The program funding includes overhead reductions for efficiencies that are not intended to impact program content. The efficiencies reductions total \$12.499 in FY12.

Totals include funding for PRCP Program (PNO) 210 SBIRS High.

A. Mission Description and Budget Item Justification

(U) 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 incorporate new technologies to 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 US Strategic Command's Capstone Requirements Document and 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 accepted and certified for Integrated Tactical Warning/Attack Assessment (ITW/AA) missile warning operations and technical intelligence operations. 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.

(U) The Department of Defense terminated the Third Generation Infrared Surveillance (3GIRS) program (PE 0604443F) beginning in FY11. 3GIRS included development efforts for the Commercially Hosted Infrared Payload (CHIRP) demonstration. FY11 and FY12 funds supporting the CHIRP demonstration for technology maturation of space and ground technologies was moved to the SBIRS RDT&E PE under a separate project number. CHIRP will perform risk reduction and evaluation of Wide-Field-of-View (WFOV) IR staring and data processing technology to potentially evolve future SBIRS staring sensors and processing algorithms. An on-orbit demonstration will quantify performance levels of a WFOV sensor in an operational environment. CHIRP sensor testing will also provide Focal Plane Array (FPA) performance/calibration characteristics, validate WFOV staring algorithm performance in an operational environment, and investigate compatibility with current Overhead Persistent Infrared (OPIR) ground systems for missile warning, missile defense, and other mission areas.

(U) SBIRS GEO-5 and 6 satellites will be procured through the Department of Defense's Evolutionary Acquisition for Space Efficiency (EASE). EASE is a procurement approach which seeks stable production and strategic subtier management through the block buy of two space vehicles employing fixed-priced contracting (please

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604441F: <i>Spaced Based Infrared System (SBIRS) High</i>
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see SBIRS P-40 Exhibit). In addition to block-buy procurement, EASE includes RDT&E funding for a Capability and Affordability Improvement Program (CAIP). CAIP seeks to improve manufacturability and lower recurring costs by addressing parts obsolescence through sustaining engineering. CAIP also provides opportunities for competition to develop potential technology upgrades at the component and system level for future spacecraft. CAIP funding is included within the EMD funding shown at top however will be broken out into a separate budget program activity code (BPAC) by the next budget cycle. CAIP funding levels are: FY12=\$0M, FY13=\$125.476, FY14=\$126.452, FY15=\$127.153, FY16=\$127.412M.

(U) This program is assigned to Budget Activity 5, System Development and Demonstration (SDD), because it funds the development activities for the SBIRS High program, CHIRP demonstration, and CAIP.

B. Program Change Summary (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	521.156	530.047	504.409	-	504.409
Current President's Budget	521.470	530.047	621.629	-	621.629
Total Adjustments	0.314	-	117.220	-	117.220
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	0.314	-	117.220	-	117.220

Change Summary Explanation

EMD Space: +\$131.8M FY12 (+\$207M FYDP total) increase for EMD Space segment completion as a result of flight software delays to GEO-1 and also impacting GEO-2 schedule.

CAIP: The CAIP program was added as described above.

Efficiencies: The program funding includes PMA reductions for efficiencies that are not intended to impact program content. The efficiencies reductions total \$12.499 in FY12.

Economic Assumptions: FY12 prescribed inflation adjustments are -\$2.026M.

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE				PROJECT			
3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>				PE 0604441F: <i>Spaced Based Infrared System (SBIRS) High</i>				653616: <i>SBIRS High Element EMD</i>			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
653616: <i>SBIRS High Element EMD</i>	521.470	511.847	605.111	-	605.111	572.960	427.234	29.552	299.134	Continuing	Continuing
Quantity of RDT&E Articles	0	1	1	0	1	0	0	0	0		

Note

Quantity of RDT&E articles above reflect delivery of GEO-1 in FY11 and GEO-2 in FY12. Both were developed under this BPAC.

A. Mission Description and Budget Item Justification

Totals include funding for PRCP Program (PNO) 210 SBIRS High.

(U) 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 incorporate new technologies to 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 US Strategic Command's Capstone Requirements Document and 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 accepted and certified for Integrated Tactical Warning/Attack Assessment (ITW/AA) missile warning operations and technical intelligence operations. 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.

(U) 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 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: SBIRS EMD	521.470	511.847	605.111	-	605.111
Description: Continue EMD contracts for Space and Ground segment development, concept studies/activities for obsolescence issues.					
FY 2010 Accomplishments:					

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force							DATE: February 2011				
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0604441F: Spaced Based Infrared System (SBIRS) High			PROJECT 653616: SBIRS High Element EMD				
B. Accomplishments/Planned Programs (\$ in Millions)							FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
<p>Continued GEO development, GEO 1&2 integration, assembly and test, design activities, proposal preparation, Ground System Development, System Engineering and Program Management, 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. Implemented Ground segment restructure (Block 10 hardware/software to address obsolescence issues, information assurance, and improve data fusion). Continued Program Office and related support activities (to include SETA), technical analysis and independent verification and validation of contractor. Initiate Systems Engineering and Integration (SE&I).</p> <p>FY 2011 Plans: Continue GEO development. Complete final GEO-1 flight software verification and hardware installs, execute GEO-1 launch campaign. Continue GEO-2 integration, assembly and test, design activities, proposal preparation, Ground System Development (Block 10), System Engineering and Program Management, 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. Continue Program Office and related support activities (to include SETA), technical analysis and independent verification and validation of contractor. Continue Systems Engineering and Integration (SE&I).</p> <p>FY 2012 Base Plans: Continue GEO development. Continue GEO-1 on-orbit testing. Continue GEO-2 integration, assembly and test, design activities, proposal preparation, Ground System Development (Block 10), System Engineering and Program Management, 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. Execute GEO-2 launch campaign. Continue Program Office and related support activities (to include SETA), technical analysis and independent verification and validation of contractor. Continue Systems Engineering and Integration (SE&I).</p> <p>FY 2012 OCO Plans:</p>											
Accomplishments/Planned Programs Subtotals							521.470	511.847	605.111	-	605.111
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• OPAF: PE 0305915F, SBIRS	1.994	24.804	50.518	0.000	50.518	47.000	28.227	25.888	7.617	Continuing	Continuing

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force										DATE: February 2011	
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0604441F: Spaced Based Infrared System (SBIRS) High				PROJECT 653616: SBIRS High Element EMD			
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• MPAF: PE 0305915F, SBIRS High	463.895	970.704	324.889	0.000	324.889	448.770	504.468	492.568	493.839	Continuing	Continuing
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.											
E. Performance Metrics											
Please refer to the Performance Base Budget Overview Book for information on how Air 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-3, RDT&E Project Cost Analysis: PB 2012 Air Force **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)	R-1 ITEM NOMENCLATURE PE 0604441F: Spaced Based Infrared System (SBIRS) High	PROJECT 653616: SBIRS High Element EMD
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Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	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	159.600	159.600
SBIRS EMD	Various	Prime: Lockheed Martin Sunnyvale; Sub: Northrup Grumman;	7,072.009	452.183	Oct 2010	557.884	Oct 2011	-		557.884	Continuing	Continuing	TBD
Systems engineering and Integration (SEI)	C/CPAF	The Analytical Sciences Corporation:Andover, MA	5.947	12.086	Dec 2010	9.665	Dec 2011	-		9.665	17.936	45.634	45.634
SBIRS Pre-SDD Contract Adjustment	Various	Not specified.;	4.780	-		-		-		-	0.000	4.780	4.780
Technology	Various	Not specified.;	11.600	-		-		-		-	0.000	11.600	11.600
Phenomenology	Various	Not specified.;	17.350	-		-		-		-	0.000	17.350	17.350
Sensor Technology (Sandia Nat'l Lab)	Various	Not specified.;	10.000	-		-		-		-	0.000	10.000	10.000
Subtotal			7,281.286	464.269		567.549		-		567.549			

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 fiscal year.

Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Technical Support (FFRDC)	Various	Not specified.;	356.679	29.348	Nov 2010	23.270	Nov 2011	-		23.270	43.701	452.998	452.998
Program Management Support	Various	Not specified.;	170.511	18.230	Oct 2010	14.292	Oct 2011	-		14.292	29.477	232.510	232.510
Subtotal			527.190	47.578		37.562		-		37.562	73.178	685.508	685.508

Remarks

Award dates represent date of first award of the fiscal year.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force										DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE				PROJECT					
3600: Research, Development, Test & Evaluation, Air Force				PE 0604441F: Spaced Based Infrared System				653616: SBIRS High Element EMD					
BA 5: Development & Demonstration (SDD)				(SBIRS) High									
Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-	0.000	0.000	0.000
Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-	0.000	0.000	0.000
			Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			7,808.476	511.847		605.111		-		605.111			
Remarks													
The total program cost estimate (to include to-complete cost)is pending the Service Cost Position to be completed spring 2011.													

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

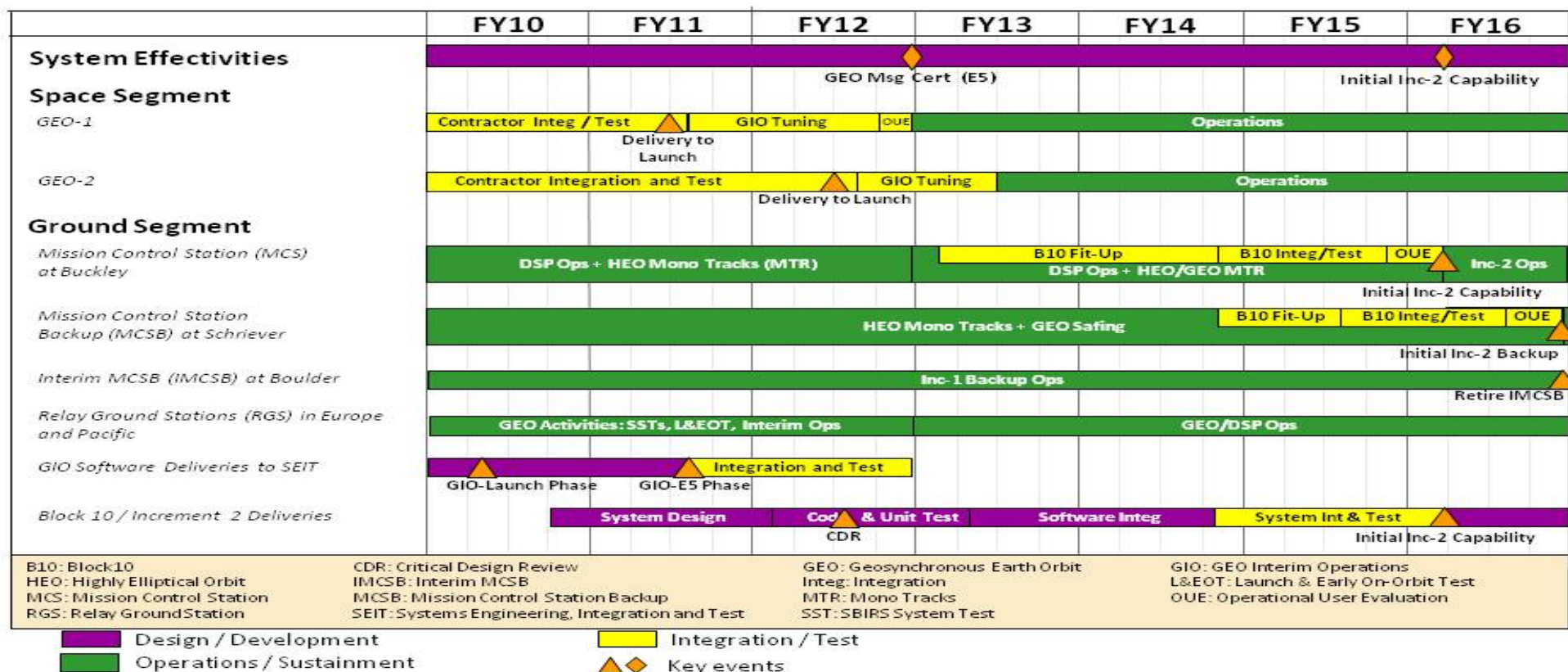
3600: Research, Development, Test & Evaluation, Air Force
BA 5: Development & Demonstration (SDD)

R-1 ITEM NOMENCLATURE

PE 0604441F: Spaced Based Infrared System
(SBIRS) High

PROJECT

653616: SBIRS High Element EMD



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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

3600: *Research, Development, Test & Evaluation, Air Force*
BA 5: *Development & Demonstration (SDD)*

R-1 ITEM NOMENCLATURE

PE 0604441F: *Spaced Based Infrared System (SBIRS) High*

PROJECT

653616: *SBIRS High Element EMD*

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
GEO-1 TVAC Closed Door Test	1	2010	1	2010
GEO Interim Operations (GIO) Software Delivery for Launch	2	2010	2	2010
GEO-1 FIST Complete	1	2011	1	2011
GEO-2 BIST-2	1	2011	2	2011
GEO-1 Satellite Delivery	2	2011	2	2011
GEO-2 Acoustic Test	3	2011	3	2011
GEO-1 P/L Calibration and Tuning	3	2011	3	2012
GEO Interim Operations (GIO) Software Final Delivery	3	2011	3	2011
GEO-2 TVAC Closed Door Test	4	2011	4	2011
Block 10 Code and Unit Test	1	2012	2	2013
GEO-2 Satellite Delivery	2	2012	2	2012
Block 10 Critical Design Review (CDR) Complete	3	2012	3	2012
GEO Message Cert	4	2012	4	2012

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force									DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE				PROJECT			
3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)				PE 0604441F: Spaced Based Infrared System (SBIRS) High				65A040: Commercially Hosted Infrared Payload (CHIRP)			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
65A040: Commercially Hosted Infrared Payload (CHIRP)	-	18.200	16.518	-	16.518	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

(U) The Department of Defense terminated the Third Generation Infrared Surveillance (3GIRS) program (PE 0604443F) beginning in FY11. 3GIRS included development efforts for the Commercially Hosted Infrared Payload (CHIRP) demonstration. FY11 and FY12 funds supporting the CHIRP demonstration for technology maturation of space and ground technologies were moved to the SBIRS RDT&E PE under a separate project number.

(U) CHIRP will perform risk reduction and evaluation of Wide-Field-of-View (WFOV) IR staring and data processing technology to potentially evolve future SBIRS staring sensors and processing algorithms. An on-orbit demonstration will quantify performance levels of a prototype WFOV sensor in an operational environment. CHIRP sensor testing will also provide Focal Plane Array (FPA) performance/calibration characteristics, validate WFOV staring algorithm performance in an operational environment, and investigate compatibility with current Overhead Persistent Infrared (OPIR) ground systems for missile warning, missile defense, and other mission areas.

(U) This program is assigned to Budget Activity 5, System Development and Demonstration (SDD) because it funds the development activities for the CHIRP demonstration.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: CHIRP	-	18.200	16.518	-	16.518
Description: Continue contracts for Commercially Hosted Infrared Payload (CHIRP) demonstration and related support activities.					
FY 2010 Accomplishments:					
FY 2011 Plans: Continue CHIRP payload integration and testing onto commercial host spacecraft. Continue development and test of mission data processing and ground infrastructure to mature WFOV algorithms and technologies. Demonstrate CHIRP on-orbit capabilities to include fusion of CHIRP data with other OPIR systems. Collect, archive and analyze on-orbit data against cooperative targets and continue to mature WFOV algorithms. Continue Program Office and related support activities.					
FY 2012 Base Plans:					

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force									DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0604441F: Spaced Based Infrared System (SBIRS) High				PROJECT 65A040: Commercially Hosted Infrared Payload (CHIRP)			
B. Accomplishments/Planned Programs (\$ in Millions)							FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Continue CHIRP on-orbit demonstration to include fusion of CHIRP data with other OPIR systems. Collect, archive and analyze on-orbit data against cooperative targets and continue to mature WFOV algorithms. Continue Program Office and related support activities. <i>FY 2012 OCO Plans:</i>											
Accomplishments/Planned Programs Subtotals							-	18.200	16.518	-	16.518
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• 3GIRS: PE 0604443F	78.420	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
D. Acquisition Strategy											
Continuation of risk reduction and evaluation of WFOV IR staring and data processing technology within CHIRP will be performed through contracts previously funded and initiated by the Third Generation Infrared Surveillance (3GIRS) program. In FY2010, within the 3GIRS program, CHIRP completed and delivered the flight demonstration payload to commercial host for integration and testing.											
E. Performance Metrics											
Please refer to the Performance Base Budget Overview Book for information on how Air 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-3, RDT&E Project Cost Analysis: PB 2012 Air Force											DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE				PROJECT						
3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)				PE 0604441F: Spaced Based Infrared System (SBIRS) High				65A040: Commercially Hosted Infrared Payload (CHIRP)						
Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
WFOV IR staring technologies risk reduction activities	Various	Various:Various,	-	12.200	Nov 2010	11.530	Nov 2011	-		11.530	0.000	23.730	23.730	
Subtotal			-	12.200		11.530		-		11.530	0.000	23.730	23.730	
Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Program office, data analysis and reporting, and technical support including federally funded research and development center (FFRDC/ SETA)	Various	Various:Various,	-	6.000	Nov 2010	4.988	Nov 2011	-		4.988	0.000	10.988	11.043	
Subtotal			-	6.000		4.988		-		4.988	0.000	10.988	11.043	
Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Subtotal			-	-		-		-		-	0.000	0.000	0.000	
Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Subtotal			-	-		-		-		-	0.000	0.000	0.000	
			Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract	
Project Cost Totals			-	18.200		16.518		-		16.518	0.000	34.718	34.773	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force							DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)			R-1 ITEM NOMENCLATURE PE 0604441F: Spaced Based Infrared System (SBIRS) High			PROJECT 65A040: Commercially Hosted Infrared Payload (CHIRP)			
	Total Prior Years Cost	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract	

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

3600: Research, Development, Test & Evaluation, Air Force
BA 5: Development & Demonstration (SDD)

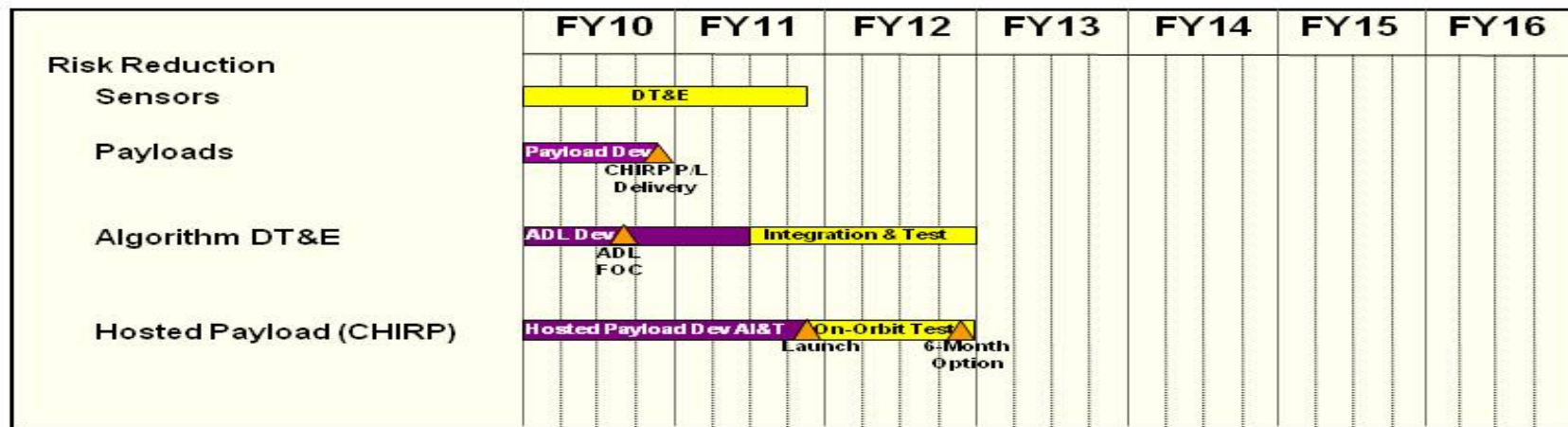
R-1 ITEM NOMENCLATURE

PE 0604441F: Spaced Based Infrared System
(SBIRS) High

PROJECT

65A040: Commercially Hosted Infrared Payload
(CHIRP)

CHIRP Schedule



AI&T: Assembly, Integration & Test ADL: Algorithm Development Lab DT&E: Development, Test & Eval IOC: Initial Operational Capability

Integration / test Design / development Key events Production / fielding

Activities prior to FY11 funded in PE 0604443F, Third Generation Infrared Surveillance (3GIRS)

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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604441F: <i>Spaced Based Infrared System (SBIRS) High</i>	PROJECT 65A040: <i>Commercially Hosted Infrared Payload (CHIRP)</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Algorithm Development and Deliveries	1	2011	2	2011
Algorithm Integration and Test	3	2011	4	2012
Commercially Hosted IR Payload (CHIRP) Launch	4	2011	4	2011
CHIRP Flight Demo	4	2011	4	2012

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE							
3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>				PE 0604443F: <i>Third Generation Infrared Surveillance (3GIRS)</i>							
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	78.418	-	-	-	-	-	-	-	-	Continuing	Continuing
65A020: <i>AIRSS</i>	78.418	-	-	-	-	-	-	-	-	Continuing	Continuing

A. Mission Description and Budget Item Justification

(U) The Department of Defense terminated the Third Generation Infrared Surveillance (3GIRS) program beginning in FY11.

(U) 3GIRS included development efforts for the Commercially Hosted Infrared Payload (CHIRP) demonstration. CHIRP efforts will continue through completion. The FY11 and FY12 funds needed to conduct the CHIRP demonstration for technology maturation of space and ground technologies were moved to the Space Based Infrared Systems (SBIRS) program, PE 0604441F under a separate project number (A040).

(U) This program is assigned to Budget Activity 5, System Development and Demonstration (SDD), because it funded the development activities for evolving the next generation of missile warning satellites.

B. Program Change Summary (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	73.369	-	-	-	-
Current President's Budget	78.418	-	-	-	-
Total Adjustments	5.049	-	-	-	-
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-0.306	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	5.355	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-	-	-	-	-

Change Summary Explanation

FY10: Congressional Program Reduction of \$69.8M removed 3GIRS development efforts not associated with CHIRP

FY10: Air Force reprogrammed \$5.4M to 3GIRS for CHIRP mission development.

NOTE: FY11 and FY12 CHIRP funds moved to SBIRS PE 0604441F.

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE				PROJECT			
3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>				PE 0604443F: <i>Third Generation Infrared Surveillance (3GIRS)</i>				65A020: <i>AIRSS</i>			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
65A020: <i>AIRSS</i>	78.418	-	-	-	-	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

(U) The Department of Defense terminated the Third Generation Infrared Surveillance (3GIRS) program beginning in FY11.

(U) 3GIRS included development efforts for the Commercially Hosted Infrared Payload (CHIRP) demonstration. CHIRP efforts will continue through completion. The FY11 and FY12 funds needed to conduct the CHIRP demonstration for technology maturation of space and ground technologies were moved to the Space Based Infrared Systems (SBIRS) program, PE 0604441F under a separate project number (A040).

(U) This program is assigned to Budget Activity 5, System Development and Demonstration (SDD), because it funded the development activities for evolving the next generation of missile warning satellites.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: Commercially Hosted Infrared Payload	78.418	-	-	-	-
Description: Continue contracts for Commercially Hosted Infrared Payload (CHIRP) demonstration.					
FY 2010 Accomplishments: Completed CHIRP flight payload development and delivery to commercial host for integration and testing. Continued CHIRP flight payload integration and testing. Continued development and test of mission data processing and ground infrastructure to mature WFOV algorithms and technologies. Continued Program Office and related support activities.					
FY 2011 Plans:					
FY 2012 Base Plans:					
FY 2012 OCO Plans:					
Accomplishments/Planned Programs Subtotals	78.418	-	-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604443F: <i>Third Generation Infrared Surveillance (3GIRS)</i>	PROJECT 65A020: <i>AIRSS</i>
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C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u> <u>Base</u>	<u>FY 2012</u> <u>OCO</u>	<u>FY 2012</u> <u>Total</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• PE 0604441F: <i>Space Based Infrared Systems, BPAC A040, RDT&E</i>	0.000	18.200	16.573	0.000	16.573	0.000	0.000	0.000	0.000	Continuing	Continuing

D. Acquisition Strategy

CHIRP will perform a launch and on-orbit demonstration starting in FY11. FY11 and FY12 activities will be funded within PE 0604441F, Space Based Infrared Systems (SBIRS).

E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air 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-3, RDT&E Project Cost Analysis: PB 2012 Air Force											DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0604443F: Third Generation Infrared Surveillance (3GIRS)				PROJECT 65A020: AIRSS						
Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
WFOV IR staring technologies risk reduction activities	Various	Various:Various,	159.613	-		-		-		-	0.000	159.613	159.613	
Congressional Add: ASIRT	C/FFP	Ball Aerospace:Boulder, CO	0.446	-		-		-		-	0.000	0.446	0.446	
System Engineering and Definition	C/Various	Various:Various,	32.153	-		-		-		-	0.000	32.153	32.153	
Subtotal			192.212	-		-		-		-	0.000	192.212	192.212	
Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Program office, developmental planning, and technical support including federally funded research and development center (FFRDC/ SETA)	Various	Various:Various,	29.614	-		-		-		-	0.000	29.614	29.614	
Subtotal			29.614	-		-		-		-	0.000	29.614	29.614	
Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Subtotal			-	-		-		-		-	0.000	0.000	0.000	
Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Subtotal			-	-		-		-		-	0.000	0.000	0.000	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force									DATE: February 2011					
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0604443F: Third Generation Infrared Surveillance (3GIRS)				PROJECT 65A020: AIRSS						
				Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals				221.826	-		-		-		-	0.000	221.826	221.826

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

3600: Research, Development, Test & Evaluation, Air Force
BA 5: Development & Demonstration (SDD)

R-1 ITEM NOMENCLATURE

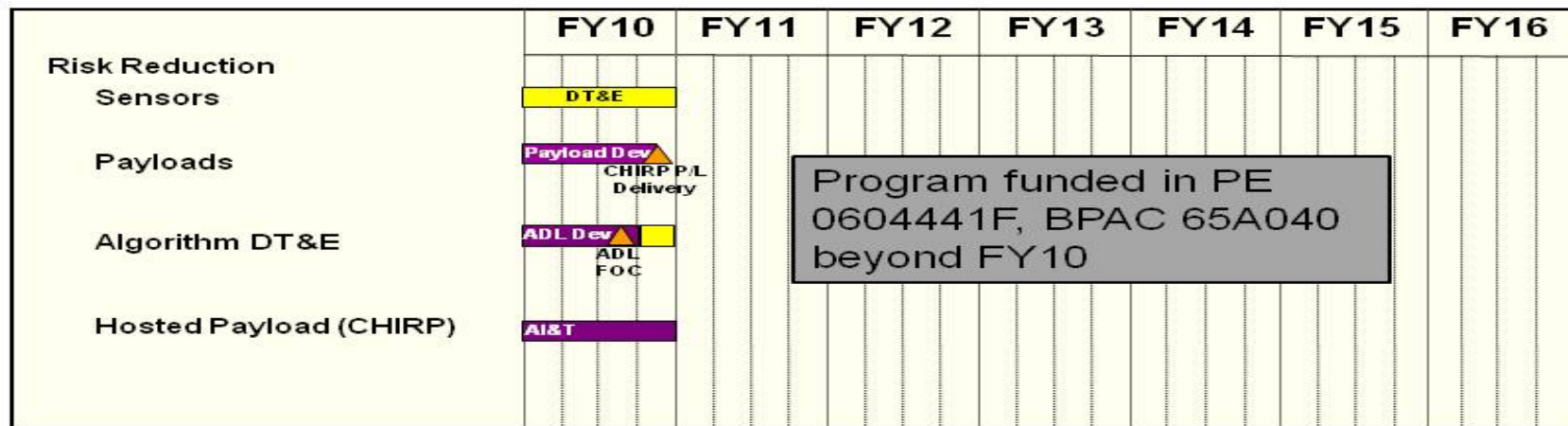
PE 0604443F: Third Generation Infrared
Surveillance (3GIRS)

PROJECT

65A020: AIRSS



3GIRS Schedule



Program funded in PE
0604441F, BPAC 65A040
beyond FY10

AI&T: Assembly, Integration & Test ADL: Algorithm Development Lab DT&E: Development Test & Eval FOC: Full Operational Capability

Integration / test Design / development Key events

Continuation of CHIRP transitioned to PE 0604441F, Space Based Infrared Systems (SBIRS) in FY 2011 and FY2012

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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604443F: <i>Third Generation Infrared Surveillance (3GIRS)</i>	PROJECT 65A020: <i>AIRSS</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Risk Reduction Sensors DT&E	1	2010	4	2010
CHIRP Payload Delivery	4	2010	4	2010
Algorithm DT&E Deliveries	1	2010	4	2010

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY

3600: *Research, Development, Test & Evaluation, Air Force*
BA 5: *Development & Demonstration (SDD)*

R-1 ITEM NOMENCLATURE

PE 0604602F: *Armament/Ordnance Development*

COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	21.423	6.693	10.055	-	10.055	9.933	7.078	5.686	5.786	Continuing	Continuing
653133: <i>Bombs & Fuzes</i>	14.766	1.215	3.936	-	3.936	3.986	1.065	1.025	1.043	Continuing	Continuing
655361: <i>Stores-Aircraft Interface</i>	6.657	5.478	6.119	-	6.119	5.947	6.013	4.661	4.743	Continuing	Continuing

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.

- 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. 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.

- 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 because the projects support the SDD phase of several munitions related items and functions.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604602F: <i>Armament/Ordnance Development</i>
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B. Program Change Summary (\$ in Millions)	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012 Base</u>	<u>FY 2012 OCO</u>	<u>FY 2012 Total</u>
Previous President's Budget	18.671	6.693	5.563	-	5.563
Current President's Budget	21.423	6.693	10.055	-	10.055
Total Adjustments	2.752	-	4.492	-	4.492
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	2.830	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-0.078	-	4.492	-	4.492

Change Summary Explanation

FY10 reprogramming of +\$2.83M reflects funds added to fund AF share of funding for the Fixed Wing Advanced Precision Kill Weapon System II (FW APKWS II) Joint Capability Technology Demonstration (JCTD).

FY12 delta of +\$4.492M reflects funds added to further address RDT&E concerns with medium caliber ammunition and other fact of life changes.

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>				R-1 ITEM NOMENCLATURE PE 0604602F: <i>Armament/Ordnance Development</i>				PROJECT 653133: <i>Bombs & Fuzes</i>			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
653133: <i>Bombs & Fuzes</i>	14.766	1.215	3.936	-	3.936	3.986	1.065	1.025	1.043	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

The Armament Subsystems Project contains a variety of work:

- Bombs/munitions and fuzes.

(a) The Joint Programmable Fuze (JPF) was developed primarily for JDAM and funded by the JDAM program. This project funds development activities for the FMU-152 (JPF), including reliability enhancements and producibility improvements. In addition, the project supports other fuze development activity, including characterization of the Hard Target Void Sensing Fuze (HTVSF), and AF participation in the DOD Fuze Integrated Product Team (IPT). Finally, the project supports a DoD-DoE effort to develop a domestic source for the chemical TATB, a key energetic used in the JPF and other fuzes [TATB = 1,3,5-triamino 2, 4,6-trinitrobenzene]

(b) Medium Caliber Ammunition project assesses, refines, and develops medium caliber ammunition, to include, but not limited to, conducting PGU-28A/B qualification testing (F-22) and performing a 20mm clean sheet end-to-end assessment.

(c) 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

- Insensitive Munitions (IM). IM develops explosive fills and bomb case modifications to make conventional weapons insensitive 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.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: Hard Target Void Sensing Fuze (HTVSF) Joint Capability Technology Demonstration (JCTD)	7.377	-	-	-	-
Description: The Hard Target Void Sensing Fuze (HTVSF) Joint Capability Technology Demonstration (JCTD) is a FY08-10 USSTRATCOM sponsored joint USAF/USN program.					
FY 2010 Accomplishments:					

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)	R-1 ITEM NOMENCLATURE PE 0604602F: Armament/Ordnance Development	PROJECT 653133: Bombs & Fuzes				
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Completed 27 month source selection/risk reduction effort. Will result in selection of single contractor to continue into EMD and Production based on approved criteria specified in source selection plan. Winning contractor has option on JCTD contract for 20 residual fuzes at the conclusion of JCTD. Residual assets will have limited "qualification" and will be made available to Air Combat Command. FY 2011 Plans: FY 2012 Base Plans: FY 2012 OCO Plans:						
Title: FMU-152, Joint Programmable Fuze (JPF) Description: Legacy weapons integration, fuze characterization, and qualification of domestic source for TATB, an essential energetic in the JPF FY 2010 Accomplishments: Conducted Phase 3 characterization sled testing, continued supplier initiative effort with ManTech, and continued TATB qualification effort. FY 2011 Plans: Continue TATB qualification effort FY 2012 Base Plans: FY 2012 OCO Plans:		0.964	0.700	-	-	-
Title: Munitions Materiel Handling Equipment/Container Design Retrieval System Description: MMHE/CDRS: enhance safety and improve standardization of munitions handling and armament equipment; maintain tri-service database to preclude proliferation/duplication of munitions containers and support organic container design FY 2010 Accomplishments: Provided container design expertise and technical support to AF munitions/weapons containers developers. Managed and operated the Tri-Service Container Design Retrieval System (CDRS) database. Provided support for new Miniature Air Launch Decoy (MALD) test and development. Designed, prototyped, and tested five variations of Adaptive Cartridge Environment (ACE) containers.		1.317	0.515	0.776	-	0.776

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)		R-1 ITEM NOMENCLATURE PE 0604602F: Armament/Ordnance Development		PROJECT 653133: Bombs & Fuzes		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Developed transportation and delivery container for Viper Strike, Stand Off Precision Guided Munitions (SOPGM). Completed design modification of Joint Air-to-Surface Standoff Missile (JASSM) missile container cover. Completed 17 Munitions Materiel Handling Equipment (MMHE) support equipment projects. Completion of an MMHE project entails solidifying technical requirements from user inputs, developing CAD models of prototype concepts, developing shop drawings for approved prototype concepts, designing and constructing prototype hardware for user test, documenting test and analysis results, developing Technical Data Packages with finalized drawings, and developing procedures to inspect and use the new/modified equipment. Fabricated 27 prototypes for test and evaluation purposes. Completed 9 first article equipment fabrications for drafting verification and delivery to Air Force units for additional test and evaluation. Supported F-22 program with modifications of equipment for loading internal bomb bay. Supported F-35 program with equipment to test and evaluate various pylons and adapters. Developed and tested 5 loading adapters and other specialized equipment for new Small Diameter Bomb (SDB) missions. Provided direct customer support through customer support visits to United States Air Force Europe (USAFE). FY 2011 Plans: Provide container design expertise and technical support to AF munitions/weapons containers developers. Planned completion of 10 Munitions Materiel Handling Equipment (MMHE) support equipment projects to include engineering, drafting, proof load, technical data and safety coordination authorizing Air Force use. Continue support and sustainment of all previously existing items developed by the MMHE program office. Planned fabrication of 7 prototypes for test and evaluation purposes. Projected to complete 7 first article equipment fabrications for drafting verification and delivery to Air Force units for additional test and evaluation. Continue support to the F-22 and F-35 programs with equipment to test and evaluate various pylons and adapters. Continue Support the Massive Ordnance Penetrator(MOP) and B-2 Program Offices with development of equipment for safe handling, loading, and storage of the MOP and related components. Support Small Diameter Bomb (SDB) office with development and fielding of equipment FY 2012 Base Plans: Provide container design expertise and technical support to AF munitions/weapons containers developers. Planned completion of 10 Munitions Materiel Handling Equipment (MMHE) support equipment projects to include engineering, drafting, proof load, technical data, and safety authorizations. Planned fabrication of 7 prototypes for test and evaluation purposes. Project to complete 7 first article equipment fabrications for drafting verification and delivery to Air Force units for additional test and evaluation. Provide support to all Specialized Program Office (SPO) with new weapons and container						

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011					
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)		R-1 ITEM NOMENCLATURE PE 0604602F: Armament/Ordnance Development		PROJECT 653133: Bombs & Fuzes				
B. Accomplishments/Planned Programs (\$ in Millions)				FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
development. Continue support and sustainment of all previously existing items developed by the MMHE program office.								
FY 2012 OCO Plans:								
Title: Medium Caliber Ammunition				0.728	-	2.760	-	2.760
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 2010 Accomplishments: 20mm PGU-28A/B developmental and operational qualification testing to characterize safety, suitability, and lethality (F-15/16)								
FY 2011 Plans:								
FY 2012 Base Plans: Conduct PGU-28A/B qualification testing (F-22); perform 20mm clean sheet end-to-end assessment								
FY 2012 OCO Plans:								
Title: Insensitive Munitions (IM)				0.350	-	0.400	-	0.400
Description: Strategic IM planning for the AF; support Joint Service IM efforts; provide technical guidance and test expertise to AF IM programs								
FY 2010 Accomplishments: Produced FY11/12 AF IM Strategic Plan; supported DoD and Joint Service IM efforts; provided IM guidance to the HTVSF, Small Diameter Bomb II (SDB II), and BLU-129 program offices								
FY 2011 Plans:								
FY 2012 Base Plans: Produce FY13/14 AF IM Strategic Plan; support DoD and Joint Service IM planning								
FY 2012 OCO Plans:								
Title: Fixed Wing Advanced Precision Kill Weapon System II (FW APKWS II) Joint Capability Technology Demonstration (JCTD)				4.030	-	-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force							DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>			R-1 ITEM NOMENCLATURE PE 0604602F: <i>Armament/Ordnance Development</i>			PROJECT 653133: <i>Bombs & Fuzes</i>				
B. Accomplishments/Planned Programs (\$ in Millions)						FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
<p>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 and warhead stockpiles</p> <p>FY 2010 Accomplishments: Prepared contract documentation and sent request for proposal to award a sole source contract to BAE Systems to modify the Rotary Wing (RW) APKWS II Guidance Section. Procured FW APKWS LAU-131 Extended Length Launchers from the Navy and conducted various qualification tests on the launcher to include centrifuge, vibe, and fit checks on the A-10 and F-16 aircraft. Funded the Air Force SEEK EAGLE office to start the A-10 and F-16 aircraft flight certification process. Developed and procured FW APKWS Instrumented Measurement Vehicle (IMV) test assets from the Navy. Conduct IMV test flights on the A-10 and F-16 aircraft. Provide that IMV data to BAE and work with them on the modification of the RW APKWS for the fixed wing aircraft.</p> <p>FY 2011 Plans:</p> <p>FY 2012 Base Plans:</p> <p>FY 2012 OCO Plans:</p>										
Accomplishments/Planned Programs Subtotals						14.766	1.215	3.936	-	3.936
C. Other Program Funding Summary (\$ in Millions)										
Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete
• PE 0604635F: <i>RDT&E, Ground Attack Weapons Fuze Development</i>	0.087	32.513	24.467	0.000	24.467	5.185	0.000	0.000	0.000	Continuing
D. Acquisition Strategy										
<p>Fuzes (including JPF) is a continuing effort with most activities performed in-house or through contracted services (small contracts). HTVSF JCTD is a two-contractor competition leading to down-select for EMD. FW APKWS II is being conducted under the current contract for the rotary wing APKWS II system.</p> <p>MMHE/CDRS and Medium Caliber project activities are performed in-house with limited technical and analysis contract support.</p>										

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604602F: <i>Armament/Ordnance Development</i>	PROJECT 653133: <i>Bombs & Fuzes</i>

E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air 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-3, RDT&E Project Cost Analysis: PB 2012 Air Force **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604602F: <i>Armament/Ordnance Development</i>	PROJECT 653133: <i>Bombs & Fuzes</i>
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Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Fuzes (JPF) -- legacy weapons, characterization	SS/TBD	Kaman Precision Products Inc:Orlando, FL	9.650	-		-		-		-	Continuing	Continuing	8.699
IM	TBD	Air Force Research Lab RWM:Eglin AFB, FL	0.365	-		0.150	Jan 2012	-		0.150	0.000	0.515	0.000
HTVSF JCTD - Competitor 1	C/FFP	Alliant Techsystems:Minneapolis, MN	6.893	-		-		-		-	0.000	6.893	0.000
HTVSF JCTD - Competitor 2	C/FFP	Thales Electronics:Basingstoke, UK	7.018	-		-		-		-	0.000	7.018	0.000
CDRS -- Data Management	MIPR	EDSC:Eglin AFB, FL	0.023	0.006	Oct 2010	0.212	Jan 2012	-		0.212	Continuing	Continuing	TBD
MMHE -- Prototypes	C/CPAF	Prototype Fabrication Shop:Eglin AFB, FL	0.941	0.120	Oct 2010	0.364	Jan 2012	-		0.364	Continuing	Continuing	TBD
TATB Qualification, source 1	MIPR	BAE:Holston, TN	0.669	0.350		-		-		-	0.000	1.019	0.000
TATB Qualification, source 2	MIPR	ATK:Radford, VA	0.126	0.350		-		-		-	0.000	0.476	0.000
FW APKWS II JCTD	SS/CPAF	BAE Systems:Nashua, NH	3.500	-		-		-		-	0.000	3.500	0.000
LAU-131 Extended Length Launcher	MIPR	NSWC:Indian Head, MD	0.040	-		-		-		-	0.000	0.040	0.000
Subtotal			29.225	0.826		0.726		-		0.726			

Remarks

Kaman Dayron changed its name to Kaman Precision Products

Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
IM	TBD	AAC XR:Eglin AFB, FL	2.835	-		0.250	Jan 2012	-		0.250	0.000	3.085	1.761
A&AS contract support	C/CPAF	TEAS TAMS:Eglin AFB, FL	2.904	0.235	Oct 2010	-		-		-	0.000	3.139	0.000

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604602F: <i>Armament/Ordnance Development</i>	PROJECT 653133: <i>Bombs & Fuzes</i>
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Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Fuzes -- Progam Office support	C/CPAF	AAC EBDZ:Eglin AFB, FL	1.010	-		-		-		-	0.000	1.010	0.000
External Support (HTVSF,JPF)	Various	ManTech Stratcom AFOTEC Safety:Various,	2.994	-		-		-		-	0.000	2.994	0.000
MMHE -- Program Office support/analysis	TBD	AAC EBD:Eglin AFB, FL	3.626	0.154	Oct 2010	0.200	Jan 2012	-		0.200	Continuing	Continuing	TBD
Medium Caliber Ammunition - Program Office support	TBD	AAC/EBSN:Eglin AFB, FL	0.006	-		0.900	Jan 2012	-		0.900	Continuing	Continuing	0.000
Medium Caliber Ammunition - requirements generation	C/FFP	Booz Allen Hamilton:Various,	0.250	-		-		-		-	0.000	0.250	0.000
Subtotal			13.625	0.389		1.350		-		1.350			

Remarks
TEAS/TAMS contractors provide support to the System Program Office (SPO) for technical (TEAS) and management/financial (TAMS) services

Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Fuzes -- target build; sled and flight tests	TBD	46th Test Wing:Various,	3.794	-		-		-		-	Continuing	Continuing	TBD
Medium Caliber	TBD	Various:Various,	0.722	-		1.860	Jan 2012	-		1.860	Continuing	Continuing	0.000
FW APKWS II	Various	Various:Various,	0.310	-		-		-		-	0.000	0.310	0.000
Subtotal			4.826	-		1.860		-		1.860			

Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-	0.000	0.000	0.000

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force						DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>			R-1 ITEM NOMENCLATURE PE 0604602F: <i>Armament/Ordnance Development</i>			PROJECT 653133: <i>Bombs & Fuzes</i>		

	Total Prior Years Cost	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	47.676	1.215	3.936	-	3.936			

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

3600: *Research, Development, Test & Evaluation, Air Force*
BA 5: *Development & Demonstration (SDD)*

R-1 ITEM NOMENCLATURE

PE 0604602F: *Armament/Ordnance*
Development

PROJECT

653133: *Bombs & Fuzes*

The Fuze, Insensitive Munitions (IM), Medium Caliber Ammunition, Munitions Materiel Handling Equipment (MMHE), and Munitions Container programs are continuing activities that support fuze development, IM compliance, development and testing of medium caliber ammunition, MMHE design and development, and container standardization activities throughout the year. IM strategic planning is also an ongoing activity.

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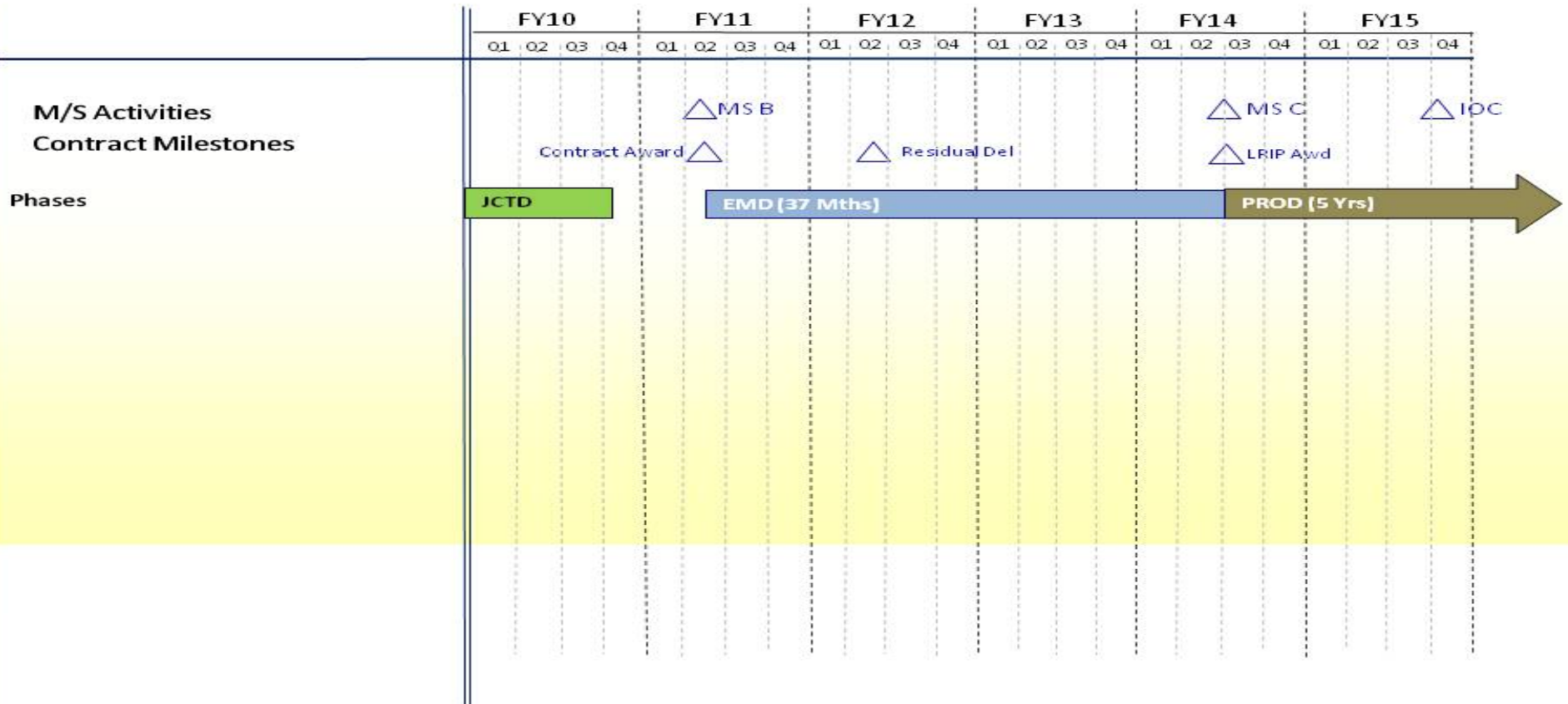
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APPROPRIATION/BUDGET ACTIVITY
3600: *Research, Development, Test & Evaluation, Air Force*
BA 5: *Development & Demonstration (SDD)*

PROJECT

653133: *Bombs & Fuzes*

R-1 ITEM NOMENCLATURE
PE 0604602F: *Armament/Ordnance Development*



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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

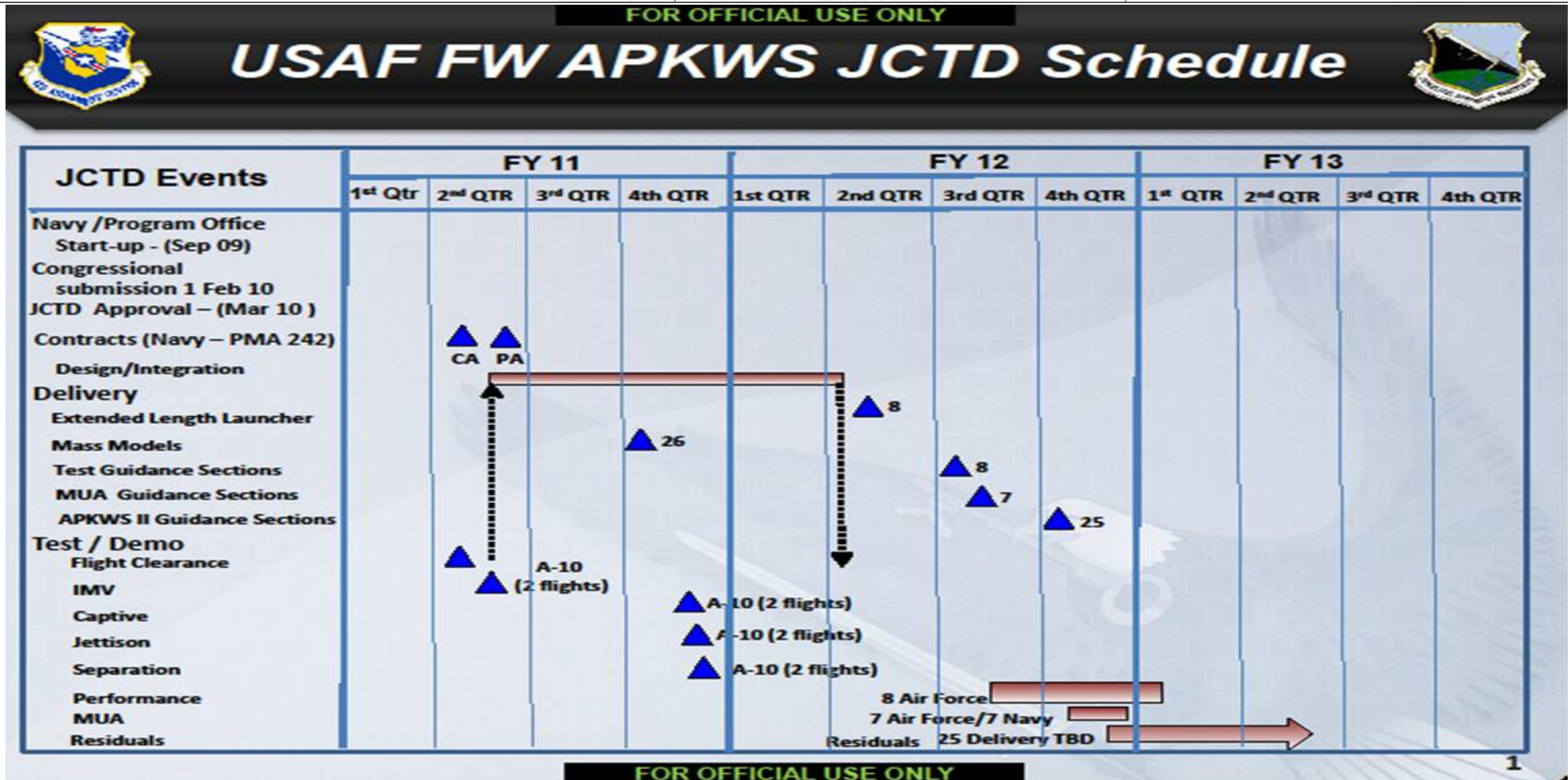
3600: Research, Development, Test & Evaluation, Air Force
BA 5: Development & Demonstration (SDD)

R-1 ITEM NOMENCLATURE

PE 0604602F: Armament/Ordnance
Development

PROJECT

653133: Bombs & Fuzes



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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604602F: <i>Armament/Ordnance Development</i>	PROJECT 653133: <i>Bombs & Fuzes</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
FUZES: JPF Integration on Legacy Weapons & Other Fuze Activity	1	2010	4	2012
HTVSF JCTD	1	2010	3	2010
HTVSF JCTD - Downselect (Contract Award)	2	2011	2	2011
Munitions Materiel Handling Equipment (MMHE): design, prototype, test priority MMHE projects	1	2010	4	2012
Container Design Retrieval System (CDRS): support tri-service data base	1	2010	4	2012
TATB source qualification effort (JPF)	1	2010	4	2012
Medium Caliber Ammunition: F-22 qualification + 20mm assessment	1	2011	4	2012
Submit AF FY11/12 Insensitive Munitions (IM) Strategic Plan	2	2010	2	2010
Submit AF FY13/14 Insensitive Munitions (IM) Strategic Plan	2	2012	2	2012
FW APKWS II JCTD	3	2010	4	2012

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force								DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0604602F: Armament/Ordnance Development				PROJECT 655361: Stores-Aircraft Interface			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
655361: Stores-Aircraft Interface	6.657	5.478	6.119	-	6.119	5.947	6.013	4.661	4.743	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		
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 (test assets) and implementation support to aircraft and weapons.											
B. Accomplishments/Planned Programs (\$ in Millions)							FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: UAI Development							6.657	5.478	6.119	-	6.119
Description: Conduct stores-aircraft interface upgrades and standards development to include the Universal Armament Interface (UAI).											
FY 2010 Accomplishments: In FY2010: 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 procurement of two certification tools to complete Configuration Version (CV) 01 and continue CV02.											
FY 2011 Plans: In FY 2011: 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, updates to test tools and procurement of one certification tool to continue CV02.											
FY 2012 Base Plans:											

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force				DATE: February 2011	
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>		R-1 ITEM NOMENCLATURE PE 0604602F: <i>Armament/Ordnance Development</i>		PROJECT 655361: <i>Stores-Aircraft Interface</i>	

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
<p>In FY 2012: 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 tools to continue CV02.</p> <p><i>FY 2012 OCO Plans:</i> Not applicable to UAI</p>					
Accomplishments/Planned Programs Subtotals	6.657	5.478	6.119	-	6.119

C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• N/A: <i>None</i>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

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.

E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air 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-3, RDT&E Project Cost Analysis: PB 2012 Air Force											DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0604602F: Armament/Ordnance Development				PROJECT 655361: Stores-Aircraft Interface						
Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Interface Control Document (ICD) Development/Updates	SS/CPFF	Boeing Northrop Grumman Lockheed Martin Raytheon:Various,	42.775	4.271	Jan 2011	5.280	Jan 2012	-		5.280	Continuing	Continuing	TBD	
UAI Common Component	SS/CPFF	Northrop Grumman:Hollywood, MD	4.553	0.532	Jan 2011	0.479	Jan 2012	-		0.479	Continuing	Continuing	TBD	
Certification Tool	SS/CPFF	Boeing Northrop Grumman Lockheed Martin Raytheon:Various,	12.452	0.200	Jan 2011	-		-		-	Continuing	Continuing	TBD	
Subtotal			59.780	5.003		5.759		-		5.759				
Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Subtotal			-	-		-		-		-	0.000	0.000	0.000	
Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Subtotal			-	-		-		-		-	0.000	0.000	0.000	
Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Program Management Administration/Program Support	Various	Various:Various,	3.477	0.475	Oct 2010	0.360	Oct 2011	-		0.360	Continuing	Continuing	TBD	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604602F: <i>Armament/Ordnance Development</i>	PROJECT 655361: <i>Stores-Aircraft Interface</i>
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Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			3.477	0.475		0.360		-		0.360			

Remarks

Prior to FY10 program was funded in Aging Aircraft PE 65011F.

	Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	63.257	5.478		6.119		-		6.119			

Remarks

Prior to FY10 program was funded in Aging Aircraft PE 0605011F.

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

3600: Research, Development, Test & Evaluation, Air Force
BA 5: Development & Demonstration (SDD)

R-1 ITEM NOMENCLATURE

PE 0604602F: Armament/Ordnance
Development

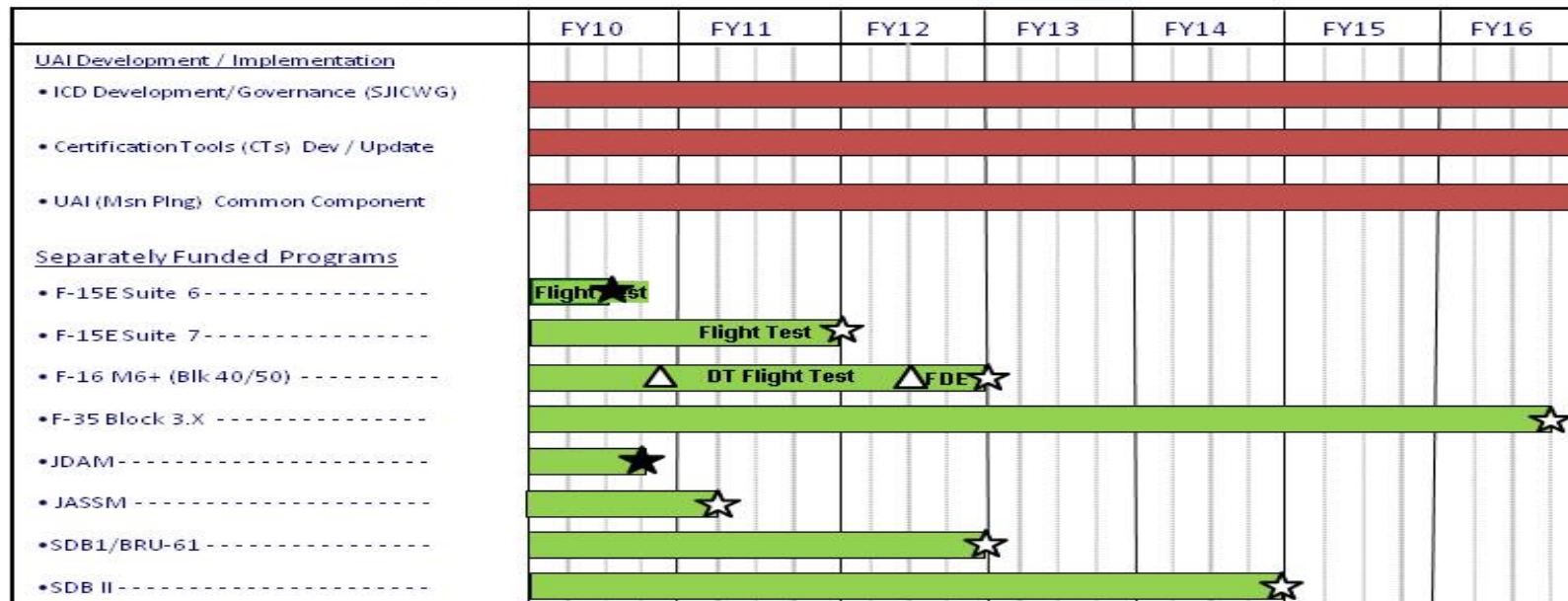
PROJECT

655361: Stores-Aircraft Interface

Exh R-4, UAI Technical Roadmap

▲ FQT 'd as UAI ★ Field as UAI

UAI Funded Pgm Funded



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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604602F: <i>Armament/Ordnance Development</i>	PROJECT 655361: <i>Stores-Aircraft Interface</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
CV01 - Configuration Version 1	1	2010	4	2011
F-15E Suite 6, CV01 Fielded	3	2010	3	2010
F-15E Suite 7, CV01 Fielded	1	2012	1	2012
JDAM, CV01 Fielded	4	2010	4	2010
JASSM, CV01 Fielded	2	2011	2	2011
CV02 - Configuration Version 2	4	2010	4	2015

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE							
3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>				PE 0604604F: <i>Submunitions</i>							
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	1.777	1.622	2.427	-	2.427	2.562	2.564	2.559	2.605	Continuing	Continuing
653166: <i>Joint Smart Munitions Test and Evaluation</i>	1.777	1.622	2.427	-	2.427	2.562	2.564	2.559	2.605	Continuing	Continuing

A. Mission Description and Budget Item Justification

Project Chicken Little provides best value research, development, test and evaluation (RDT&E) support to developmental smart munitions and related emerging weapons technologies employed against a wide variety of vehicle targets, theater air defense units, and other foreign ground-based systems. Combat systems exhibit physical characteristics (i.e., signatures), as well as certain vulnerabilities, which may be exploited by smart weapons in order to eliminate or incapacitate these systems. Chicken Little collects physical and functional attributes of actual foreign threat systems to construct high-fidelity models for use in vulnerability assessments (i.e. evaluating the effectiveness of munitions against system vulnerabilities). Chicken Little also collects signature data with a variety of sensors on new and existing foreign targets, (attained, sustained, and maintained to be signature representative), both with and without the presence of countermeasures or camouflage; the resulting highly reliable, realistic performance data is used to support smart munitions' development by defining lethality and sensor requirements to aid in acquisition decision points. The project serves as a major focal point for joint target signature collection and dissemination for development and exploitation purposes. Customers include: the major Defense and Service Intelligence Centers, all Services, the Joint Technical Coordinating Group (JTTCG) who develop the Joint Munitions Effectiveness Manuals (JMEMs), Combatant Commands, US Air Force Weapons School curriculum support, and others. Current projects include, but 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 testing of multiple seekers and sensors against realistic targets in various environments.

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 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	1.784	1.622	1.641	-	1.641
Current President's Budget	1.777	1.622	2.427	-	2.427
Total Adjustments	-0.007	-	0.786	-	0.786
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-0.007	-	0.786	-	0.786

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)	R-1 ITEM NOMENCLATURE PE 0604604F: Submunitions	
<p><u>Change Summary Explanation</u></p> <p>FY12 adjustment of \$0.786M for representative sustainment of threat vehicles and acquisition of exploitation assets.</p>		

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force									DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0604604F: Submunitions				PROJECT 653166: Joint Smart Munitions Test and Evaluation			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
653166: Joint Smart Munitions Test and Evaluation	1.777	1.622	2.427	-	2.427	2.562	2.564	2.559	2.605	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

Project Chicken Little provides best value research, development, test and evaluation (RDT&E) support to developmental smart munitions and related emerging weapons technologies employed against a wide variety of vehicle targets, theater air defense units, and other foreign ground-based systems. Combat systems exhibit physical characteristics (i.e., signatures), as well as certain vulnerabilities, which may be exploited by smart weapons in order to eliminate or incapacitate these systems. Chicken Little collects physical and functional attributes of actual foreign threat systems to construct high-fidelity models for use in vulnerability assessments (i.e. evaluating the effectiveness of munitions against system vulnerabilities). Chicken Little also collects signature data with a variety of sensors on new and existing foreign targets, (attained, sustained, and maintained to be signature representative), both with and without the presence of countermeasures or camouflage; the resulting highly reliable, realistic performance data is used to support smart munitions' development by defining lethality and sensor requirements to aid in acquisition decision points. The project serves as a major focal point for joint target signature collection and dissemination for development and exploitation purposes. Customers include: the major Defense and Service Intelligence Centers, all Services, the Joint Technical Coordinating Group (JTTCG) who develop the Joint Munitions Effectiveness Manuals (JMEMs), Combatant Commands, US Air Force Weapons School curriculum support, and others. Current projects include, but 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 testing of multiple seekers and sensors against realistic targets in various environments.

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 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: Predictive Tool Development	0.103	0.250	-	-	-
Description: Continue to develop predictive tools for weapon/target interactions in order to support improvements to mission planning and bomb damage assessment.					
FY 2010 Accomplishments: Studied the response of high strength and ultra-high strength concrete. Evaluated the ability to inflict damage through higher impact velocity or larger warheads and produce a list of recommended test events and suggested model improvements.					
FY 2011 Plans:					

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force				DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)		R-1 ITEM NOMENCLATURE PE 0604604F: Submunitions		PROJECT 653166: Joint Smart Munitions Test and Evaluation			
B. Accomplishments/Planned Programs (\$ in Millions)			FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Conduct additional sub-scale and full scale test events with high strength and ultra-high strength concrete; use test results to improve damage models. FY 2012 Base Plans: FY 2012 OCO Plans:							
Title: Model Development and Vulnerability Analysis Description: Develop, validate, and accredit improved models for target vulnerability and weapons effectiveness in support of Combatant Commands' (CoCOMs) requirements. FY 2010 Accomplishments: Construct at least two more geometric models based on CoCOMs' requirements. FY 2011 Plans: Construct at least two more geometric models based on CoCOMs' requirements. FY 2012 Base Plans: Construct at least two more geometric models based on CoCOMs' requirements. FY 2012 OCO Plans:			0.280	0.325	0.365	-	0.365
Title: System Exploitation Description: Provide the DoD community accurate multi-spectral signatures obtained from high-value, signature representative modern threat systems using advanced collection technologies. FY 2010 Accomplishments: Exploit 3-4 high value threat systems. Provide signature data from multiple threat systems in various environments using advanced and developmental seeker/sensor technologies. FY 2011 Plans: Exploit 3-4 high value threat systems. Provide signature data from multiple threat systems in various environments using advanced and developmental seeker/sensor technologies. FY 2012 Base Plans: Exploit 3-4 high value			1.337	0.900	1.026	-	1.026

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)	R-1 ITEM NOMENCLATURE PE 0604604F: Submunitions	PROJECT 653166: Joint Smart Munitions Test and Evaluation				
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
threat systems. Provide signature data from multiple threat systems in various environments using advanced and developmental seeker/sensor technologies FY 2012 OCO Plans:						
Title: ISR Exploitation Description: Plan and conduct captive carry flight tests and signature collection for seeker/sensor technology evaluations. FY 2010 Accomplishments: Develop ISR calibration capability for purpose of reducing average measurement uncertainty by 50% and reducing data turnaround by 75%. FY 2011 Plans: Investigate some or all of the following technologies for utility in ISR activities: Hyperspectral Imagery (HIS), shortwave IR and Polarmetric Imaging. FY 2012 Base Plans: Investigate some or all of the following technologies for utility in ISR activities: Hyper Spectral Imagery (HSI), shortwave IR and Polarmetric Imaging. FY 2012 OCO Plans:		0.057	0.147	0.250	-	0.250
Title: Fleet Relevance Description: Attain new emerging threat assets and/or decoys. Sustain and maintain existing foreign threat assets to be signature representative.		-	-	0.786	-	0.786

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force				DATE: February 2011							
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>		R-1 ITEM NOMENCLATURE PE 0604604F: <i>Submunitions</i>		PROJECT 653166: <i>Joint Smart Munitions Test and Evaluation</i>							
B. Accomplishments/Planned Programs (\$ in Millions)				FY 2010	FY 2011						
FY 2010 Accomplishments:											
FY 2011 Plans:											
FY 2012 Base Plans: (Note: Not a new start, previously addressed within System Exploitation, delineated here for improved traceability.) Attain new emerging threat assets and/or decoys. Sustain and maintain existing foreign threat assets to ensure proper "signature representative" nature for systems development and testing.											
FY 2012 OCO Plans:											
Accomplishments/Planned Programs Subtotals				1.777	1.622						
				2.427	-						
				2.427							
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• N/A: None	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
D. Acquisition Strategy											
Funds are executed organically in support of test and evaluation activities including studies, analyses, flight tests, model building and simulation. Almost all of the work is performed in-house by the 46th Test Wing.											
E. Performance Metrics											
Please refer to the Performance Base Budget Overview Book for information on how Air 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-3, RDT&E Project Cost Analysis: PB 2012 Air Force											DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0604604F: Submunitions				PROJECT 653166: Joint Smart Munitions Test and Evaluation					
Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-	0.000	0.000	0.000
Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
46th Test Wing	PO	Keeping Fleet Relevant:,	4.000	-		0.786		-		0.786	Continuing	Continuing	0.000
Subtotal			4.000	-		0.786		-		0.786			0.000
Remarks Fleet relevance addresses the acquisition of new and emerging threat vehicles, acquisition of high fidelity decoys, and sustainment of fleet signature quality.													
Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	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	95.662	1.572		1.591		-		1.591	Continuing	Continuing	TBD
Subtotal			95.662	1.572		1.591		-		1.591			
Remarks 46th Test Wing is the Program Office which conducts inhouse testing.													
Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
46 Test Wing (46 OG)	TBD	TBD:TBD,	7.466	0.050		0.050		-		0.050	Continuing	Continuing	TBD
Subtotal			7.466	0.050		0.050		-		0.050			

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force											DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>				R-1 ITEM NOMENCLATURE PE 0604604F: <i>Submunitions</i>				PROJECT 653166: <i>Joint Smart Munitions Test and Evaluation</i>					
Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Remarks 46th Test Wing is the Program Office which conducts inhouse testing.													
			Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			107.128	1.622		2.427		-		2.427			
Remarks													

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604604F: <i>Submunitions</i>	PROJECT 653166: <i>Joint Smart Munitions Test and Evaluation</i>
<p>SCHEDULE</p> <p>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.</p>		

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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604604F: <i>Submunitions</i>	PROJECT 653166: <i>Joint Smart Munitions Test and Evaluation</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Target/warhead evaluation/analysis, signature test, captive carry flight tests.	1	2010	4	2012

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY

3600: *Research, Development, Test & Evaluation, Air Force*
BA 5: *Development & Demonstration (SDD)*

R-1 ITEM NOMENCLATURE

PE 0604617F: *Agile Combat Support*

COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	8.371	37.987	11.878	-	11.878	10.490	12.250	12.372	12.591	Continuing	Continuing
652895: <i>CE Readiness</i>	2.245	29.746	8.158	-	8.158	7.535	9.250	9.328	9.493	Continuing	Continuing
654910: <i>Aeromedical Readiness</i>	6.126	8.241	3.720	-	3.720	2.955	3.000	3.044	3.098	Continuing	Continuing

Note

FY12, Project 652895, Civil Engineering Readiness, includes two new start efforts, one for Basic Expeditionary Airfield Resources and the other for Explosives Ordnance Disposal.

A. Mission Description and Budget Item Justification

This Program Element (PE) provides capabilities to rapidly deploy, defend and sustain airfield operations, command and control activities, and force protection to ensure readiness. In addition, this PE provides tactical and strategic aeromedical evacuation systems, automated information systems; and medical treatment equipment to meet unique Air Force medical readiness and operational requirements. These activities are prerequisites to establishing air superiority. Development of Agile Combat Support (ACS) systems provides beddown for aircraft, support equipment, and forces at both main operating bases and contingency operating locations, which may have only a runway and a water source. They also offer crucial utilities, runway stabilization and repair, explosive ordnance disposal (EOD), rescue and recovery aids, aeromedical evacuation and treatment equipment; and security and reconnaissance capabilities to support aircraft deployment, launch, recovery and regeneration. Lighter-weight, rapidly deployable equipment has become essential in providing the ability to quickly establish operations, security, and base defense in support of numerous global contingencies, including Operation Enduring Freedom, Operation Iraqi Freedom, various humanitarian/relief efforts, and special operations throughout the world.

The Agile Combat Support program is in RDT&E Budget Activity 5 - Engineering and Manufacturing Development (EMD) because it supports development, testing and evaluation of materials and equipment for contingency basing, detection and handling of explosive ordnance, tactical shelters, and aeromedical systems.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604617F: <i>Agile Combat Support</i>
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B. Program Change Summary (\$ in Millions)	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012 Base</u>	<u>FY 2012 OCO</u>	<u>FY 2012 Total</u>
Previous President's Budget	11.261	37.987	12.438	-	12.438
Current President's Budget	8.371	37.987	11.878	-	11.878
Total Adjustments	-2.890	-	-0.560	-	-0.560
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-2.542	-			
• SBIR/STTR Transfer	-0.301	-			
• Other Adjustments	-0.047	-	-0.560	-	-0.560

Change Summary Explanation

FY12 funding reduced by -\$0.560 to support higher Air Force priorities

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force								DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0604617F: Agile Combat Support				PROJECT 652895: CE Readiness			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
652895: CE Readiness	2.245	29.746	8.158	-	8.158	7.535	9.250	9.328	9.493	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		
Note In FY12, Project 652895, Civil Engineering Readiness, includes two new start efforts, one for Basic Expeditionary Airfield Resources and the other for Explosives Ordnance Disposal.											
A. Mission Description and Budget Item Justification This project provides capabilities to rapidly deploy, defend and sustain airfield operations, command and control activities, and force protection to ensure readiness. These activities are prerequisites to establishing air superiority. Also, this project provides crucial utilities, runway stabilization and repair, explosive ordnance disposal (EOD), rescue and recovery aids; and security and reconnaissance capabilities to support global aircraft deployment, employment, recovery and regeneration. Lighter-weight, rapidly deployable equipment has become essential in providing the ability to quickly establish operations, security, and base defense in support of numerous global contingencies, including Operation Enduring Freedom, Operation Iraqi Freedom, various humanitarian/relief efforts, and special operations throughout the world. The Civil Engineering Readiness program is in RDT&E Budget Activity 5 - Engineering and Manufacturing Development (EMD) because it supports development, test, and evaluation of materials and equipment for contingency basing, detection and handling of explosive ordnance, and tactical shelters.											
B. Accomplishments/Planned Programs (\$ in Millions)							FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: Airfield Damage Repair							2.245	4.746	4.058	-	4.058
Description: Develop, test and certify equipment for the rapid assessment and repair of runway and airfield damage after attack.											
FY 2010 Accomplishments: Begin to develop, test and certify equipment for the rapid assessment and repair of runway and airfield damage after attack.											
FY 2011 Plans: Develop, test and certify equipment for the rapid assessment and repair of runway and airfield damage after attack.											
FY 2012 Base Plans:											

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)	R-1 ITEM NOMENCLATURE PE 0604617F: Agile Combat Support	PROJECT 652895: CE Readiness				
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Continue to develop, test and certify equipment for the rapid assessment and repair of runway and airfield damage after attack. FY 2012 OCO Plans:						
Title: Joint Concept Technology Demonstration (JCTD) Description: Facilities Study. Cost benefit analysis and recommended set of solutions addressing facilities vulnerabilities. FY 2010 Accomplishments: Not Applicable FY 2011 Plans: Select and field test a representative sample of current technologies and products to harden or otherwise make resilient, including pipelines, fuel and water storage, electrical power grid, communications nodes, and munitions storage. FY 2012 Base Plans: Not Applicable FY 2012 OCO Plans:		-	25.000	-	-	-
Title: Basic Expeditionary Airfield Resources (BEAR) - New Start Description: Develop, test and certify equipment that will improve beddown operations through energy conservation and greater operational efficiency. FY 2010 Accomplishments: Not Applicable FY 2011 Plans: Not Applicable FY 2012 Base Plans: Develop, test and certify equipment that will improve beddown operations through energy conservation and greater operational efficiency. FY 2012 OCO Plans:		-	-	3.900	-	3.900

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force				DATE: February 2011	
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>		R-1 ITEM NOMENCLATURE PE 0604617F: <i>Agile Combat Support</i>		PROJECT 652895: <i>CE Readiness</i>	

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: Explosives Ordnance Disposal (EOD) - New Start Description: Develop, test, evaluate and/or certify equipment that will improve the Air Force Explosive Ordnance Disposal (EOD) technician's ability to respond, assess, neutralize/render safe and dispose of all types of ordnance, both conventional and unconventional, chemical, biological, and nuclear to include Improvised Explosive Devices (IEDs) and Weapons of Mass Destruction (WMD). FY 2010 Accomplishments: Not applicable FY 2011 Plans: Not applicable FY 2012 Base Plans: Initiate development, test and/or certification of EOD equipment FY 2012 OCO Plans:	-	-	0.200	-	0.200
Accomplishments/Planned Programs Subtotals	2.245	29.746	8.158	-	8.158

C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• PE 0208028F: <i>Other Procurement AF (OPAF), Other Base and Maintenance Support, Air Base Operability (WSC 845100)</i>	21.236	28.390	22.764	0.000	22.764	29.018	21.939	43.187	25.718	Continuing	Continuing

D. Acquisition Strategy
A majority of projects funded in this PE 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.

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604617F: <i>Agile Combat Support</i>	PROJECT 652895: <i>CE Readiness</i>

E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air 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-3, RDT&E Project Cost Analysis: PB 2012 Air Force											DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0604617F: Agile Combat Support				PROJECT 652895: CE Readiness						
Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Airfield Damage Repair	TBD	TBD:,	2.245	4.746		4.058	Jan 2012	-		4.058	Continuing	Continuing	TBD	
Facilities Study	TBD	TBD:,	-	25.000	Apr 2011	-		-		-	0.000	25.000	0.000	
Basic Expeditionary Airfield Resources	TBD	TBD:,	-	-		3.900	Jan 2012	-		3.900	Continuing	Continuing	TBD	
Explosives Ordnance Disposal	TBD	TBD:,	-	-		0.200	Jan 2012	-		0.200	Continuing	Continuing	TBD	
Subtotal			2.245	29.746		8.158		-		8.158				
Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
None	TBD	Not specified.:Location not provided.	-	-		-		-		-	0.000	0.000	0.000	
Subtotal			-	-		-		-		-	0.000	0.000	0.000	
Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Subtotal			-	-		-		-		-	0.000	0.000	0.000	
Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Subtotal			-	-		-		-		-	0.000	0.000	0.000	
			Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract	
Project Cost Totals			2.245	29.746		8.158		-		8.158				

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force							DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)			R-1 ITEM NOMENCLATURE PE 0604617F: Agile Combat Support			PROJECT 652895: CE Readiness			
	Total Prior Years Cost	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract	
Remarks NOTE: This is a level of effort Program Element with 20+ years of projects. Prior years breakout not available.									

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

3600: Research, Development, Test & Evaluation, Air Force
BA 5: Development & Demonstration (SDD)

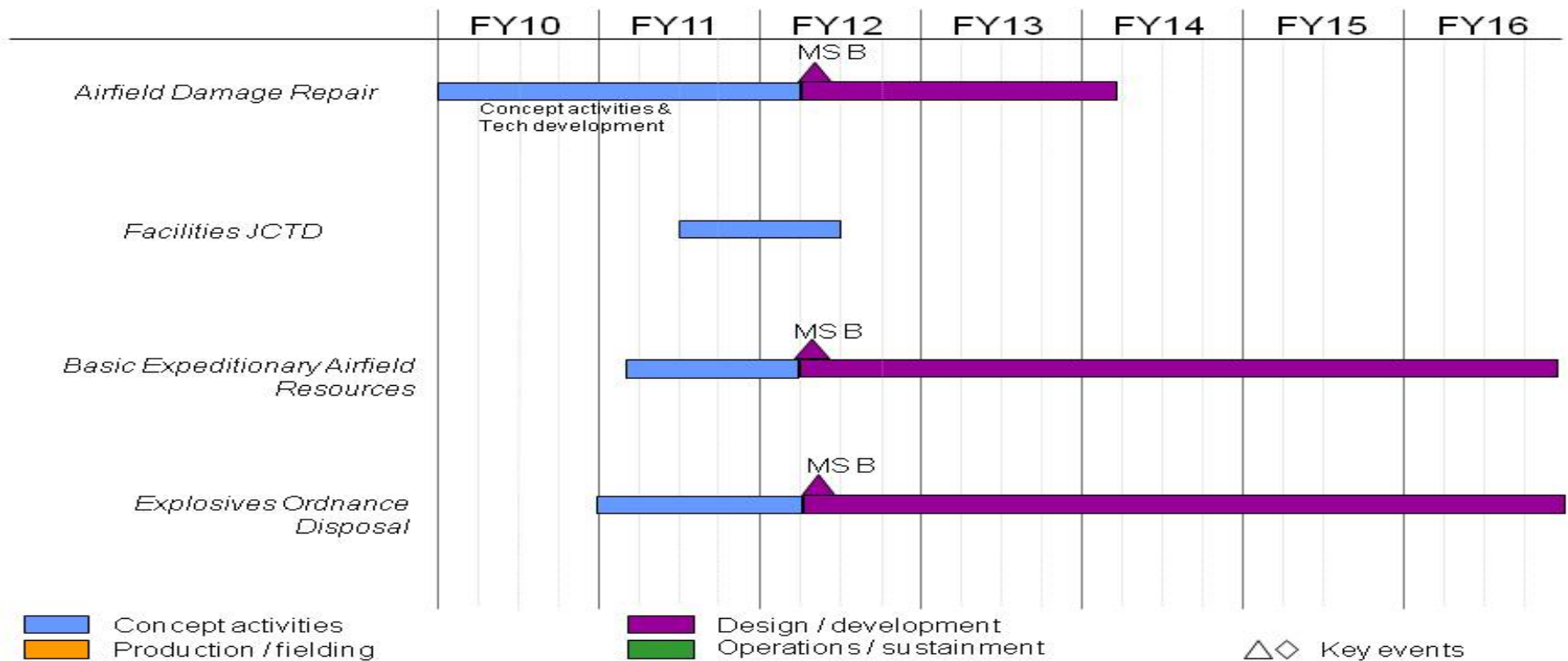
R-1 ITEM NOMENCLATURE

PE 0604617F: Agile Combat Support

PROJECT

652895: CE Readiness

Civil Engineering Schedule



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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604617F: <i>Agile Combat Support</i>	PROJECT 652895: <i>CE Readiness</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Engineering, Manufacturing, Development and test of equipment to support airfield damage repair after attack	2	2011	4	2013
Facilities Study JCTD	3	2011	4	2011
Engineering, Manufacturing, Development and test of equipment to support Basic Expeditionary Airfield Resources requirements	2	2012	4	2016
Engineering, Manufacturing, Development and test of equipment to support .Eexplosives Ordnance Disposal operations	2	2012	4	2016

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>				R-1 ITEM NOMENCLATURE PE 0604617F: <i>Agile Combat Support</i>				PROJECT 654910: <i>Aeromedical Readiness</i>			
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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
654910: <i>Aeromedical Readiness</i>	6.126	8.241	3.720	-	3.720	2.955	3.000	3.044	3.098	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

This program provides tactical and strategic aeromedical evacuation systems, automated information systems, and medical treatment equipment to meet unique Air Force medical readiness and operational requirements. Current efforts include the Deployable Oxygen System (DOS), Field Intravenous Reconstitution (FIVR), and the Blood Oxygenation System (BOS) programs.

The Aeromedical Readiness program is in RDT&E Budget Activity 5 - Engineering and Manufacturing Development (EMD) because it supports development, testing, and evaluation of systems and equipment for patient care during contingency operations and aeromedical evacuations.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: Deployable Oxygen System (DOS)	0.050	2.878	1.843	-	1.843
Description: Development of oxygen systems to meet deployable oxygen requirements					
FY 2010 Accomplishments: Continue development of oxygen systems to meet deployable oxygen requirements					
FY 2011 Plans: Continue development of oxygen systems to meet deployable oxygen requirements					
FY 2012 Base Plans: Continue development of oxygen systems to meet deployable oxygen requirements					
FY 2012 OCO Plans:					
Title: Field Intravenous Reconstitution (FIVR)	5.734	3.105	1.727	-	1.727
Description: EMD of FIVR for Expeditionary Trauma Resuscitation (ETR)					
FY 2010 Accomplishments: Continue EMD of FIVR for ETR					
FY 2011 Plans:					

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force		DATE: February 2011				
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)	R-1 ITEM NOMENCLATURE PE 0604617F: Agile Combat Support	PROJECT 654910: Aeromedical Readiness				
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Continue EMD of FIVR for ETR FY 2012 Base Plans: Continue EMD of FIVR for ETR FY 2012 OCO Plans:						
Title: Blood Oxygenation System (BOS) Description: EMD of BOS for ETR FY 2010 Accomplishments: Begin BOS Pre-EMD activities FY 2011 Plans: Continue BOS pre-EMD activities FY 2012 Base Plans: Continue BOS pre-EMD activities FY 2012 OCO Plans:		0.050	2.100	0.050	-	0.050
Title: Aeromedical Systems Development Description: Aeromedical Systems Analysis - Conduct studies, analyses and product demonstrations to assist in the development of materiel solutions to meet operational needs FY 2010 Accomplishments: Aeromedical Systems Analysis - Conduct foundational studies and analyses, requirements analyses, and product demonstrations to meet operational needs, and define acquisition strategies and baselines for potential system solutions to Air Force Medical Service materiel needs FY 2011 Plans: Aeromedical Systems Analysis - Conduct foundational studies and analyses, requirements analyses, and product demonstrations to meet operational needs, and define acquisition strategies and baselines for potential system solutions to Air Force Medical Service materiel needs FY 2012 Base Plans:		0.292	0.158	0.100	-	0.100

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604617F: <i>Agile Combat Support</i>	PROJECT 654910: <i>Aeromedical Readiness</i>
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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Aeromedical Systems Analysis - Conduct foundational studies and analyses, requirements analyses, and product demonstrations to meet operational needs, and define acquisition strategies and baselines for potential system solutions to Air Force Medical Service materiel needs					
<i>FY 2012 OCO Plans:</i>					
Accomplishments/Planned Programs Subtotals	6.126	8.241	3.720	-	3.720

C. Other Program Funding Summary (\$ in Millions)										
Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete
• N/A: <i>Not Applicable</i>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing

D. Acquisition Strategy

All major projects are awarded under best-value competitive solicitation.

E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air 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-3, RDT&E Project Cost Analysis: PB 2012 Air Force											DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0604617F: Agile Combat Support				PROJECT 654910: Aeromedical Readiness						
Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Deployable Oxygen Generation System - Small gas generators and storage units	TBD	TBD:TBD,	0.109	3.129		1.593	Jan 2012	-		1.593	Continuing	Continuing	TBD	
Field Intravenous Reconstitution (FIVR) - ETR	C/CPFF	Applied Research Associates, Inc:Albuquerque, NM	13.230	2.780		1.477		-		1.477	Continuing	Continuing	TBD	
Blood Oxygenation System - ETR	TBD	TBD:TBD,	0.050	2.100		0.050		-		0.050	Continuing	Continuing	TBD	
Aeromedical Systems Analysis to include Analysis of Solutions for planned aeromedical and Surgeon General initiatives	Various	TBD:TBD,	0.302	0.158		0.100		-		0.100	Continuing	Continuing	TBD	
Subtotal			13.691	8.167		3.220		-		3.220				
Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Subtotal			-	-		-		-		-	0.000	0.000	0.000	
Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Subtotal			-	-		-		-		-	0.000	0.000	0.000	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force										DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0604617F: Agile Combat Support				PROJECT 654910: Aeromedical Readiness					
Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Technical Engineering And Management Support (TEAMS)	C/Various	Core6:San Antonio, TX	2.281	-		-		-		-	Continuing	Continuing	TBD
Program Management Support & Operations	TBD	ASC/WNU:Wright-Patterson AFB, OH	0.141	0.074		0.500		-		0.500	Continuing	Continuing	TBD
Subtotal			2.422	0.074		0.500		-		0.500			
			Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			16.113	8.241		3.720		-		3.720			
Remarks													

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

3600: Research, Development, Test & Evaluation, Air Force
BA 5: Development & Demonstration (SDD)

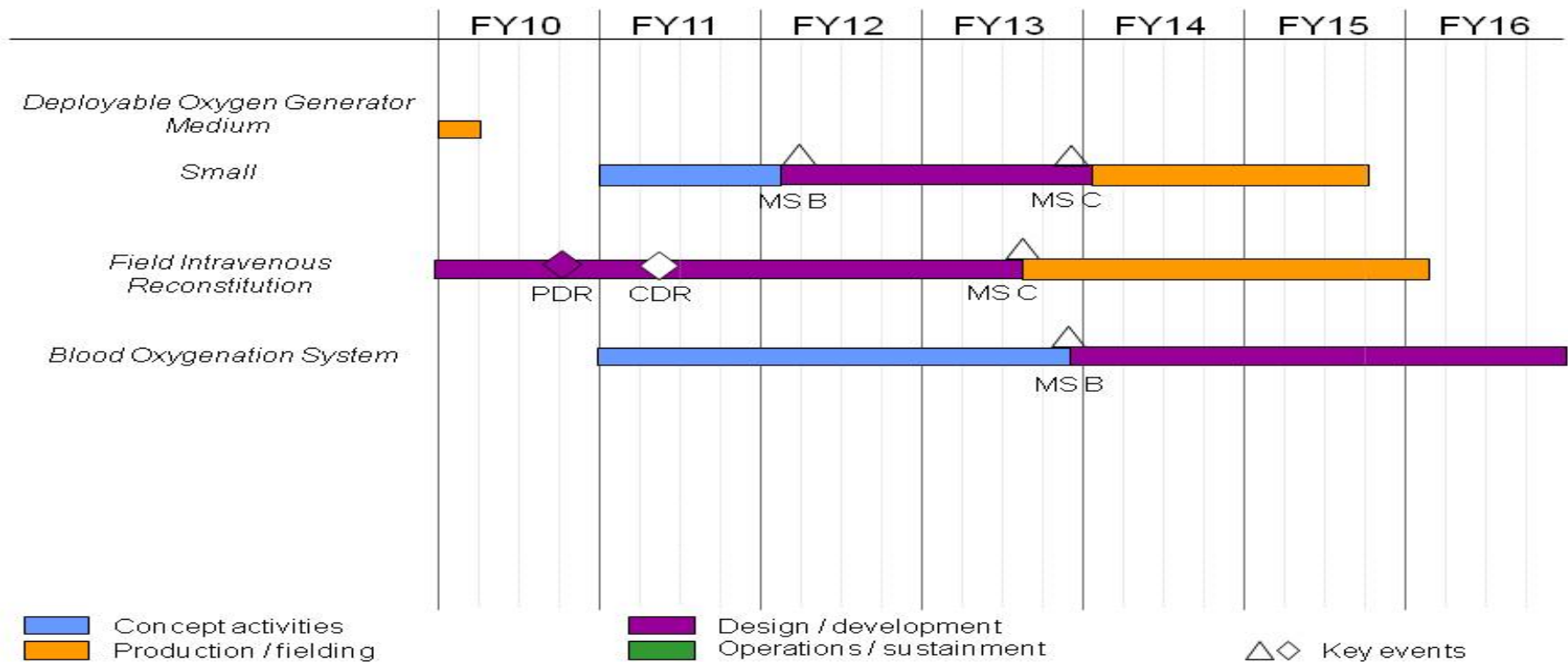
R-1 ITEM NOMENCLATURE

PE 0604617F: Agile Combat Support

PROJECT

654910: Aeromedical Readiness

Aeromedical Schedule



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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604617F: <i>Agile Combat Support</i>	PROJECT 654910: <i>Aeromedical Readiness</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Engineering and Manufacturing Development Phase for the Deployable Oxygen Generator System - Small	1	2012	4	2013
Continue Engineering and Manufacturing Development Phase for the Field Intravenous Reconstitution System	2	2010	3	2013
Conduct market analysis and plan for Blood Oxygenation System Engineering and Manufacturing Development	1	2011	4	2013

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE							
3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>				PE 0604618F: <i>Joint Direct Attack Munition</i>							
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	50.000	-	-	-	-	-	-	-	-	Continuing	Continuing
653890: <i>Joint Direct Attack Munitions</i>	50.000	-	-	-	-	-	-	-	-	Continuing	Continuing

Note

\$50M in FY10 supplemental funding was utilized for the development of a Joint Urgent Operational Need (JUON) response weapon known as the Very Low Collateral Damage Weapon (VLCDW). VLCDW has been given the identifier of BLU-129/B by USAF, and is also commonly referred to as a Precision Lethality MK-82, or PL MK-82.

BLU-129/B is not a Joint Direct Attack Munitions (JDAM) replacement, despite USAF placing this FY10 supplemental funding in the JDAM PE. BLU-129/B is a 500lb bomb body that is made from carbon fibers, instead of traditional steel. This 500lb bomb body will be joined to JDAM tailkits, and eventually other weapon tailkits that interface with the standard 500lb bomb body shape.

The \$50M was used to mature, test, and integrate the carbon fiber technology that was originally developed by USAF research laboratories with exiting weapon tailkits, fuzes, and fighter aircraft. Fielding of the BLU-129/B is expected to occur in FY11.

A. Mission Description and Budget Item Justification

\$50M in FY10 supplemental funding was utilized for the development of a Joint Urgent Operational Need (JUON) response weapon known as the Very Low Collateral Damage Weapon (VLCDW). VLCDW has been given the identifier of BLU-129/B by USAF, and is also commonly referred to as a Precision Lethality MK-82, or PL MK-82.

BLU-129/B is not a JDAM replacement, despite USAF placing this FY10 supplemental funding in the JDAM PE. BLU-129/B is a 500lb bomb body that is made from carbon fibers, instead of traditional steel. This 500lb bomb body will be joined to JDAM tailkits, and eventually other weapon tailkits that interface with the standard 500lb bomb body shape.

The \$50M was used to mature, test, and integrate the carbon fiber technology that was originally developed by USAF research laboratories with exiting weapon tailkits, fuzes, and fighter aircraft. Fielding of the BLU-129/B is expected to occur in FY11.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604618F: <i>Joint Direct Attack Munition</i>
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B. Program Change Summary (\$ in Millions)	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012 Base</u>	<u>FY 2012 OCO</u>	<u>FY 2012 Total</u>
Previous President's Budget	-	-	-	-	-
Current President's Budget	50.000	-	-	-	-
Total Adjustments	50.000	-	-	-	-
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	50.000	-	-	-	-

Change Summary Explanation

\$50M in FY10 supplemental funding was utilized for the development of a Joint Urgent Operational Need (JUON) response weapon known as the Very Low Collateral Damage Weapon (VLCDW). VLCDW has been given the identifier of BLU-129/B by USAF, and is also commonly referred to as a Precision Lethality MK-82, or PL MK-82.

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force								DATE: February 2011				
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0604618F: Joint Direct Attack Munition				PROJECT 653890: Joint Direct Attack Munitions				
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost	
653890: Joint Direct Attack Munitions	50.000	-	-	-	-	-	-	-	-	Continuing	Continuing	
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0			
Note												
<p>\$50M in FY10 supplemental funding was utilized for the development of a Joint Urgent Operational Need (JUON) response weapon known as the Very Low Collateral Damage Weapon (VLCDW). VLCDW has been given the identifier of BLU-129/B by USAF, and is also commonly referred to as a Precision Lethality MK-82, or PL MK-82.</p>												
A. Mission Description and Budget Item Justification												
<p>\$50M in FY10 supplemental funding was utilized for the development of a Joint Urgent Operational Need (JUON) response weapon known as the Very Low Collateral Damage Weapon (VLCDW). VLCDW has been given the identifier of BLU-129/B by USAF, and is also commonly referred to as a Precision Lethality MK-82, or PL MK-82.</p> <p>BLU-129/B is not a JDAM replacement, despite USAF placing this FY10 supplemental funding in the JDAM PE. BLU-129/B is a 500lb bomb body that is made from carbon fibers, instead of traditional steel. This 500lb bomb body will be joined to JDAM tailkits, and eventually other weapon tailkits that interface with the standard 500lb bomb body shape.</p> <p>The \$50M was used to mature, test, and integrate the carbon fiber technology that was originally developed by USAF research laboratories with exiting weapon tailkits, fuzes, and fighter aircraft. Fielding of the BLU-129/B is expected to occur in FY11.</p>												
B. Accomplishments/Planned Programs (\$ in Millions)								FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: VLCDW (BLU-129/B) Developement								50.000	-	-	-	-
Description: The development of a Joint Urgent Operational Need (JUON) response weapon known as the Very Low Collateral Damage Weapon (VLCDW). VLCDW has been given the identifier of BLU-129/B by USAF, and is also commonly referred to as a Precision Lethality MK-82, or PL MK-82.												
FY 2010 Accomplishments: \$50M was used to mature, test, and integrate the carbon fiber technology that was originally developed by USAF research laboratories with exiting weapon tailkits, fuzes, and fighter aircraft.												

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force								DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)			R-1 ITEM NOMENCLATURE PE 0604618F: Joint Direct Attack Munition			PROJECT 653890: Joint Direct Attack Munitions					
B. Accomplishments/Planned Programs (\$ in Millions)						FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	
Specific details: Design refinement and penetration modeling of the carbon fiber bomb body. Manufacturing processes for non-steel bomb body components which are joined with inventory standard metal weapon interface units (fuzes, lugs, cables, fins). Design of explosive fill that increases near-field blast lethality, yet does not negatively affect the bomb's center of gravity. Integration of the bomb body with JDAM tailkits. Arena and sled blast testing for lethality calculations. Integration on aircraft for safe carriage and separation certification. FY 2011 Plans: Not Applicable FY 2012 Base Plans: Not Applicable FY 2012 OCO Plans:											
Accomplishments/Planned Programs Subtotals						50.000	-	-	-	-	
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cos
• (U) Procurement of Ammunition: APAF, Air Force, JDAM, Appn. 3011, PE 0207583F	190.357	252.633	76.649	34.100	110.749	100.018	102.118	103.935	105.213	Continuing	Continuing
D. Acquisition Strategy											
Engineering, manufacturing, test, and integration contracts are all managed by Air Armament Center (AAC) at Eglin AFB, FL, acting as the Prime Integrator of the program. A sole source for urgent and compelling needs fixed price contract was issued to Aerojet Corporation for carbon case bomb body design, engineering, and manufacturing. Existing contracts between AAC and Boeing on the JDAM contract were used to test the weapon once it was meshed with JDAM tailkits. USAF aircraft at the Eglin AFB SEEK EAGLE program were used to test the carriage and release properties of the all-up-round weapon.											
The contract was awarded 21 Sep 10. DT/OT is scheduled for Feb/Mar 2011. A contract for production of 400 weapons will be awarded in Mar/Apr 2011. Production deliveries will start approximately April 2011, and continue through February 2012. During production, additional R&D activities will be performed to qualify the weapon for Navy shipboard use, and to perform additional envelope expansion flight testing. All R&D activity is expected to cease no later than Sep 2011.											

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604618F: <i>Joint Direct Attack Munition</i>	PROJECT 653890: <i>Joint Direct Attack Munitions</i>

E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air 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-3, RDT&E Project Cost Analysis: PB 2012 Air Force											DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0604618F: Joint Direct Attack Munition				PROJECT 653890: Joint Direct Attack Munitions					

Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
VLCDW Development, test, and integration	SS/FFP	Not specified.:	50.000	-		-		-		-	0.000	50.000	0.000
Subtotal			50.000	-		-		-		-	0.000	50.000	0.000

Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-	0.000	0.000	0.000

Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-	0.000	0.000	0.000

Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-	0.000	0.000	0.000

			Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			50.000	-		-		-		-	0.000	50.000	0.000

Remarks													

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

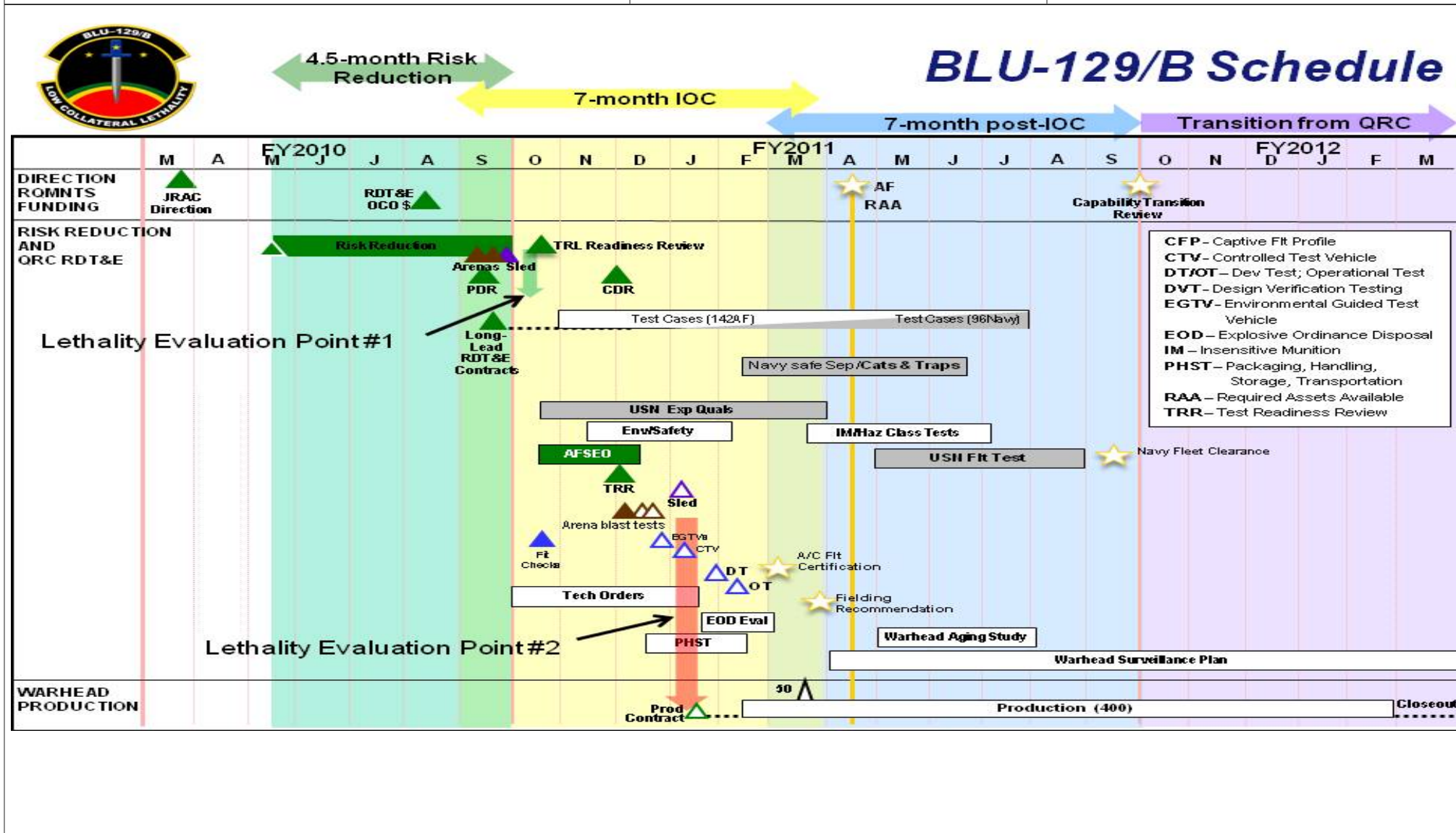
3600: Research, Development, Test & Evaluation, Air Force
BA 5: Development & Demonstration (SDD)

R-1 ITEM NOMENCLATURE

PE 0604618F: Joint Direct Attack Munition

PROJECT

653890: Joint Direct Attack Munitions



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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604618F: <i>Joint Direct Attack Munition</i>	PROJECT 653890: <i>Joint Direct Attack Munitions</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Risk Reduction	3	2010	4	2010
Arena and Sled testing	4	2010	2	2011
Program Design	4	2010	4	2011

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604706F: <i>Life Support Systems</i>
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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	13.997	10.650	11.280	-	11.280	9.943	9.645	9.053	9.247	Continuing	Continuing
65412A: <i>Life Support Systems</i>	13.997	10.650	11.280	-	11.280	9.943	9.645	9.053	9.247	Continuing	Continuing

Note

In FY2012, Project 65412A, Life Support Systems, includes new starts for Aircrew Laser Eye Protection (ALEP) Block 3 and Voice in Beacon (ViB) programs.

The program funding includes reductions for overhead reduction efficiencies that are not intended to impact program content. The efficiencies reductions total \$0.879M in FY12.

A. Mission Description and Budget Item Justification

This program element provides for recapitalization, continuing research and development, and integration of aircrew flight equipment/airmen combat effectiveness equipment and subsystems to satisfy operational command requirements for improved/enhanced airmen performance capabilities. Aircrew flight equipment/airmen combat effectiveness systems consist of human-centered programs that enable weapons systems to use more of their full mission envelopes, maximize combat capabilities, and protect airmen. This includes, but is not limited to, the following projects: directed energy protective equipment, flight helmets and visors, oxygen breathing equipment for aviators, 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, flotation devices, and personnel parachutes. Program management support includes tasks to assess deficiencies of currently fielded equipment, evaluate and demonstrate feasibility of new technologies, provide for the transition of new technologies to development programs/projects, conduct business case analyses, assess suitability of commercially available items, and support all current aircrew flight equipment/airmen combat effectiveness programs.

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.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604706F: <i>Life Support Systems</i>
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B. Program Change Summary (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	14.331	10.650	10.691	-	10.691
Current President's Budget	13.997	10.650	11.280	-	11.280
Total Adjustments	-0.334	-	0.589	-	0.589
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.274	-			
• Other Adjustments	-0.060	-	0.589	-	0.589

Congressional Add Details (\$ in Millions, and Includes General Reductions)

Project: 65412A: *Life Support Systems*

Congressional Add: *Advanced Concept Ejection Seat (ACES) Improvements*

Congressional Add: *Backpack Medical Oxygen System (BMOS)*

Congressional Add: *Bomber Crew Safety Study*

Congressional Add Subtotals for Project: 65412A

Congressional Add Totals for all Projects

FY 2010	FY 2011
1.920	-
0.800	-
0.900	-
3.620	-
3.620	-

Change Summary Explanation

FY2012: Funding totals include \$2.0M increase to support Integrated Aircrew Ensemble schedule delay; funding totals include \$0.879M reduction for overhead reduction efficiencies; funding totals include \$0.532M reduction to support higher Air Force priorities.

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force								DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0604706F: Life Support Systems				PROJECT 65412A: Life Support Systems			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
65412A: Life Support Systems	13.997	10.650	11.280	-	11.280	9.943	9.645	9.053	9.247	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		
Note In FY12, Project 65412A, Life Support Systems, includes new starts for Aircrew Laser Eye Protection (ALEP) Block 3 and Voice in Beacon (ViB) programs.											
A. Mission Description and Budget Item Justification This program element provides for recapitalization, continuing research and development, and integration of aircrew flight equipment/airmen combat effectiveness equipment and subsystems to satisfy operational command requirements for improved/enhanced airmen performance capabilities. Aircrew flight equipment/airmen combat effectiveness systems consist of human-centered programs that enable weapons systems to use more of their full mission envelopes, maximize combat capabilities, and protect airmen. This includes, but is not limited to, the following projects: directed energy protective equipment, flight helmets and visors, oxygen breathing equipment for aviators, 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, flotation devices, and personnel parachutes. Program management support includes tasks to assess deficiencies of currently fielded equipment, evaluate and demonstrate feasibility of new technologies, provide for the transition of new technologies to development programs/projects, conduct business case analyses, assess suitability of commercially available items, and support all current aircrew flight equipment/airmen combat effectiveness programs. This program is in Budget Activity 5, Engineering and Manufacturing Development (EMD) because it has passed Milestone B approval and is conducting engineering and manufacturing development tasks aimed at meeting validated requirements prior to full-rate production.											
B. Accomplishments/Planned Programs (\$ in Millions)							FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: Aircrew Flight Equipment (AFE)							-	0.824	0.050	-	0.050
Description: AFE effort investigates the feasibility of using commercial-off-the-shelf/non-developmental item technology. Effort is centered around quick replacement of antiquated Vietnam-era flight equipment. Efforts include EMD tasks associated with equipment engineering, modification, integration, testing, and procurement of test articles. Major initiatives include Low Profile Parachute (LPP), Aircrew Body Armor (ABA), Aircrew Integrated Recovery Survival, Armor, Vest & Equipment (AIRSAVE), and the Night Vision Goggle Head Harness (NVGHH).											
FY 2010 Accomplishments:											
FY 2011 Plans:											

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)	R-1 ITEM NOMENCLATURE PE 0604706F: Life Support Systems	PROJECT 65412A: Life Support Systems				
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Begin Engineering & Manufacturing Development of LPP. FY 2012 Base Plans: Continue Engineering & Manufacturing Development of LPP. FY 2012 OCO Plans:						
Title: Aircrew Laser Eye Protection (ALEP) Block 3 - New Start Description: ALEP Block 3 effort is for development of eye protection against hazardous lasers. Develop system capable of protecting aircrew members susceptible from the harmful effects of visible and infrared laser threats and enhancing aircrew member's safety from laser induced eye injury. FY 2010 Accomplishments: FY 2011 Plans: FY 2012 Base Plans: Begin Engineering & Manufacturing Development of ALEP Block 3. FY 2012 OCO Plans:		-	-	0.500	-	0.500
Title: Flash Blindness Goggles Description: Flash Blindness Goggles effort is for development of eye protection against high-intensity, rapid onset flashes encountered during nuclear blast. FY 2010 Accomplishments: FY 2011 Plans: Release a Request for Information and conduct market research to set foundation for program. FY 2012 Base Plans: Continue execution of program. FY 2012 OCO Plans:		-	0.010	0.050	-	0.050
Title: Integrated Aircrew Ensemble (IAE)		3.688	5.176	5.980	-	5.980

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)	R-1 ITEM NOMENCLATURE PE 0604706F: Life Support Systems	PROJECT 65412A: Life Support Systems				
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
<p>Description: IAE effort is for development of an improved aircrew flight ensemble to replace the existing aircrew flight ensemble.</p> <p>FY 2010 Accomplishments: Awarded Engineering & Manufacturing Development contract 4 Nov 11 to design, develop, and test an ejection seat compatible ensemble (Engineering & Manufacturing Development contract delayed from 2010-03 to 2010-11). Major program events for FY10 are kick-off meeting, System Functional Review, and transfer program to Wright-Patterson Air Force Base.</p> <p>FY 2011 Plans: Begin Engineering & Manufacturing Development contract. Major program events for FY11 are Preliminary Design Review and component level testing.</p> <p>FY 2012 Base Plans: Continue Engineering & Manufacturing Development. Major program events for FY12 are Critical Design Review, Developmental Test & Evaluation, Test Readiness Review and Design Verification Test.</p> <p>FY 2012 OCO Plans:</p>						
<p>Title: Modular Aircrew Common Helmet (MACH)</p> <p>Description: MACH effort is to develop a common helmet to reduce helmet variants and parts, and increase capability.</p> <p>FY 2010 Accomplishments: Developmental Test & Evaluation - Reaccomplished wind blast and sled testing in an attempt to determine if the final product is ready for production. The product will get certified for operational testing during this phase. Initial Operational Test & Evaluation of Low Rate Initial Production assets will be purchased and operators will use these in the field during this time.</p> <p>FY 2011 Plans: Developmental Test & Evaluation continued and Operational Assessment accomplished.</p> <p>FY 2012 Base Plans:</p>		3.299	1.446	1.000	-	1.000

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)	R-1 ITEM NOMENCLATURE PE 0604706F: Life Support Systems	PROJECT 65412A: Life Support Systems				
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Complete Developmental Test & Evaluation, accomplish Milestone C decision and start Initial Operational Test & Evaluation. FY 2012 OCO Plans:						
Title: Voice in Beacon (ViB) - New Start Description: Voice in Beacon (ViB) will provide two-way, line of sight Amplitude Modulation voice and personnel locator beacon capability for peacetime operations to allow downed aircrew to communicate with Civil and Combat Search and Rescue assets. FY 2010 Accomplishments: FY 2011 Plans: FY 2012 Base Plans: Begin Engineering & Manufacturing Development of ViB. FY 2012 OCO Plans:		-	-	0.500	-	0.500
Title: Management Services Description: Support/Travel/Technical Engineering & Acquisition Support/Test & Evaluation. FY 2010 Accomplishments: Continuation of listed activities. FY 2011 Plans: Continuation of listed activities. FY 2012 Base Plans: Continuation of listed activities. FY 2012 OCO Plans:		3.390	3.194	3.200	-	3.200
Accomplishments/Planned Programs Subtotals		10.377	10.650	11.280	-	11.280
		FY 2010	FY 2011			
Congressional Add: Advanced Concept Ejection Seat (ACES) Improvements		1.920	-			

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force								DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)			R-1 ITEM NOMENCLATURE PE 0604706F: Life Support Systems			PROJECT 65412A: Life Support Systems					
						FY 2010	FY 2011				
FY 2010 Accomplishments: ACES Ejection Seat study determined feasibility and safety advantages of upgrades. Improvement effort to accommodate a wider range of pilots accomplished through qualification testing and Business Case Analysis.											
FY 2011 Plans:											
Congressional Add: Backpack Medical Oxygen System (BMOS)						0.800	-				
FY 2010 Accomplishments: Study to investigate current configuration of BMOS, test and evaluate design modifications, conduct operational utility evaluation and recommend solutions.											
FY 2011 Plans:											
Congressional Add: Bomber Crew Safety Study						0.900	-				
FY 2010 Accomplishments: Study to investigate ejection seat sustainment issues and recommended solutions.											
FY 2011 Plans:											
Congressional Adds Subtotals						3.620	-				
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• PE 0702833F: OPAF, Other Procurement, AF Items Less Than \$5M (Safety/Rescue Equipment) Life Support Procurement, WSC 842990	13.233	10.675	12.901	0.000	12.901	8.821	8.941	8.027	8.058	Continuing	Continuing
D. Acquisition Strategy											
Acquisition Strategy is carried out at the project level.											
E. Performance Metrics											
Please refer to the Performance Base Budget Overview Book for information on how Air 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-3, RDT&E Project Cost Analysis: PB 2012 Air Force											DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0604706F: Life Support Systems				PROJECT 65412A: Life Support Systems						
Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
ACES Ejection Seat Improvements (Congressional Add)	C/CPFF	VSE:Alexandria, VA	19.505	-		-		-		-	1.600	21.105	TBD	
Backpack Medical Oxygen System (BMOS) (Congressional Add)	TBD	TBD:TBD,	0.800	-		-		-		-	0.000	0.800	TBD	
Bomber Crew Safety Study (Congressional Add)	TBD	TBD:TBD,	0.900	-		-		-		-	0.000	0.900	TBD	
Aircrew Flight Equipment (AFE) (Low Profile Parachute) EMD	C/FFP	TBD:TBD,	-	0.824	Apr 2011	0.050	Jan 2012	-		0.050	0.000	0.874	TBD	
Aircrew Laser Eye Protection (ALEP) Block 3 EMD	TBD	TBD:TBD,	-	-		0.500	Feb 2012	-		0.500	Continuing	Continuing	TBD	
Flash Blindness Goggles EMD	TBD	TBD:TBD,	-	0.010		0.050		-		0.050	Continuing	Continuing	TBD	
Integrated Aircrew Ensemble (IAE) EMD	C/TBD	Tiax:Lexington, MA	3.833	5.226	Nov 2010	5.980	Jan 2012	-		5.980	Continuing	Continuing	TBD	
Modular Aircrew Common Helmet (MACH) EMD	C/TBD	Gentex:Simpson, PA	11.209	1.446	Jan 2011	1.000	Jan 2012	-		1.000	Continuing	Continuing	TBD	
Voice in Beacon (ViB) EMD	TBD	TBD:TBD,	-	-		0.500	Jan 2012	-		0.500	Continuing	Continuing	TBD	
Subtotal			36.247	7.506		8.080		-		8.080				
Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Subtotal			-	-		-		-		-	0.000	0.000	0.000	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)	R-1 ITEM NOMENCLATURE PE 0604706F: Life Support Systems	PROJECT 65412A: Life Support Systems
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Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Tests (ACES, ALEP, IAE, MACH, etc.)	Various	Various:Various,	0.680	0.400		0.300		-		0.300	Continuing	Continuing	0.000
Subtotal			0.680	0.400		0.300		-		0.300			0.000

Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Support (BRAC)	TBD	77 AESG:Brooks City-Base, TX	1.298	-		-		-		-	0.000	1.298	0.000
Program Management Support	TBD	ASC/WNU:Wright-Patterson AFB, OH	-	0.767		0.831		-		0.831	Continuing	Continuing	0.000
Travel	Various	Various:Various,	0.245	0.130		0.140		-		0.140	Continuing	Continuing	0.000
Technical Engineering & Acquisition Support (BRAC)	TBD	Terra Health:Brooks City-Base, TX	3.855	-		-		-		-	0.000	3.855	0.000
Technical Engineering & Acquisition Support	C/FFP	Booze Allen Hamilton:Wright-Patterson AFB, OH	-	1.847	Jan 2011	1.929	Jan 2012	-		1.929	Continuing	Continuing	0.000
Subtotal			5.398	2.744		2.900		-		2.900			0.000

Remarks
Program management transitioned from Brooks City-Base, TX to Wright-Patterson AFB, OH 31 Jul 10 due to Base Realignment and Closure Commission.

	Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	42.325	10.650		11.280		-		11.280			

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force

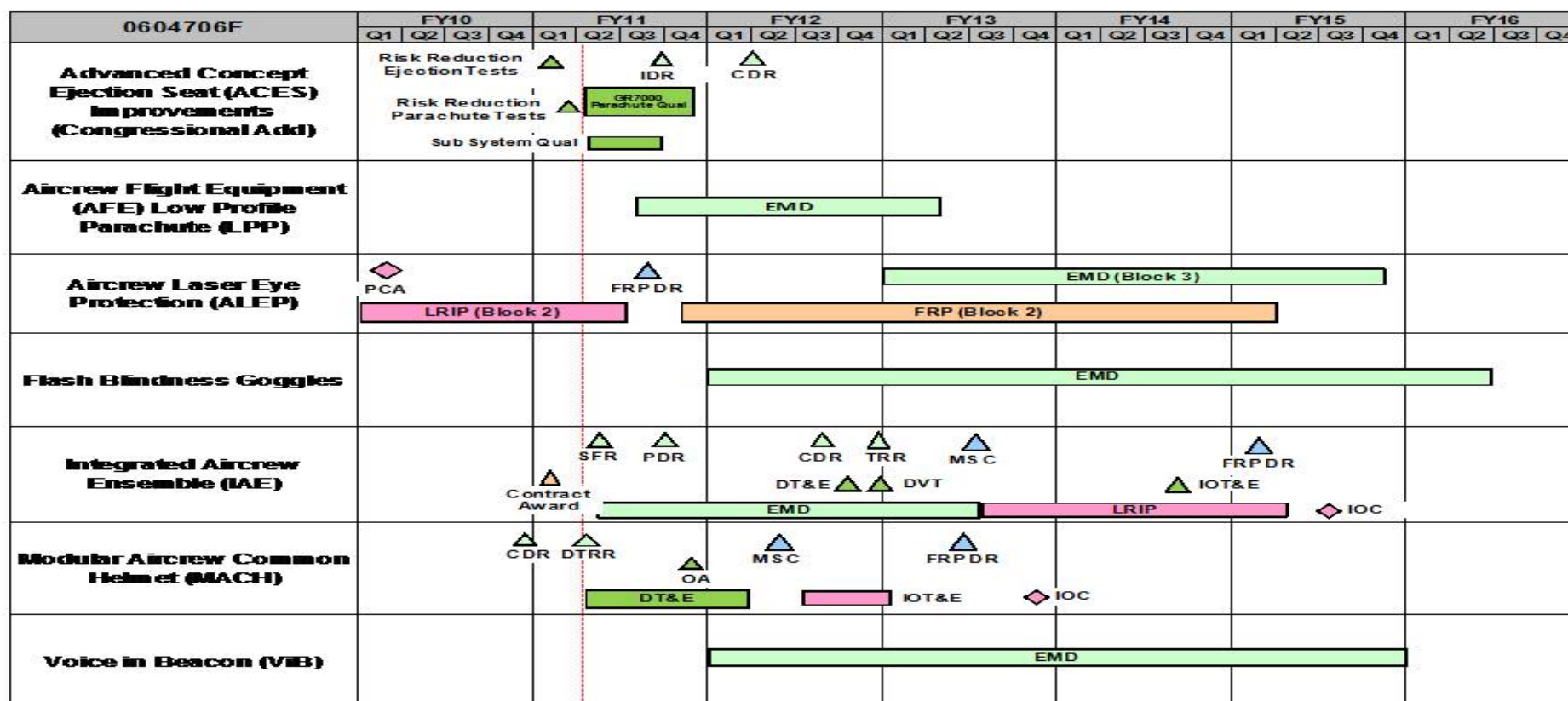
DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY3600: Research, Development, Test & Evaluation, Air Force
BA 5: Development & Demonstration (SDD)**R-1 ITEM NOMENCLATURE**

PE 0604706F: Life Support Systems

PROJECT

65412A: Life Support Systems

412A Life Support Systems Schedule

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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

3600: *Research, Development, Test & Evaluation, Air Force*
BA 5: *Development & Demonstration (SDD)*

R-1 ITEM NOMENCLATURE

PE 0604706F: *Life Support Systems*

PROJECT

65412A: *Life Support Systems*

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
ACES Improvements [Critical Design Review]	2	2012	2	2012
AFE (Low Profile Parachute) [Engineering & Manufacturing Development]	3	2011	2	2013
ALEP Block 2 [Full Rate Production]	4	2011	2	2015
ALEP Block 3 [Engineering & Manufacturing Development]	1	2013	4	2015
Flash Blindness Goggles [Engineering & Manufacturing Development]	1	2012	2	2016
IAE [Preliminary Design Review]	4	2011	4	2011
IAE [Engineering & Manufacturing Development]	2	2011	3	2013
IAE [Critical Design Review]	3	2012	3	2012
IAE [Developmental Test & Evaluation]	4	2012	4	2012
IAE [Milestone C]	3	2013	3	2013
IAE [Low Rate Initial Production]	3	2013	2	2015
IAE [Initial Operational Test & Evaluation]	3	2014	3	2014
IAE [Full Rate Production Decision Review]	1	2015	1	2015
MACH [Critical Design Review]	4	2010	4	2010
MACH [Developmental Test & Evaluation]	2	2011	1	2012
MACH [Operational Assessment]	4	2011	4	2011
MACH [Milestone C]	2	2012	2	2012
MACH [Initial Operational Test & Evaluation]	3	2012	1	2013
MACH [Full Rate Production Decision Review]	2	2013	2	2013
ViB [Engineering & Manufacturing Development]	1	2012	4	2015

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE							
3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>				PE 0604735F: <i>Combat Training Ranges</i>							
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	21.559	36.905	28.106	-	28.106	18.357	18.570	18.714	18.960	Continuing	Continuing
652286: <i>Combat Training Range Equipment</i>	21.559	36.905	28.106	-	28.106	18.357	18.570	18.714	18.960	Continuing	Continuing

A. Mission Description and Budget Item Justification

The program funding includes reductions for overhead reduction efficiencies that are not intended to impact program content. The efficiencies reductions total \$0.134M in FY12.

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, telecommunications, instrumentation equipment/systems, and evolutionary upgrades to facilitate live/virtual/constructive connectivity and standardization across all platforms to include coalition, F-22A and F-35 aircraft, and interoperability for joint test/training exercises in varied environments. 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 Advanced Data Link to facilitate interoperability in a multiple independent level security environment and 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/ constructive capabilities. 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 production. Consistent with the evolutionary acquisition strategy and documented ACC training requirements, development will continue with next generation threat systems. Increases beginning in FY10 and extending across the FYDP enables the inclusion of a multi-target tracking capability to meet critical warfighter needs, while ensuring the development schedule meets warfighter development timeline. Future increments will continue to add additional capability to the warfighter's training ranges. 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. The FYDP funding allows for evolution of these potential upgrades.

This program is in Budget Activity 5 - Systems Development and Demonstration because the CTR Program directly contributes to the effectiveness and survivability of US combat forces by providing training capabilities to simulate real combat conditions to prepare the warfighter for actual combat.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force				DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY		R-1 ITEM NOMENCLATURE				
3600: Research, Development, Test & Evaluation, Air Force		PE 0604735F: Combat Training Ranges				
BA 5: Development & Demonstration (SDD)						
B. Program Change Summary (\$ in Millions)		FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget		22.718	36.905	29.934	-	29.934
Current President's Budget		21.559	36.905	28.106	-	28.106
Total Adjustments		-1.159	-	-1.828	-	-1.828
• Congressional General Reductions			-			
• Congressional Directed Reductions			-			
• Congressional Rescissions		-	-			
• Congressional Adds			-			
• Congressional Directed Transfers			-			
• Reprogrammings		-	-			
• SBIR/STTR Transfer		-	-			
• Other Adjustments		-1.159	-	-1.828	-	-1.828
Change Summary Explanation						
No Significant Changes						

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>				R-1 ITEM NOMENCLATURE PE 0604735F: <i>Combat Training Ranges</i>				PROJECT 652286: <i>Combat Training Range Equipment</i>			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
652286: <i>Combat Training Range Equipment</i>	21.559	36.905	28.106	-	28.106	18.357	18.570	18.714	18.960	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

Note

The program funding includes reductions for overhead reduction efficiencies that are not intended to impact program content. The efficiencies reductions total \$.134 in FY12.

A. Mission Description and Budget Item Justification

The program funding includes reductions for overhead reduction efficiencies that are not intended to impact program content. The efficiencies reductions total \$0.134M in FY12.

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, telecommunications, instrumentation equipment/systems, and evolutionary upgrades to facilitate live/virtual/constructive connectivity and standardization across all platforms to include coalition, F-22A and F-35 aircraft, and interoperability for joint test/training exercises in varied environments. 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 Advanced Data Link to facilitate interoperability in a multiple independent level security environment and 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/ constructive capabilities. 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 production. Consistent with the evolutionary acquisition strategy and documented ACC training requirements, development will continue with next generation threat systems. Increases beginning in FY10 and extending across the FYDP enables the inclusion of a multi-target tracking capability to meet critical warfighter needs, while ensuring the development schedule meets warfighter development timeline. Future increments will continue to add additional capability to the warfighter's training ranges. 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. The FYDP funding allows for evolution of these potential upgrades.

This program is in Budget Activity 5 - Systems Development and Demonstration because the CTR Program directly contributes to the effectiveness and survivability of US combat forces by providing training capabilities to simulate real combat conditions to prepare the warfighter for actual combat.

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)	R-1 ITEM NOMENCLATURE PE 0604735F: Combat Training Ranges	PROJECT 652286: Combat Training Range Equipment				
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: Air Combat Training Systems (ACTS) funding support for Range Instrumentation Systems Description: Air Combat Training Systems (ACTS) funding support for Range Instrumentation Systems to include the 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. In addition, funding for Advance Data Link is to facilitate interoperability in a multi-level security environment and 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 constructive capabilities. FY 2010 Accomplishments: Continue Air Combat Training Systems (ACTS) funding support for Range Instrumentation Systems to include the 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 2011 Plans: Continue Air Combat Training Systems (ACTS) funding support for Range Instrumentation Systems to include the 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 2012 Base Plans: Air Combat Training Systems (ACTS) funding support for Range Instrumentation Systems to include the 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 2012 OCO Plans:		2.680	12.004	12.753	-	12.753
Title: Range instrumentation Waveform Description: Continue Range instrumentation Waveform (RIW) evaluation, demonstration and test effort. FY 2010 Accomplishments:		5.623	5.400	1.000	-	1.000

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)	R-1 ITEM NOMENCLATURE PE 0604735F: Combat Training Ranges	PROJECT 652286: Combat Training Range Equipment				
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Continue RIW system integration on developmental hardware. Begin RIW formal evaluation, demonstration, and test effort- FY 2011 Plans: Continue RIW system integration on developmental hardware. Continue RIW evaluation, demonstration, and test effort. FY 2012 Base Plans: Complete Range instrumentation Waveform (RIW) evaluation, demonstration and test effort FY 2012 OCO Plans:						
Title: Software Communications Architecture Description: Continued development of the encrypted software communications architecture. FY 2010 Accomplishments: Continued development of the encrypted software communication's architecture. Begin prelimrnary evaluation, demonstration, and test effort. FY 2011 Plans: Continued development of the encrypted software communication's architecture. Continue evaluation, demonstration, and test FY 2012 Base Plans: Complete development of encrypted software communication's architecturedevelopment. Complete evaluation, demonstration, and test effort. FY 2012 OCO Plans:		3.953	1.800	1.000	-	1.000
Title: Threats Description: Congressional Add for Mountain Home Air to Air Range Improvements to upgrade Threat Systems for aircrew awareness FY 2010 Accomplishments: Perform AFRL phased-array antenna development and critical technologies risk assessment for proposed threat systems in the Analysis of Alternative report. Assess AFRL's risk reduction recommendations to alternative Inc		6.316	17.701	13.353	-	13.353

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)	R-1 ITEM NOMENCLATURE PE 0604735F: Combat Training Ranges	PROJECT 652286: Combat Training Range Equipment				
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
II threats. Produce an Analysis of Alternative (AoA) document to help select the most cost and operationally effective system that satisfies documented capability gaps. Provide engineering, mission and A&AS support of Range Threat Systems (RTS). FY 2011 Plans: Develop a capability to train aircrews against Next Generation threats (double digit surface to air missile threat). The system will be deployed as part of an Integrated Air Defense System (IADS) and will contain a robust debriefing capability to support war-fighter training. Provide engineering, mission and A&AS support of Range Threat Systems. FY 2012 Base Plans: Continue to develop a capability to train aircrews against Next Generation threats (double digit surface to air missile threat). The system will be deployed as part of an Integrated Air Defense System (IADS) and will contain a robust debriefing capability to support war-fighter training. Provide engineering, mission and A&AS support of Range Threat Systems FY 2012 OCO Plans:						
Title: Congressional Add - Air Combat Training Systems (ACTS) funding support for Range Instrumentation Systems Description: P5CTS add for Mountain Home Air to Air Range Improvements FY 2010 Accomplishments: P5CTS add for Mountain Home Air to Air Range Improvements FY 2011 Plans: FY 2012 Base Plans: FY 2012 OCO Plans:		2.987	-	-	-	-
Accomplishments/Planned Programs Subtotals		21.559	36.905	28.106	-	28.106

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604735F: <i>Combat Training Ranges</i>	PROJECT 652286: <i>Combat Training Range Equipment</i>	

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

<u>Line Item</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u> <u>Base</u>	<u>FY 2012</u> <u>OCO</u>	<u>FY 2012</u> <u>Total</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• 0207429F: <i>Other Procurement, AF, Combat Training Ranges, OPAF BP83</i>	61.170	22.622	24.401	0.000	24.401	29.423	28.326	19.734	20.178	Continuing	Continuing
• 0207429F (1): <i>Initial Spares, OPAF BP86</i>	0.895	0.904	0.920	0.000	0.920	0.936	0.659	0.643	0.655	Continuing	Continuing
• 0207429F (2): <i>Aircraft Procurement, AF, Combat Training Ranges, APAF BP19</i>	15.470	15.376	14.867	0.000	14.867	11.830	18.357	21.306	21.567	Continuing	Continuing
• 0207429F (3): <i>Initial Spares, APAF BP16</i>	1.628	1.638	1.484	0.000	1.484	1.691	1.722	1.754	1.784	Continuing	Continuing

D. Acquisition Strategy

The acquisition strategy is competitive, with cost plus and fixed price 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.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)	R-1 ITEM NOMENCLATURE PE 0604735F: Combat Training Ranges	PROJECT 652286: Combat Training Range Equipment
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Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Cubic Defense Applications (P5CTS)	C/FFP	Cubic Defense:San Diego, CA	1.115	-	Mar 2011	11.052	Mar 2012	-		11.052	Continuing	Continuing	0.000
JTE Increment II - AoA, AFRL	C/CPFF	TBD:TBD,	1.000	-		-		-		-	0.000	1.000	0.000
JTE Increment II Development	C/CPFF	TBD:TBD,	-	16.818	Oct 2013	12.504	Oct 2013	-		12.504	Continuing	Continuing	0.000
JTE Second Source Transitter	C/TBD	TBD:TBD,	1.250	-		-		-		-	0.000	1.250	0.000
Legacy System Improvements	Various	TBD:TBD,	3.446	-		-		-		-	0.000	3.446	0.000
Rockwell-Collins, Inc (P5CTS)	SS/CPFF	Rockwell-Collins, Inc:Cedar Rapids, IA	5.146	14.712	Feb 2011	0.500	Feb 2012	-		0.500	Continuing	Continuing	0.000
Army Joint Tactical Radio System (JTRS-HMS) (P5CTS)	SS/CPAF	General Dynamics:Scottsdale AZ,	4.028	1.800	Feb 2011	1.000		-		1.000	Continuing	Continuing	0.000
National Security Agency (NSA)	SS/FFP	NSA:Ft George Meade, MD,	0.105	0.250	Feb 2011	0.200	Feb 2012	-		0.200	Continuing	Continuing	0.000
Lockheed - F16 SPO OFP (P5CTS)	SS/FFP	0:Ft Worth, TX	0.020	0.050	Apr 2011	0.050	Apr 2012	-		0.050	Continuing	Continuing	0.000
Boeing - F15 (P5CTS)	C/CPFF	Boeing:0, MO	0.028	0.040	Jun 2011	-		-		-	0.000	0.068	0.000
Booz Allen Hamilton (P5CTS)	SS/FFP	Booz Allen Hamilton:0, VA	0.122	-		-		-		-	0.000	0.122	0.000
Weapons Sim Interface Upg	SS/FFP	Milted Corp:Huntsville AL,	-	-		-		-		-	0.000	0.000	0.000
Confressional Earmark - Range Improvements for MT (P5CTS)	TBD	TBD:Montana ANG, MT	2.987	-		-		-		-	0.000	2.987	0.000
Subtotal			19.247	33.670		25.306		-		25.306			0.000

Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
OO/ALC/LH, Hill AFB, UT	Various	TBD:TBD,	0.920	0.044	Mar 2011	0.950	Mar 2012	-		0.950	Continuing	Continuing	0.000
	Various	TBD:TBD,	1.024	0.839	Mar 2011	0.900	Mar 2012	-		0.900	0.000	2.763	0.000

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force											DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)					R-1 ITEM NOMENCLATURE PE 0604735F: Combat Training Ranges				PROJECT 652286: Combat Training Range Equipment					
Support (\$ in Millions)					FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
AAC/689 ARSS, Eglin AFB - Direct Msn Spt														
Subtotal			1.944	0.883		1.850		-		1.850			0.000	
Test and Evaluation (\$ in Millions)					FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Block I/II Flight Test, 46 Test Wing	Various	Eglin AFB:FL,	0.194	-	Mar 2011	0.250	Mar 2012	-		0.250	Continuing	Continuing	0.000	
Subtotal			0.194	-		0.250		-		0.250			0.000	
Management Services (\$ in Millions)					FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Contract Support - Engineering and Admn Sppt. (TEAS/TAMS)	Various	Not specified.:	1.418	2.352	Mar 2011	0.700	Mar 2012	-		0.700	0.000	4.470	0.000	
Subtotal			1.418	2.352		0.700		-		0.700	0.000	4.470	0.000	
			Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract	
Project Cost Totals			22.803	36.905		28.106		-		28.106			0.000	
Remarks														

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

3600: Research, Development, Test & Evaluation, Air Force
BA 5: Development & Demonstration (SDD)

R-1 ITEM NOMENCLATURE

PE 0604735F: Combat Training Ranges

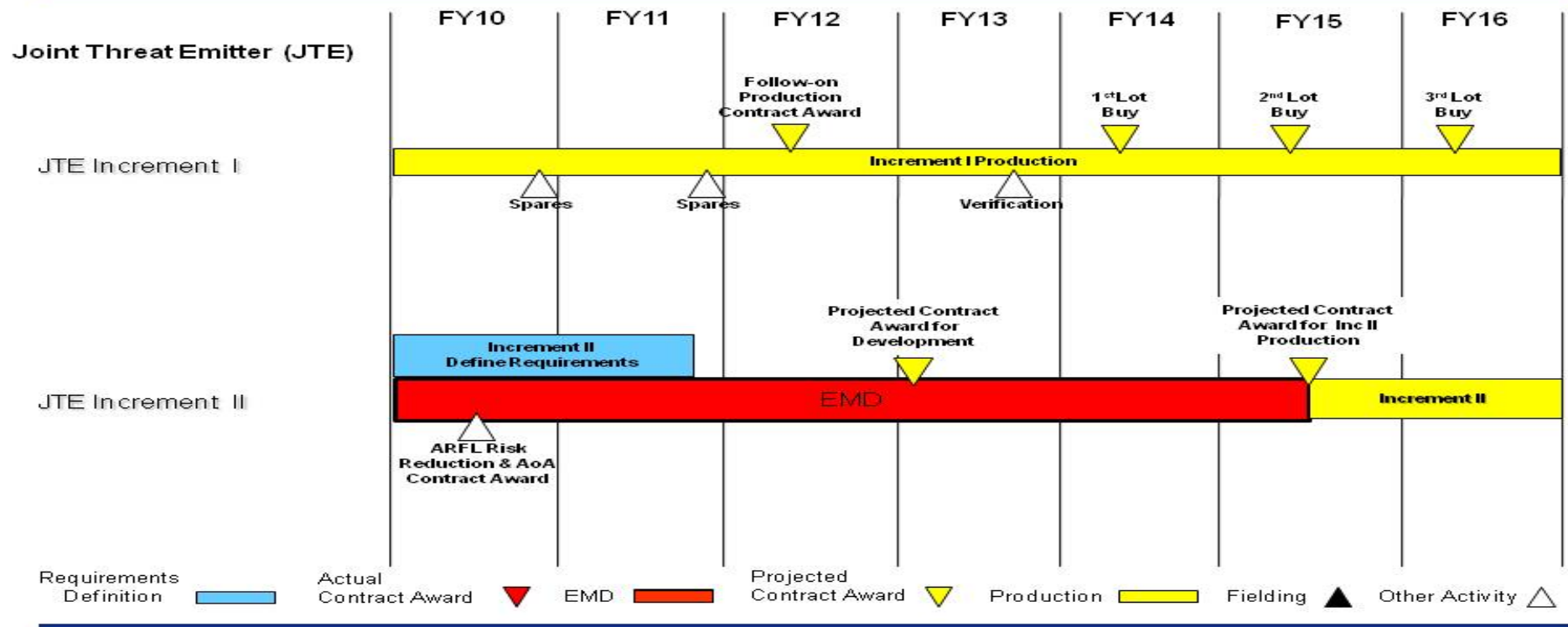
PROJECT

652286: Combat Training Range Equipment



U.S. AIR FORCE

CTR Schedule



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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY3600: Research, Development, Test & Evaluation, Air Force
BA 5: Development & Demonstration (SDD)**R-1 ITEM NOMENCLATURE**

PE 0604735F: Combat Training Ranges

PROJECT

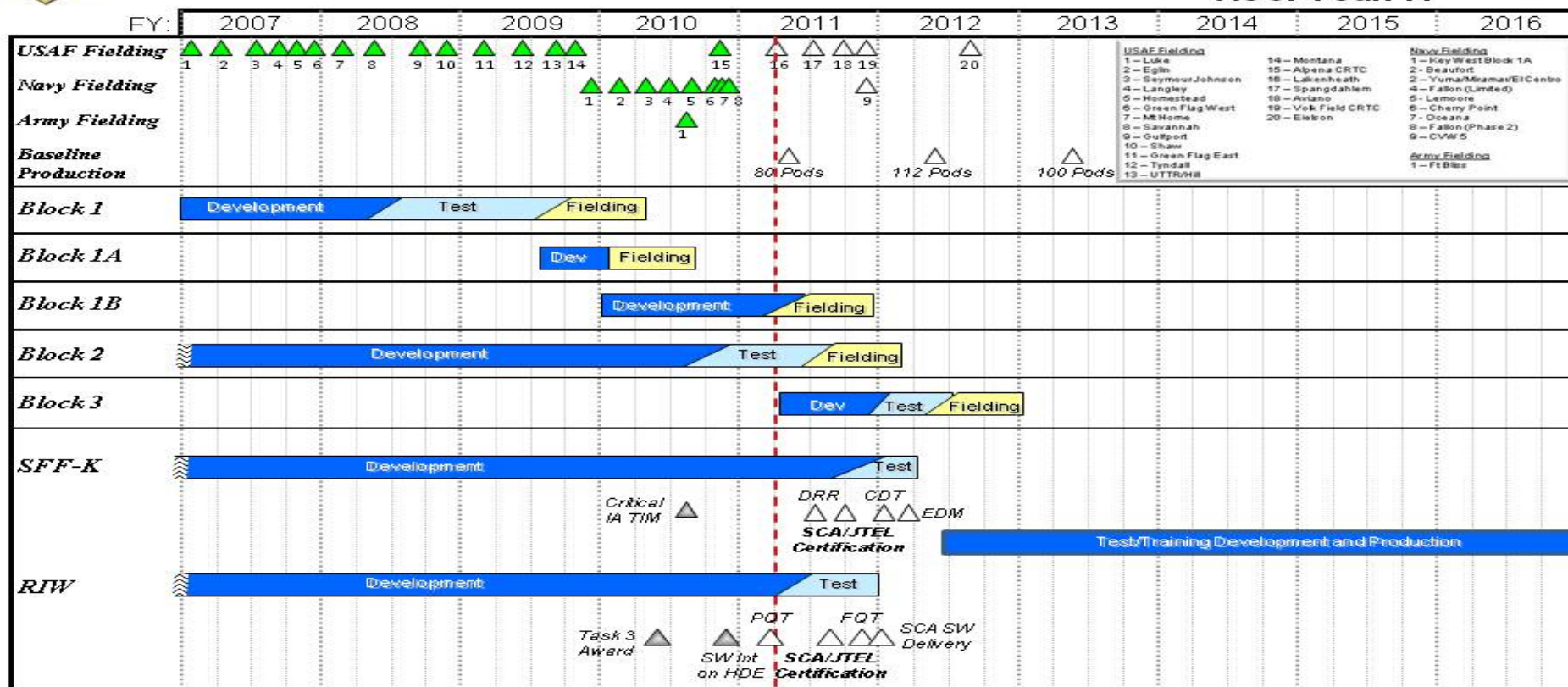
652286: Combat Training Range Equipment



P5CTS Schedule



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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604735F: <i>Combat Training Ranges</i>	PROJECT 652286: <i>Combat Training Range Equipment</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
P5CTS Development	1	2012	4	2012
-- Small Form Factor K Radio (SFFK) Contract annual Award	2	2010	1	2011
-- Range Instrumentation Waveform (RIW) Task 3	2	2010	1	2011
-- Advanced Data Link (ADL) Development	2	2010	4	2011
JTE Development	1	2012	4	2012
--Air Force Research Laboratory (AFRL) Antenna Risk Reduction (2)	3	2010	3	2011
--Analysis of Alternative (AoA)	3	2010	1	2011
--Increment II Development	1	2013	1	2014
--Second Source Transmitter	2	2011	2	2012
Legacy System Improvements	4	2010	4	2011

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE							
3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>				PE 0604740F: <i>Integrated Command & Control Applications</i>							
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	10.068	0.010	0.010	-	0.010	0.010	0.010	0.010	-	Continuing	Continuing
652523: <i>Product Lines</i>	6.920	0.010	0.010	-	0.010	0.010	0.010	0.010	-	Continuing	Continuing
652524: <i>Reuse and Component Support</i>	3.148	-	-	-	-	-	-	-	-	Continuing	Continuing

A. Mission Description and Budget Item Justification

The goal of the Integrated Command & Control Applications (IC2A) program is to reduce the development time, costs, and risks associated with the acquisition and development of an enterprise oriented Command & Control (C2) capability by defining a reference architecture to enhance common application use and reuse. Project 6523, Product Lines provides program management of the IC2A program. Project 6524, Reuse and Component Support identifies, develops, tests, and provides re-useable software components and products to the IC2A program and other programmed systems of record, and minimizes development cost and time by defining a Command & Control (C2) architecture approach consistent with net-centric principles and guidance that ensures compliance and interoperability using standards based service oriented architecture components.

The software architecture products developed by this program element form vital components and provide a pre-defined reference architecture which is the foundation of the Department of Defense (DoD) enterprise Command & Control (C2) capability.

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 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	6.910	0.010	0.010	-	0.010
Current President's Budget	10.068	0.010	0.010	-	0.010
Total Adjustments	3.158	-	-	-	-
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	3.158	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-	-	-	-	-

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force		DATE: February 2011	
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>		R-1 ITEM NOMENCLATURE PE 0604740F: <i>Integrated Command & Control Applications</i>	
<u>Congressional Add Details (\$ in Millions, and Includes General Reductions)</u>		FY 2010	FY 2011
Project: 652523: <i>Product Lines</i>			
Congressional Add: <i>Distributive Mission Interoperability Toolkit (DMIT)</i>		3.190	-
Congressional Add: <i>Program Increase/User Defined Operational Picture (UDOP)</i>		3.720	-
Congressional Add Subtotals for Project: 652523		6.910	-
Project: 652524: <i>Reuse and Component Support</i>			
Congressional Add: <i>Command & Control Service Level Management (C2SLM)</i>		3.148	-
Congressional Add Subtotals for Project: 652524		3.148	-
Congressional Add Totals for all Projects		10.058	-

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force								DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0604740F: Integrated Command & Control Applications				PROJECT 652523: Product Lines			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
652523: Product Lines	6.920	0.010	0.010	-	0.010	0.010	0.010	0.010	-	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		
A. Mission Description and Budget Item Justification											
Project 2523, Product Lines, executes program management functions of assigned programs. It also plans, controls, organizes, staffs and leads a diverse team of military, civilian and contracted acquisition and technical professionals that develop leading edge capabilities for the warfighter. Product Lines develops reusable software components based on Service Oriented Architectures, Core Enterprise Services, and Web Based technologies that enable the Air Force to achieve net centric operations and warfare capability. It provide AF-wide enterprise Command and Control functionality. The components are developed in small increments providing continuous deliveries of increasing capability to the warfighter.											
B. Accomplishments/Planned Programs (\$ in Millions)							FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: Product Line							0.010	0.010	0.010	-	0.010
Description: Systems Engineering											
FY 2010 Accomplishments: Provides for Program Manager travel in support of Congressional funded programs.											
FY 2011 Plans: Provides for Program Manager travel in support of Congressional funded programs.											
FY 2012 Base Plans: Provides for Program Manager travel in support of Congressional funded programs.											
FY 2012 OCO Plans:											
Accomplishments/Planned Programs Subtotals							0.010	0.010	0.010	-	0.010
							FY 2010	FY 2011			
Congressional Add: Distributive Mission Interoperability Toolkit (DMIT)							3.190	-			
FY 2010 Accomplishments: Provide a service oriented architecture based communications presence and compression capability at the infrastructure level.											
FY 2011 Plans:											
Congressional Add: Program Increase/User Defined Operational Picture (UDOP)							3.720	-			

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604740F: <i>Integrated Command & Control Applications</i>	PROJECT 652523: <i>Product Lines</i>
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	FY 2010	FY 2011
FY 2010 Accomplishments: Provides a service oriented architecture based communications presence and compression capability at the infrastructure level.		
FY 2011 Plans:		
Congressional Adds Subtotals	6.910	-

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

<u>Line Item</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u> <u>Base</u>	<u>FY 2012</u> <u>OCO</u>	<u>FY 2012</u> <u>Total</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• N/A: NA	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

D. Acquisition Strategy

All major contracts were 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.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force											DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0604740F: Integrated Command & Control Applications				PROJECT 652523: Product Lines						
Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Distributive Mission Interoperability Toolkit (DMIT)	C/CPFF	Accenture:Reston, VA	25.716	-		-		-		-	0.000	25.716	0.000	
Program Increase/User Defined Operational Picture (UDOP)	C/CPFF	PROLOGIC:Fairmont, WV	3.469	-		-		-		-	0.000	3.469	0.000	
Subtotal			29.185	-		-		-		-	0.000	29.185	0.000	
Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Contractor Support	Various	ESC:Hanscom, MA	0.227	-		-		-		-	0.000	0.227	0.000	
MITRE	C/FFP	MITRE Corp:Bedford, MA	0.249	-		-		-		-	0.000	0.249	0.000	
Subtotal			0.476	-		-		-		-	0.000	0.476	0.000	
Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Subtotal			-	-		-		-		-	0.000	0.000	0.000	
Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Program Management Services	Various	ESC:Hanscom AFB, MA	0.010	0.010	Oct 2010	0.010	Oct 2011	-		0.010	Continuing	Continuing	TBD	
Subtotal			0.010	0.010		0.010		-		0.010				

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force									DATE: February 2011					
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0604740F: Integrated Command & Control Applications				PROJECT 652523: Product Lines						
				Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals				29.671	0.010		0.010		-		0.010			

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

3600: Research, Development, Test & Evaluation, Air Force
BA 5: Development & Demonstration (SDD)

R-1 ITEM NOMENCLATURE

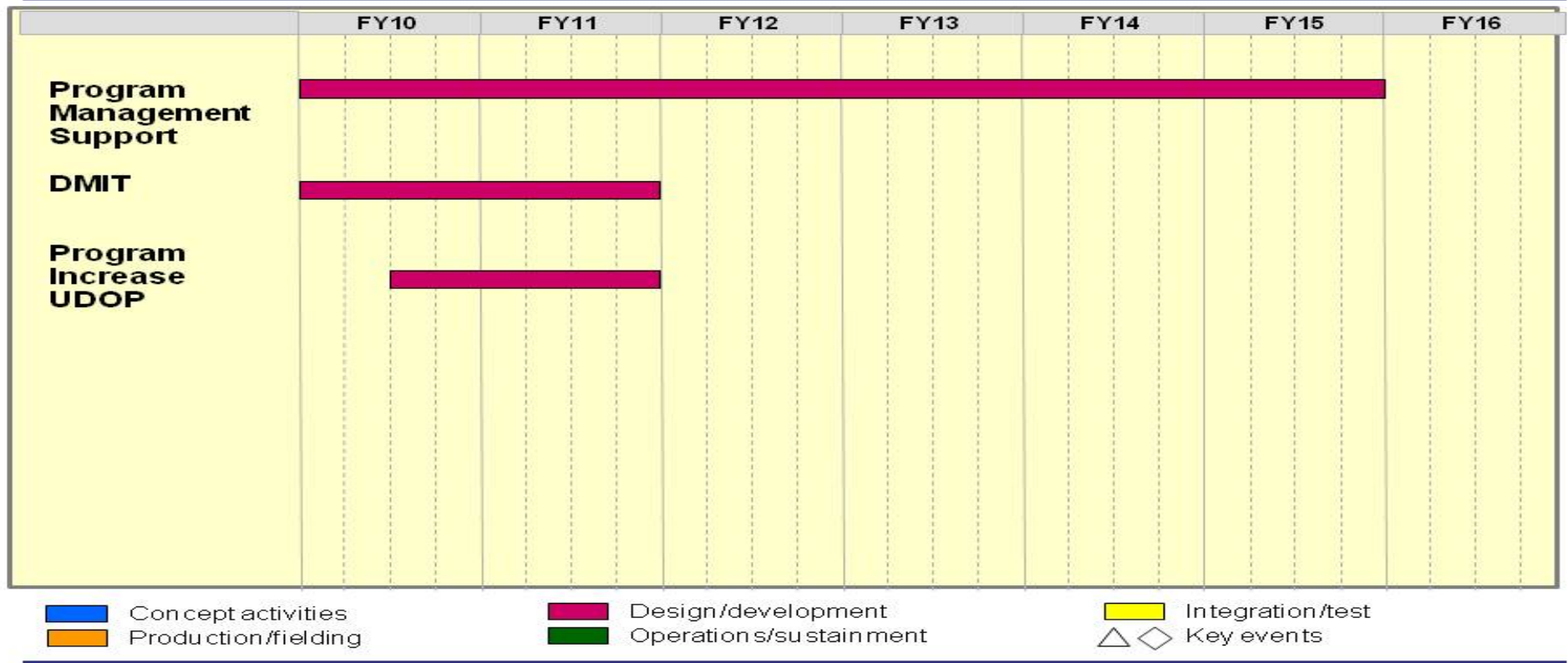
PE 0604740F: Integrated Command & Control
Applications

PROJECT

652523: Product Lines



Product Line Schedule



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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604740F: <i>Integrated Command & Control Applications</i>	PROJECT 652523: <i>Product Lines</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Program Management Support	1	2010	4	2015
Distributive Mission Interoperability Toolkit (DMIT)	1	2010	4	2011
Program Increase/User Defined Operational Picture (UDOP)	3	2010	4	2011

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force								DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>				R-1 ITEM NOMENCLATURE PE 0604740F: <i>Integrated Command & Control Applications</i>				PROJECT 652524: <i>Reuse and Component Support</i>			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
652524: <i>Reuse and Component Support</i>	3.148	-	-	-	-	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification
 Project 2524, Reuse and Component Support, develops reusable software components based on Service Oriented Architectures, Core Enterprise Services and Web Based technologies that enable the Air Force achieve net centric operations and warfare capability. It provides AF-wide enterprise Command and Control functionality, and components are developed in small increments providing continuous deliveries of increasing capability to the warfighter.

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2010	FY 2011
Congressional Add: Command & Control Service Level Management (C2SLM)	3.148	-
FY 2010 Accomplishments: Command and Control for Numbered Air Forces (NAFs) and other Air Force users.		
FY 2011 Plans:		
Congressional Adds Subtotals	3.148	-

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

<u>Line Item</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012 Base</u>	<u>FY 2012 OCO</u>	<u>FY 2012 Total</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• N/A: NA	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

D. Acquisition Strategy
 All contracts were 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.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force											DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE				PROJECT						
3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)				PE 0604740F: Integrated Command & Control Applications				652524: Reuse and Component Support						
Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Command & Control Service Level Management (C2SLM)	C/CPFF	Accenture:Reston, VA	28.123	-		-		-		-	0.000	28.123	28.123	
Subtotal			28.123	-		-		-		-	0.000	28.123	28.123	
Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Contractor Support	Various	ESC:Hanscom AFB, MA	0.134	-		-		-		-	0.000	0.134	0.220	
Subtotal			0.134	-		-		-		-	0.000	0.134	0.220	
Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Subtotal			-	-		-		-		-	0.000	0.000	0.000	
Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Subtotal			-	-		-		-		-	0.000	0.000	0.000	
			Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract	
Project Cost Totals			28.257	-		-		-		-	0.000	28.257	28.343	
Remarks														

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

3600: Research, Development, Test & Evaluation, Air Force
BA 5: Development & Demonstration (SDD)

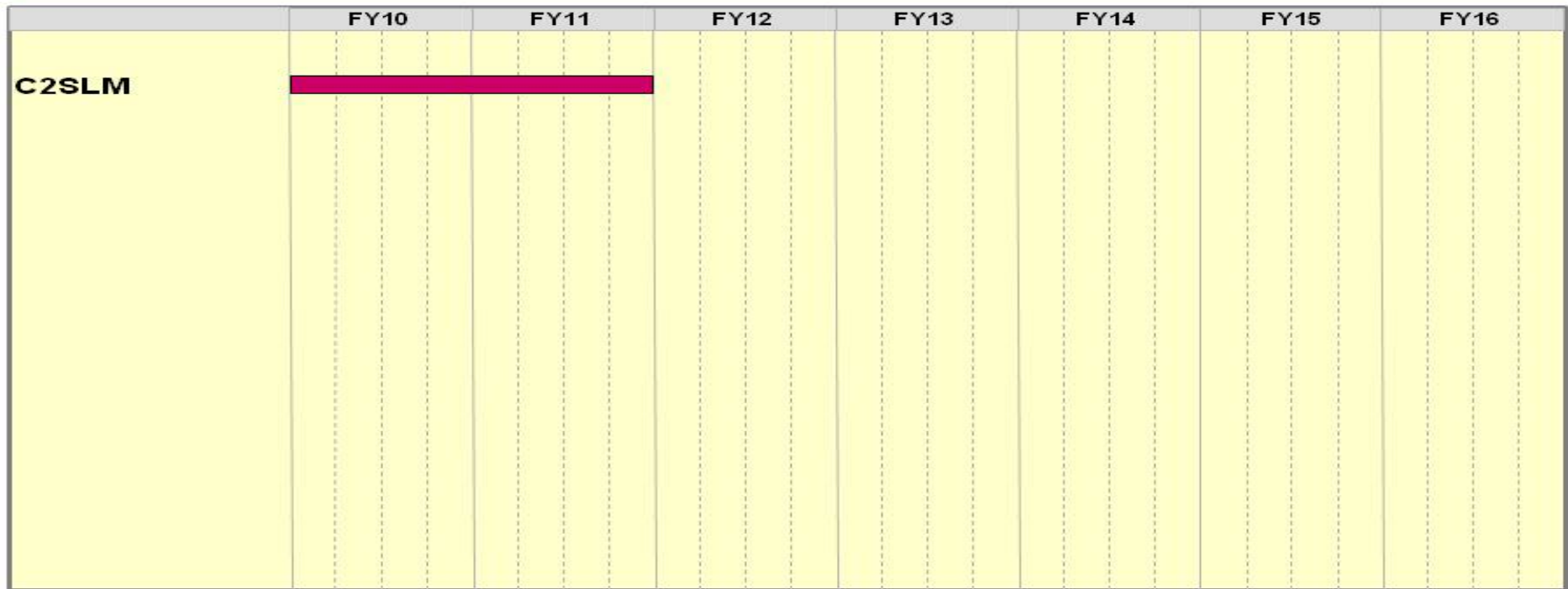
R-1 ITEM NOMENCLATURE

PE 0604740F: Integrated Command & Control Applications

PROJECT

652524: Reuse and Component Support

Reuse & Component Support Schedule



■ Concept activities
 ■ Design/development
 ■ Integration/test
■ Production/fielding
 ■ Pre-Production
 ▲ ◆ Key events

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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604740F: <i>Integrated Command & Control Applications</i>	PROJECT 652524: <i>Reuse and Component Support</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Command & Control Service Level Management (C2SLM)	1	2010	4	2011

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE							
3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>				PE 0604750F: <i>Intelligence Equipment</i>							
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	1.489	1.364	0.995	-	0.995	0.801	0.977	1.116	1.112	Continuing	Continuing
652053: <i>National Air Intel Center</i>	1.489	1.364	0.995	-	0.995	0.801	0.977	1.116	1.112	Continuing	Continuing

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 is the only Air Force program developing new or upgraded analysis, modeling and simulation tools focused on intelligence production in support of Air Force 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/RIEH. 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 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 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	1.495	1.364	0.998	-	0.998
Current President's Budget	1.489	1.364	0.995	-	0.995
Total Adjustments	-0.006	-	-0.003	-	-0.003
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-0.006	-	-0.003	-	-0.003

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force								DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0604750F: Intelligence Equipment				PROJECT 652053: National Air Intel Center			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
652053: National Air Intel Center	1.489	1.364	0.995	-	0.995	0.801	0.977	1.116	1.112	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		
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 is the only Air Force program developing new or upgraded analysis, modeling and simulation tools focused on intelligence production in support of Air Force 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/RIEH. 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 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 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: RF Detection & Analysis Capabilities							0.277	-	-	-	-
Description: Completes capability to geo-locate emitters associated w/advanced bi-static and passive radar systems.											
FY 2010 Accomplishments: Completed capability to geo-locate emitters associated w/advanced bi-static and passive radar systems.											
FY 2011 Plans:											
FY 2012 Base Plans:											
FY 2012 OCO Plans:											
Title: EW Flagging							0.581	0.753	0.386	-	0.386

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)		R-1 ITEM NOMENCLATURE PE 0604750F: Intelligence Equipment		PROJECT 652053: National Air Intel Center		
B. Accomplishments/Planned Programs (\$ in Millions)						
		FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
<p>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).</p> <p>FY 2010 Accomplishments: Continue 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).</p> <p>FY 2011 Plans: Continue 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).</p> <p>FY 2012 Base Plans: Continue 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).</p> <p>FY 2012 OCO Plans: Continue 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).</p>						
<p>Title: Project Theo</p> <p>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.</p> <p>FY 2010 Accomplishments: Continue 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</p>		0.470	0.081	0.081	-	0.081

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)		R-1 ITEM NOMENCLATURE PE 0604750F: Intelligence Equipment		PROJECT 652053: National Air Intel Center		
B. Accomplishments/Planned Programs (\$ in Millions)						
	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	
the Intel Analyst in identifying intelligence gaps and allowing the analyst to nominate intel collection in those areas. FY 2011 Plans: Continue 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 Base Plans: Continue 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 OCO Plans: Continue 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.						
Title: High Performance Aero Vehicle Modeler 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 2010 Accomplishments: Continue update of the tool, with a focus on modeling previously unknown airframes, that provides detailed engineering assessments of threat aircraft performance and characteristics. FY 2011 Plans: Continue 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 Base Plans:		0.161	0.530	0.528	-	0.528

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force				DATE: February 2011	
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>		R-1 ITEM NOMENCLATURE PE 0604750F: <i>Intelligence Equipment</i>		PROJECT 652053: <i>National Air Intel Center</i>	

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Continue update of the tool, with a focus on modeling previously unknown airframes, that provides detailed engineering assessments of threat aircraft performance and characteristics.					
<i>FY 2012 OCO Plans:</i> Continue update of the tool, with a focus on modeling previously unknown airframes, that provides detailed engineering assessments of threat aircraft performance and characteristics.					
Accomplishments/Planned Programs Subtotals	1.489	1.364	0.995	-	0.995

C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• N/A: <i>None</i>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

D. 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.

E. Performance Metrics
 Please refer to the Performance Base Budget Overview Book for information on how Air 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-3, RDT&E Project Cost Analysis: PB 2012 Air Force											DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE				PROJECT						
3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)				PE 0604750F: Intelligence Equipment				652053: National Air Intel Center						
Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Radio Frequency Detection & Analysis Capabilities	Various	Dept of Energy, Northrop Grumman Mission Systems:Fairborn, OH	0.277	-		-		-		-	0.000	0.277	0.793	
Electronic Warfare Flagging	C/CPFF	Northrop Grumman, Sierra Nevada Corporation:Fairborn, OH	0.581	0.753	Nov 2010	0.386	Nov 2011	-		0.386	Continuing	Continuing	TBD	
Project Theo (Automated Text Retrieval, Analysis & Exploitation Capability)	C/CPFF	Northrop Grumman Mission Systems:Fairborn, OH	0.470	0.081	Nov 2010	0.081	Nov 2011	-		0.081	Continuing	Continuing	TBD	
High Performance Aero Vehicle	C/CPFF	Northrop Grumman Mission Systems:Fairborn, OH	0.161	0.530	Nov 2010	0.528	Nov 2011	-		0.528	Continuing	Continuing	TBD	
Subtotal			1.489	1.364		0.995		-		0.995				
Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Subtotal			-	-		-		-		-	0.000	0.000	0.000	
Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Subtotal			-	-		-		-		-	0.000	0.000	0.000	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force											DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>				R-1 ITEM NOMENCLATURE PE 0604750F: <i>Intelligence Equipment</i>				PROJECT 652053: <i>National Air Intel Center</i>					

Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-	0.000	0.000	0.000

	Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	1.489	1.364		0.995		-		0.995			

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

3600: Research, Development, Test & Evaluation, Air Force
BA 5: Development & Demonstration (SDD)

R-1 ITEM NOMENCLATURE

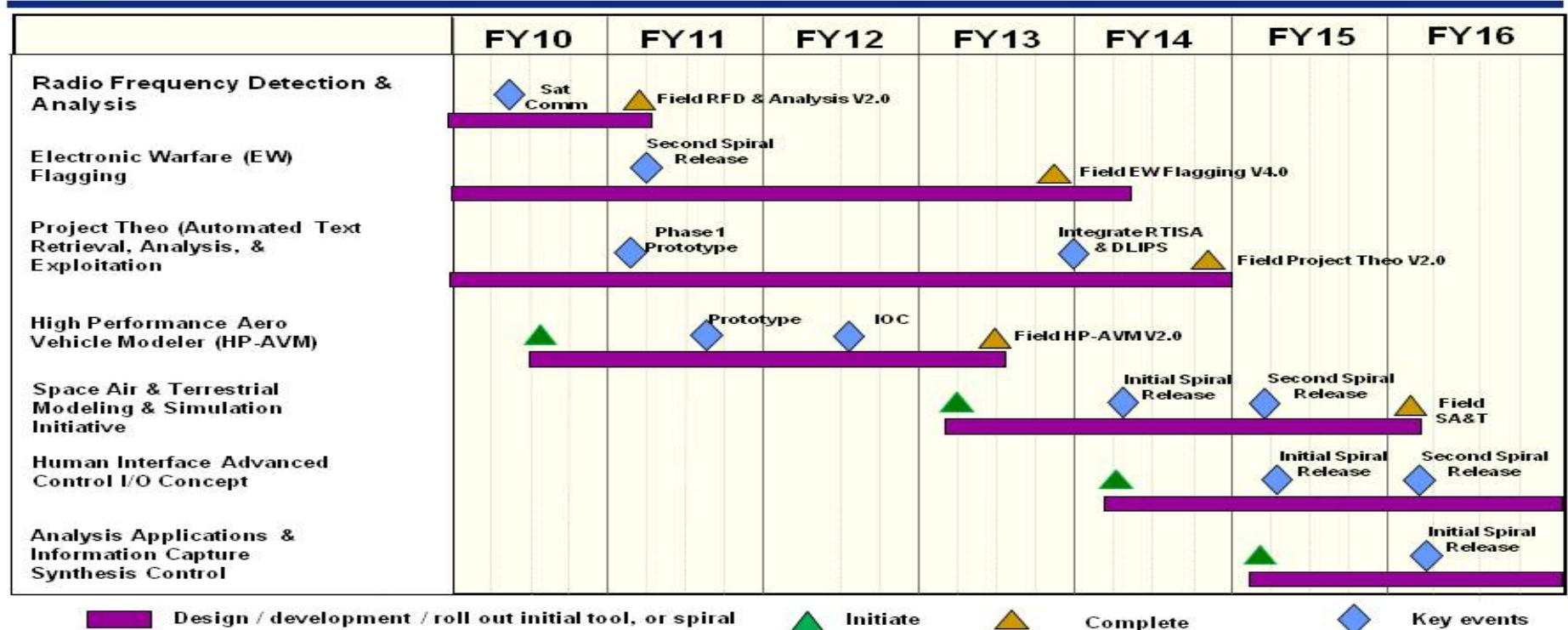
PE 0604750F: Intelligence Equipment

PROJECT

652053: National Air Intel Center



Intelligence Equipment Program Schedule



PB12 R-Docs

Depicted by in stallation /production flow

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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604750F: <i>Intelligence Equipment</i>	PROJECT 652053: <i>National Air Intel Center</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Complete Radio Frequency (RF) Detection & Analysis Capabilities	1	2010	1	2011
Continue Electronic Warfare (EW) Flagging	1	2010	2	2014
Continue Project Theo (Automated Text Retrieval, Analysis, and Exploitation Capability)	1	2010	4	2014
Continue High Performance Aero Vehicle Modeler	2	2010	3	2013
Space Air & Terrestrial Modeling & Simulation Initiative	1	2013	1	2016
Human Interface Advanced Control I/O Concept	1	2014	4	2016
Analysis Applications & Information Capture Synthesis & Control	1	2015	4	2016

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604800F: <i>Joint Strike Fighter EMD</i>
--	--

COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	2,033.521	883.773	1,387.926	-	1,387.926	1,198.293	933.452	608.211	361.064	Continuing	Continuing
653831: <i>Joint Strike Fighter</i>	2,033.521	883.773	1,387.926	-	1,387.926	1,198.293	933.452	608.211	361.064	Continuing	Continuing

Note

Totals include funding for PRCP Program Number 198, Joint Strike Fighter.

Funding in FY11 erroneously requested in the FY11PB for PE 0207142F, Joint Strike Fighter Squadrons - Project 675294 Theater Air Control System Improvement - Radar (TACSI-R), is included in total funding spreads in Exhibits R-2A and R-3. A technical adjustment of \$159,837,000 has been requested. Funding has been shifted to this PE in Congressional marks.

The program funding includes reductions for overhead reduction efficiencies that are not intended to impact program content. The efficiencies reduction totals \$.011M in FY12.

A. Mission Description and Budget Item Justification

The F-35 Lightning II Joint Strike Fighter program will develop and field a family of aircraft that meets the needs of the USN, USAF, USMC and allies, with maximum commonality among the variants, consistent with National Disclosure Policy, to minimize life cycle costs. This is a joint program with no executive service. Navy and Air Force each provide approximately equal shares of annual funding to the program. The United Kingdom, seven (7) other International countries, and four (4) Foreign Military Sales cases are participants in the JSF program. The top-line Program Element reflects USAF F-35A Conventional Take-Off and Landing (CTOL) budgetary information, only; however, funding at the accomplishment/planned program level is reported in total (all services and partners) as the activities support all aircraft variants. Within the Navy contribution is a roughly equal contribution of annual funding by the USN and USMC.

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. The following fiscal year phasing of the flight test aircraft reflects the schedule first flight of each flight test asset or production line roll out of each ground test asset:

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 Variants (CV); 3 ground test articles: 1 STOVL, 2 CV
FY11: 4 flight test articles: 1 CTOL, 1 STOVL, 2 CV
FY12: 1 CV flight test article

BA5 - This program is in Budget Activity 5, System Development and

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604800F: <i>Joint Strike Fighter EMD</i>
--	--

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 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	2,072.897	883.773	1,028.424	-	1,028.424
Current President's Budget	2,033.521	883.773	1,387.926	-	1,387.926
Total Adjustments	-39.376	-	359.502	-	359.502
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-30.727	-			
• Other Adjustments	-8.649	-	359.502	-	359.502

Congressional Add Details (\$ in Millions, and Includes General Reductions)

Project: 653831: *Joint Strike Fighter*

Congressional Add: *F136 Propulsion System*

Congressional Add Subtotals for Project: 653831

Congressional Add Totals for all Projects

FY 2010	FY 2011
415.918	-
415.918	-
415.918	-

Change Summary Explanation

Significant changes to schedule reflect program restructure resulting from a critical Nunn-McCurdy breach and Acquisition Decision Memorandum guidance (dated 2 Jun 2010).

In FY10, \$8.649M for General Congressional Reduction.

In FY12, \$270.071M was moved from PE 0207142F, "Joint Strike Fighter Squadrons", to PE 0604800F, "Joint Strike Fighter EMD". This funding was erroneously requested in PE 0207142F, "Joint Strike Fighter Squadrons" in the FY11PB. \$89.431M was added to the program due to the Nunn-McCurdy restructure.

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force								DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0604800F: Joint Strike Fighter EMD				PROJECT 653831: Joint Strike Fighter			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
653831: Joint Strike Fighter	2,033.521	883.773	1,387.926	-	1,387.926	1,198.293	933.452	608.211	361.064	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		
Note											
Note: Total cost including USN, International partner contributions and USAF funding are: FY10 \$3,998.209M, FY11 \$2,472.489M and FY12 \$2,612.852M.											
A. Mission Description and Budget Item Justification											
The F-35 Lightning II Joint Strike Fighter program will develop and field a family of aircraft that meets the needs of the USN, USAF, USMC and allies, with maximum commonality among the variants, consistent with National Disclosure Policy, to minimize life cycle costs. This is a joint program with no executive service. Navy and Air Force each provide approximately equal shares of annual funding to the program. The United Kingdom, seven (7) other International countries, and four (4) Foreign Military Sales cases are participants in the JSF program. The top-line Program Element reflects USAF F-35A Conventional Take-Off and Landing (CTOL) budgetary information, only; however, funding at the accomplishment/planned program level is reported in total (all services and partners) as the activities support all aircraft variants. Within the Navy contribution is a roughly equal contribution of annual funding by the USN and USMC.											
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. The following fiscal year phasing of the flight test aircraft reflects the schedule first flight of each flight test asset or production line roll out of each ground test asset:											
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 Variants (CV); 3 ground test articles: 1 STOVL, 2 CV FY11: 4 flight test articles: 1 CTOL, 1 STOVL, 2 CV FY12: 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 tasks aimed at meeting validated requirements prior to full-rate production.											
B. Accomplishments/Planned Programs (\$ in Millions)							FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: System Development and Demonstration							2,836.180	1,648.472	1,751.553	-	1,751.553

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force				DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)		R-1 ITEM NOMENCLATURE PE 0604800F: Joint Strike Fighter EMD		PROJECT 653831: Joint Strike Fighter		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
<p>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.</p> <p>FY 2010 Accomplishments: Continued System Development and Demonstration (SDD) execution of the Air System with Lockheed Martin, including International Commonality Effort which included airframe, vehicle systems, mission systems, autonomic logistics, systems engineering, and integrated test efforts.</p> <p>FY 2011 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.</p> <p>FY 2012 Base 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.</p> <p>FY 2012 OCO Plans:</p>						
<p>Title: F135 Propulsion System</p> <p>Description: SDD execution of the F135 Propulsion System (Pratt & Whitney) using International Commonality Effort; includes testing, autonomic logistics, integration & performing technology maturation efforts.</p> <p>FY 2010 Accomplishments: Continued SDD execution of the F135 Propulsion System with Pratt & Whitney that included engine testing, autonomic logistics, integration and performing technology maturation efforts.</p> <p>FY 2011 Plans: Continue SDD execution of the F135 Propulsion System with Pratt & Whitney that included engine testing, autonomic logistics, integration and performing technology maturation efforts.</p> <p>FY 2012 Base Plans:</p>		458.329	360.000	360.000	-	360.000

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)	R-1 ITEM NOMENCLATURE PE 0604800F: Joint Strike Fighter EMD	PROJECT 653831: Joint Strike Fighter				
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Continue SDD execution of the F135 Propulsion System with Pratt & Whitney that included engine testing, autonomic logistics, integration and performing technology maturation efforts. FY 2012 OCO Plans:						
Title: Systems Engineering Description: SDD Systems Engineering (SE) including systems operations requirements analysis, program integration, requirements integration, and interoperability support. FY 2010 Accomplishments: Continued SDD Systems Engineering that includes systems operations requirements analysis, program integration, requirements integration, and interoperability support. FY 2011 Plans: Continue SDD Systems Engineering that includes systems operations requirements analysis, program integration, requirements integration, and interoperability support. FY 2012 Base Plans: Continue SDD Systems Engineering that included systems operations requirements analysis, oprogram integration, requirements integration, and interoperability support. FY 2012 OCO Plans:		28.176	39.264	45.457	-	45.457
Title: Development Test & Evaluation Description: Government Development Test and Evaluation (DT&E)/Operational Testing in support of first flight of test aircraft. Elements of DT&E include preparation for flight testing, weapons integration testing. FY 2010 Accomplishments: Continued Government Development Test and Evaluation (DT&E)/Operational Testing in support of flight test aircraft. Elements of DT&E included preparation for flight testing, weapons integration testing. Continued Block I DT&E and commenced Block II DT&E. FY 2011 Plans: Continue government Development Test and Evaluation (DT&E)/Operational Evaluation in support of envelope expansion, low rate initial production aircraft deliveries, and initial service training. Continue flight sciences testing of CTOL, STOVL, and CV variants to expand the air vehicle envelope to support mission systems testing.		149.547	281.000	323.150	-	323.150

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APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)	R-1 ITEM NOMENCLATURE PE 0604800F: Joint Strike Fighter EMD	PROJECT 653831: Joint Strike Fighter				
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Commence and complete Block 1 Mission Systems flight test, and commence Block 2 flight test. Elements of DT&E included preparation for flight testing, weapons integration testing, and component capabilities testing. FY 2012 Base Plans: Continue government Development Test and Evaluation (DT&E)/Operational Testing in support of test aircraft. Continue flight sciences testing of CTOL, STOVL, and CV variants to expand the air vehicle envelope to support mission systems testing to include initial Block 2B. Elements of DT&E included preparation for flight testing, weapons integration testing, and component capabilities testing. FY 2012 OCO Plans:						
Title: Development Support Description: SDD Support efforts for airframe, air vehicle systems, mission systems, weapons integration, mission support, and autonomic logistics development activities. FY 2010 Accomplishments: Continued SDD Support efforts for airframe, air vehicle systems, mission systems, weapons integration, mission support, and autonomic logistics development activities. FY 2011 Plans: Continue SDD Support efforts for airframe, air vehicle systems, mission systems, weapons integration, mission support, and autonomic logistics development activities. FY 2012 Base Plans: Continue SDD Support efforts for airframe, air vehicle systems, mission systems, weapons integration, mission support, and autonomic logistics development activities. FY 2012 OCO Plans:		121.579	158.291	237.128	-	237.128
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 2010 Accomplishments:		71.478	75.478	103.447	-	103.447

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)	R-1 ITEM NOMENCLATURE PE 0604800F: Joint Strike Fighter EMD	PROJECT 653831: Joint Strike Fighter				
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Continued management support services, travel, engineering technical services, and studies analyses and evaluations in support of program objectives. FY 2011 Plans: Continue management support services, travel, engineering technical services, and studies analyses and evaluations in support of program objectives. FY 2012 Base Plans: Continue management support services, travel, engineering technical services, and studies analyses and evaluations in support of program objectives. Initiate use of RDT&E for civilian pay. FY 2012 OCO Plans:						
Title: Follow-on Development Description: Follow-on Development Block IV capabilities to include logistics, weapons, sensors, survivability, and upgrades required to support F-35 variants. Efforts will support aircraft and engine delivery to services and partner nations commencing in 2015 and will integrate urgent operationally relevant requirements post-Initial Operational Capability (IOC). Funding shown does not include USAF funding which is in RDT&E PE 27142F. FY 2010 Accomplishments: FY 2011 Plans: Initiate follow-on development Block IV capabilities to include logistics, weapons, sensors, survivability, and upgrades required to support F-35 variants. Efforts will support aircraft and engine delivery to services and partner nations commencing in 2015 and will integrate urgent operationally relevant requirements post-Initial Operational Capability (IOC). FY 2012 Base Plans: Continue follow-on development Block IV capabilities to include logistics, weapons, sensors, survivability, and upgrades required to support F-35 variants. Efforts will support aircraft and engine delivery to services and partner nations commencing in 2015 and will integrate urgent operationally relevant requirements post-Initial Operational Capability (IOC). FY 2012 OCO Plans:		-	57.724	37.874	-	37.874
Accomplishments/Planned Programs Subtotals		3,665.289	2,620.229	2,858.609	-	2,858.609

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force									DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0604800F: Joint Strike Fighter EMD				PROJECT 653831: Joint Strike Fighter				
B. Accomplishments/Planned Programs (\$ in Millions)								FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Balancer Line								2,047.686	1,736.456	1,470.681	1,470.681	1,470.681
Air Force Subtotals								1,617.603	883.773	1,387.928	-1,470.681	1,387.928
								FY 2010	FY 2011			
Congressional Add: F136 Propulsion System								415.918	-			
FY 2010 Accomplishments: Congressional Add funding for continued F136 Propulsion System development effort.												
FY 2011 Plans:												
Congressional Adds Subtotals								415.918	-			
C. Other Program Funding Summary (\$ in Millions)												
Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost	
• PE 0604800N: USN RDT&E	1,855.177	667.915	650.773	0.000	650.773	725.043	706.512	588.704	462.301	Continuing	Continuing	
• PE 0604800M: USMC RDT&E	0.000	667.916	670.723	0.000	670.723	741.600	703.575	585.759	459.571	Continuing	Continuing	
• PE 0604800N (2): USN RDT&E - USRL	30.998	39.876	26.713	0.000	26.713	19.473	0.000	0.000	0.000	Continuing	Continuing	
• PE not applicable: Int'l Partner RDT&E SDD/FoD	161.511	200.912	122.474	0.000	122.474	144.220	2.800	0.000	0.000	Continuing	Continuing	
• PE 0207142F: USAF APAF	2,357.949	4,191.142	3,664.092	0.000	3,664.092	3,764.260	5,285.022	5,985.244	7,703.525	Continuing	Continuing	
• PE 0204146N: USN APN	4,449.336	1,886.988	1,720.762	0.000	1,720.762	2,405.858	2,429.364	2,952.444	2,790.723	Continuing	Continuing	
• PE 0204146M: USMC APN	0.000	2,576.142	1,259.162	0.000	1,259.162	1,296.310	1,379.916	1,865.005	2,709.859	Continuing	Continuing	
• PE not applicable (7): Int'l Partner Procurement	727.462	733.662	1,372.792	0.000	1,372.792	3,010.273	4,791.824	7,367.035	6,817.101	Continuing	Continuing	
• PE 426500: USN OPN	3.017	5.410	5.665	0.000	5.665	3.848	4.895	5.615	5.670	Continuing	Continuing	
• PE 0207142F (9): USAF Initial Spares and Repair Parts APAF	129.296	263.573	151.469	0.000	151.469	322.076	340.956	508.599	770.495	Continuing	Continuing	
• PE 0204146N (10): USN Initial Spares and Repair Parts APN	248.165	107.030	28.396	0.000	28.396	76.515	144.405	137.495	56.260	Continuing	Continuing	
• PE 0204146M (11): USMC Initial Spares and Repair Parts APN	0.000	164.135	66.430	0.000	66.430	33.290	63.484	124.794	224.075	Continuing	Continuing	

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force									DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0604800F: Joint Strike Fighter EMD				PROJECT 653831: Joint Strike Fighter			
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• PE 0207142F (12): USAF MILCON	67.529	139.640	31.050	0.000	31.050	89.000	72.000	69.050	65.000	Continuing	Continuing
• PE 0212576N: USN MILCON	0.000	3.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
• PE 0207142F (14): USAF Modifications	0.000	123.936	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
• PE 0207142F (15): USAF RDT&E	0.000	57.724	47.841	0.000	47.841	132.495	131.844	129.164	201.765	Continuing	Continuing
D. Acquisition Strategy											
This Program Element continues development efforts budgeted in program element 0603800F prior to FY2002. Effective with the PB11 submission, F-35B (USMC) and F-35C (USN) budgets are reported against separate budget line items and program elements. Starting in FY11, F-35B is reported against the newly created program element 0604800M. The F-35C USN budget continues to report under program element 0604800N and the F-35A USAF budget continues to report under program element 0604800F.											
Activities in the prior phase of JSF centered around three distinct objectives to provide a sound foundation for the start of System Development & Demonstration (SDD) in Fall 2001:											
(1) facilitated the Services' development of fully validated, affordable operational requirements;											
(2) lowered risk by investing in and demonstrating key leveraging technologies that lowered the cost of development, production and ownership; and											
(3) demonstrated operational concepts.											
Early warfighter and technologist interaction was an essential aspect of the requirements definition process. To an unprecedented degree, the JSF Program used cost-performance trades early, as an integral part of the weapon system development process. The Services defined requirements through an iterative process, balancing weapon system capability against life cycle cost (LCC) at every stage. Each iteration of the requirements was provided to industry. They evolved their designs and provided cost data back to the warfighters. The warfighters evaluated trades and made decisions for the next iteration. This iterative process produced iterations of the Services' Joint Interim Requirements Documents in 1995, 1997, 1998 and culminated in the approved Joint Operational Requirements Document (ORD) in FY2000.											
A sizable technology maturation effort was conducted to reduce risk and life cycle through technology maturation and demonstrations. The primary emphasis was on technologies identified as high payoff contributors to affordability, supportability, survivability, and lethality. Numerous demonstrations were accomplished to validate performance and life cycle cost impact to component, subsystem, and the total system.											

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604800F: <i>Joint Strike Fighter EMD</i>	PROJECT 653831: <i>Joint Strike Fighter</i>
<p>In November 1996, contracts were awarded to Boeing and Lockheed Martin for Concept Demonstration Programs. These competing contractors built and flew concept demonstrator aircraft, conducted concept unique ground demonstrations, and refined their respective weapon system concepts. Specifically, Boeing and Lockheed Martin demonstrated commonality and modularity, Short Take-Off and Vertical Landing (STOVL) hover and transition, and low speed handling qualities of their respective weapon system concepts. Pratt and Whitney provided propulsion hardware and engineering support. General Electric continued development of a second, interchangeable, engine for competition in production.</p> <p>Following evaluation of proposals and a favorable Milestone B decision, the JSF Program entered SDD on 26 October 2001 with SDD contract awards to Lockheed Martin and Pratt & Whitney. The SDD plan reflects a block approach, based on open systems architecture, for accomplishing aircraft and weapons integration. General Electric continued propulsion development efforts through FY 2009 when program funding ended.</p> <p>Follow-on Development will continue the evolutionary approach of SDD by providing capability enhancements through an incremental methodology. The Joint Capabilities Integration and Development System and Defense Acquisition System shall provide the framework and basis for defining, managing and acquiring the envisioned F-35 enhancements. The plan for each follow-on increment will include all the development, integration and verification testing of those capabilities. Additionally, the non-recurring efforts for cut-in of retrofit, production and sustainment will be included. Retrofit planning will be based on upgrading all previously fielded aircraft to the latest increment in order to limit the number of configurations, thus reducing life cycle cost. Retrofit execution will be in accordance with the stakeholder's direction.</p> <p>These follow-on development efforts will be procured via cost type contracts. It is anticipated that the fee provisions will be used to target and motivate contractor performance. The new configurations will be incorporated into production, and, if required by the US Services or SDD International Partners, retrofitted to fielded aircraft under F-35 production and sustainment contracts. Similarly to SDD, Basic Ordering Agreement and Indefinite Delivery/Indefinite Quantity contracts may be used for trade studies and analyses to supplement Follow-On requirements development.</p> <p>The updated JSF Acquisition Strategy and program schedule were approved following the May 05 DAB. The April 2006 DAB authorized full funding for LRIP I procurement. USAF LRIP I Advanced Procurement funding was awarded during FY 2006, followed by the USAF Regular Procurement award in FY 2007. USAF and DoN Advanced Procurement funding for LRIP II was awarded during FY07. USAF LRIP II full-funding contract award occurred in April 08. DoN LRIP II full funding contract was awarded July 08, upon successful first flight of the DoN STOVL aircraft. USAF and DoN Advance Procurement funding for LRIP III was awarded in May 08; LRIP III full funding was awarded in June 09. LRIP IV advanced procurement was awarded in March 09, and full funding contract award occurred in early 4th Quarter FY 10. LRIP V advance procurement contract was awarded 3rd quarter FY 10. LRIP V full funding contract planned for 4th Quarter FY 11.</p> <p>The F-35 Program experienced a Nunn-McCurdy breach during FY10, was restructured for the PB 2011 budget, and was recertified by OSD Acquisition Decision Memorandum (2 June 2010). Milestone B (granted in Oct 2001) was rescinded and a new review will occur in Spring 2011. Program subsequently was extended by 2 years to accommodate completion of DT/OT in FY 18.</p>		
<p><u>E. Performance Metrics</u></p> <p>Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.</p>		

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force										DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE				PROJECT					
3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)				PE 0604800F: Joint Strike Fighter EMD				653831: Joint Strike Fighter					
Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Lockheed Martin - SDD	C/CPAF	Lockheed Martin:Ft. Worth, TX	25,935.737	1,643.535	Oct 2010	1,747.553	Oct 2011	-		1,747.553	4,570.645	33,897.470	27,514.657
Lockheed Martin - IDIQ D0022	SS/Various	Lockheed Martin:Ft. Worth, TX	6.982	4.937	Oct 2010	4.000	Oct 2011	-		4.000	6.500	22.419	0.000
Lockheed Martin - IDIQ D0009	SS/Various	Lockheed Martin:Ft. Worth, TX	16.759	-		-		-		-	0.000	16.759	0.000
Lockheed Martin - BOA	SS/Various	Lockheed Martin:Ft. Worth, TX	3.511	-		-		-		-	0.000	3.511	0.000
Pratt & Whitney - SDD	SS/CPAF	Pratt &Whitney:Hartford, CT	6,530.993	360.000	Oct 2010	360.000	Oct 2011	-		360.000	916.462	8,167.455	6,668.763
Pratt & Whitney - Close Out Contract C0132	SS/CPFF	Pratt &Whitney:Hartford, CT	1.364	-		-		-		-	0.000	1.364	0.000
Pratt & Whitney - CDP Close Out Contract C0050	SS/CPFF	Pratt &Whitney:Hartford, CT	2.211	-		-		-		-	0.000	2.211	0.000
Pratt & Whitney - BOA	SS/Various	Pratt &Whitney:Hartford, CT	35.983	-		-		-		-	0.000	35.983	0.000
Pratt & Whitney - IDIQ	SS/Various	Pratt &Whitney:Hartford, CT	10.925	-		-		-		-	0.000	10.925	0.000
General Electric - SDD	SS/CPAF	FET:Cincinnati, OH	2,086.285	-		-		-		-	0.000	2,086.285	2,466.974
General Electric - IDIQ D0009	SS/Various	FET:Cincinnati, OH	0.264	-		-		-		-	0.000	0.264	0.000
General Electric - IDIQ D0074	SS/Various	FET:Cincinnati, OH	4.175	-		-		-		-	0.000	4.175	0.000
General Electric - F136 Transition	SS/Various	FET:Cincinnati, OH	100.400	-		-		-		-	0.000	100.400	0.000
General Electric - BOA	SS/Various	FET:Cincinnati, OH	5.548	-		-		-		-	0.000	5.548	0.000
General Electric - Phase IIIb	SS/Various	FET:Cincinnati, OH	382.753	-		-		-		-	0.000	382.753	0.000
Systems Engineering	Various	Various:Various,	253.788	39.264	Oct 2010	45.457	Oct 2011	-		45.457	109.670	448.180	0.000
Lockheed Martin - Follow-on Development	SS/CPAF	Lockheed Martin:Ft. Worth, TX	-	54.845	Oct 2010	32.712	Oct 2011	-		32.712	234.757	322.314	0.000
Pratt & Whitney - Follow-on Development	SS/CPAF	Pratt &Whitney:Hartford, CT	-	2.000	Oct 2010	2.000	Oct 2011	-		2.000	8.000	12.000	0.000
	Various	Various:Various,	-	0.067	Oct 2010	0.688	Oct 2011	-		0.688	2.985	3.740	0.000

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force										DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0604800F: Joint Strike Fighter EMD				PROJECT 653831: Joint Strike Fighter					
Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Systems Engineering - Follow-on Development													
Subtotal			35,377.678	2,104.648		2,192.410		-		2,192.410	5,849.019	45,523.756	36,650.394
Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
AFFTC/Eglin	Various	Various:Various,	90.108	14.873	Oct 2010	14.929	Oct 2011	-		14.929	48.545	168.455	0.000
ASC/AFRL	Various	ASC/AFRL:Wright Patterson AFB, OH	45.793	3.768	Oct 2010	7.625	Oct 2011	-		7.625	39.553	96.739	0.000
ASC Civ Pay	Various	ASC:Wright Patterson AFB, OH	-	-		19.554	Oct 2011	-		19.554	126.714	146.268	0.000
Bolling AFB	Various	Bolling AFB:Washington DC,	6.775	-		-		-		-	0.000	6.775	0.000
DMEA	Various	DMEA:Wright Patterson AFB:Dayton, OH	4.112	10.000	Oct 2010	25.500	Oct 2011	-		25.500	0.000	39.612	0.000
ESC	Various	ESC:Hanscom AFB, MA	6.848	0.305	Oct 2010	0.376	Oct 2011	-		0.376	0.480	8.009	0.000
AEDC/Fuel	Various	Various:Various,	131.403	38.063	Oct 2010	58.764	Oct 2011	-		58.764	58.230	286.460	0.000
NADEP Jacksonville	Various	NADEP:Jacksonville, FL	6.323	1.632	Oct 2010	1.985	Oct 2011	-		1.985	6.255	16.195	0.000
Miscellaneous	Various	Various:Various,	206.823	21.100	Oct 2010	21.298	Oct 2011	-		21.298	46.457	295.678	0.000
NAWC China Lake	Various	Various:Ridge Crest, CA	93.603	28.874	Oct 2010	33.068	Oct 2011	-		33.068	56.887	212.432	0.000
NAWC TSD	Various	Various:Orlando, FL	7.750	1.585	Oct 2010	2.362	Oct 2011	-		2.362	4.854	16.551	0.000
NAWC Patuxent River	Various	NAWC AD:Patuxent River, MD	267.856	37.606	Oct 2010	51.057	Oct 2011	-		51.057	122.972	479.491	0.000
NSWC	Various	Various:Various,	3.360	0.455	Oct 2010	0.570	Oct 2011	-		0.570	0.190	4.575	0.000
SPAWAR	Various	Various:Various,	6.525	0.030	Oct 2010	0.038	Oct 2011	-		0.038	0.134	6.727	0.000
	Various	Various:Various,	24.187	-		-		-		-	0.000	24.187	0.000

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force											DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE				PROJECT						
3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)				PE 0604800F: Joint Strike Fighter EMD				653831: Joint Strike Fighter						
Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
SBIR Technology Insertion Congressional Add														
Misc/Other Follow-on Development (FoD)	Various	Various:Various,	-	-		0.063	Oct 2011	-		0.063	0.147	0.210	0.000	
NAWC/China Lake FoD	Various	Various:Various,	-	0.327	Oct 2010	0.494	Oct 2011	-		0.494	15.223	16.044	0.000	
NAWC Patuxent River FoD	Various	Various:Patuxent River,	-	0.485	Oct 2010	1.917	Oct 2011	-		1.917	28.279	30.681	0.000	
Subtotal			901.466	159.103		239.600		-		239.600	554.920	1,855.089	0.000	
Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
NAWC Patuxent	Various	NAWC AD:Patuxent River, MD	226.209	121.877	Oct 2010	130.731	Oct 2011	-		130.731	732.191	1,211.008	0.000	
NAWC China Lake	Various	NAWC WD:Ridgecrest, CA	16.220	11.409	Oct 2010	11.637	Oct 2011	-		11.637	23.771	63.037	0.000	
Edwards AFB	Various	Edwards AFB:Edwards AFB, CA	283.450	86.850	Oct 2010	94.841	Oct 2011	-		94.841	256.139	721.280	0.000	
Other (including Classified PIDs)	Various	Various:Various,	15.691	19.395	Oct 2010	26.441	Oct 2011	-		26.441	28.050	89.577	0.000	
WEPS/Eglin	Various	WEPS:Eglin AFB, FL	20.485	14.150	Oct 2010	2.600	Oct 2011	-		2.600	2.800	40.035	0.000	
JITC	Various	Various:Various,	0.503	-		-		-		-	0.000	0.503	0.000	
OT - AFOTEC/AFFTC	Various	Various:Various,	78.482	23.819	Oct 2010	52.200	Oct 2011	-		52.200	382.840	537.341	0.000	
OT - JITC/OPTEV	Various	Various:Various,	3.841	3.500	Oct 2010	4.700	Oct 2011	-		4.700	35.214	47.255	0.000	
Subtotal			644.881	281.000		323.150		-		323.150	1,461.005	2,710.036	0.000	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force										DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0604800F: Joint Strike Fighter EMD				PROJECT 653831: Joint Strike Fighter					
Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Business Integration - Cost - ACT I	SS/CPFF	ACT I:Arlington, VA	2.981	2.833	Nov 2009	3.418	Oct 2011	-		3.418	12.872	22.104	0.000
Security - Mantech	C/TBD	Mantech:Arlington, VA	42.487	7.015	Nov 2010	8.366	Oct 2011	-		8.366	35.336	93.204	0.000
Autolog - SEIT - DRC	C/CPFF	DRC:Arlington, VA	5.916	3.000	Nov 2010	-		-		-	0.000	8.916	0.000
Chief Engineer - First Principles	C/CPFF	First Principles:Arlington, VA	1.398	1.523	Nov 2010	1.936	Oct 2011	-		1.936	4.105	8.962	0.000
ASC Civilian Pay	Various	ASC:Wright Patterson AFB, OH	-	-		3.500	Oct 2011	-		3.500	21.000	24.500	0.000
Operations - Wyle	C/CPFF	Wyle:Arlington, VA	78.871	19.305	Nov 2010	27.418		-		27.418	93.283	218.877	0.000
Operations - SAFTAS	C/CPAF	SAFTAS:Arlington, VA	77.789	18.200	Nov 2010	26.600	Oct 2011	-		26.600	91.000	213.589	0.000
Operations - Stanley	C/CPAF	Stanley:Arlington, VA	131.456	19.800	Nov 2010	27.940	Oct 2011	-		27.940	97.660	276.856	0.000
GE F136 Congressional Studies	Various	Various:Various,	0.800	-		-		-		-	0.000	0.800	0.000
Travel and Misc	Various	Various:Various,	11.740	3.802	Oct 2010	4.269	Oct 2011	-		4.269	17.392	37.203	0.000
Subtotal			353.438	75.478		103.447		-		103.447	372.648	905.011	0.000
			Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Subtotals			37,277.463	2,620.229		2,858.607		-		2,858.607	8,237.592	50,993.892	36,650.394
Balancer Line				1,736.456		1,470.681		1,470.681		1,470.681			
Project Cost Totals			37,277.463	883.773		1,387.926		-1,470.681		1,387.926	8,237.592	50,993.892	36,650.394
Remarks													
Remarks: Prior Years reflect \$14,463,049 USAF/\$14,381,550 USN/\$4,315,173 International/Total \$33,159,772 FY 2010 reflects \$2,033,521 USAF/\$1,886,175 USN/\$161,511 International/Total \$4,081,207 FY 2011 reflects \$1,043,610 USAF/\$707,791 USN/\$667,916 USMC/\$200,912 International/Total \$2,620,229 (USAF total includes requested technical adjustment from PE 27142F) FY 2012 reflects \$1,387,926 USAF/\$677,486 USN/\$670,723 USMC/\$122,274 International/Total \$2,858,609													
NOTE: Totals may not add correctly due to rounding.													

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

3600: Research, Development, Test & Evaluation, Air Force
BA 5: Development & Demonstration (SDD)

R-1 ITEM NOMENCLATURE

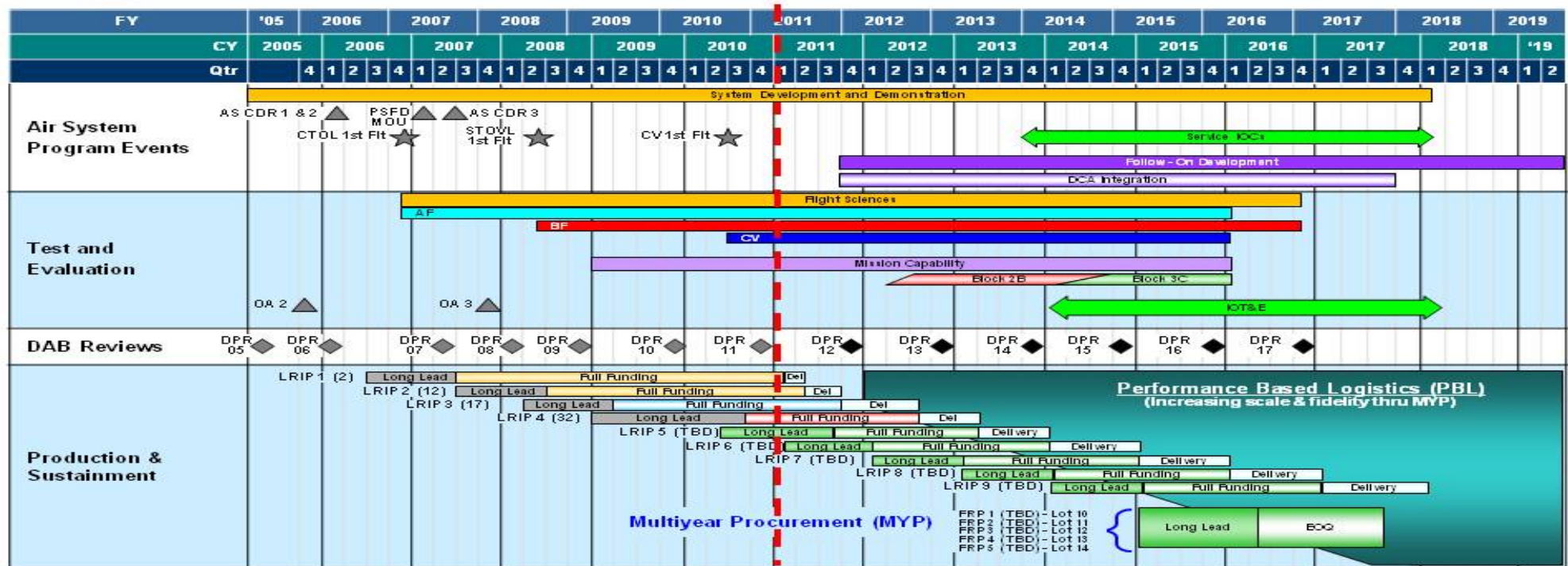
PE 0604800F: Joint Strike Fighter EMD

PROJECT

653831: Joint Strike Fighter



Top Level Schedule



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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

3600: *Research, Development, Test & Evaluation, Air Force*
BA 5: *Development & Demonstration (SDD)*

R-1 ITEM NOMENCLATURE

PE 0604800F: *Joint Strike Fighter EMD*

PROJECT

653831: *Joint Strike Fighter*

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Acquisition Milestone: Carrier Variant First Flight	3	2010	3	2010
Acquisition Milestones: Services Initial Operational Capability	1	2014	4	2016
Acquisitional Milestones: Full Rate Production Decision Review	3	2016	3	2016
Acquisition Milestones: Follow-on Development	1	2012	4	2016
Acquisition Milestones: Dual Capability Aircraft Integration	1	2012	4	2016
Contract Award: Low Rate Initial Production (LRIP) 4 Full Funding	4	2010	4	2010
Contract Award: LRIP 5 Long Lead	3	2010	3	2010
Contract Award: LRIP 5 Full Funding	4	2011	4	2011
Contract Award: LRIP 6 Long Lead	2	2011	2	2011
Contract Award: LRIP 6 Full Funding	3	2012	3	2012
Contract Award: LRIP 7 Long Lead	2	2012	2	2012
Contract Award: LRIP 7 Full Funding	3	2013	3	2013
Contract Award: LRIP 8 Long Lead	2	2013	2	2013
Contract Award: LRIP LRIP 8 Full Funding	3	2014	3	2014
Contract Award: LRIP 9 Long Lead	2	2014	2	2014
Contract Award: LRIP 9 Full Funding	3	2015	3	2015
Production Deliveries: LRIP 1 Delivery (APAF)	2	2011	2	2011
Production Deliveries: LRIP 2 Delivery (APAF, APN)	3	2011	4	2011
Production Deliveries: LRIP 3 Delivery (APAF, APN, UK Production)	1	2011	4	2012
Production Deliveries: LRIP 4 Delivery (APAF, APN, UK Production)	4	2012	2	2013
Production Deliveries: LRIP 5 Delivery (APAF, APN, UK Production)	3	2013	2	2014
Production Deliveries: LRIP 6 Delivery (APAF, APN, UK Production)	2	2014	2	2015

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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604800F: <i>Joint Strike Fighter EMD</i>	PROJECT 653831: <i>Joint Strike Fighter</i>	

Events	Start		End	
	Quarter	Year	Quarter	Year
Production Deliveries: LRIP 7 Delivery (APAF, APN, UK Production)	2	2015	2	2016
Production Deliveries: LRIP 8 (APAF, APN, UK Production)	2	2016	4	2016
Sustainment: Performance Based Logistics (PBL)	2	2012	4	2016
Test & Evaluation: Conventional Take-off and Landing (CTOL) - AF	1	2010	2	2016
Test & Evaluation: Short Take-off and Landing (STOVL) - BF	1	2010	4	2016
Test & Evaluation: Carrier Variant (CV) - CV	4	2010	2	2016
Test & Evaluation: Block 2B	3	2012	4	2014
Test & Evaluation: Block 3C	3	2014	2	2016
Test & Evaluation: Mission Capability	1	2010	3	2016
Test & Evaluation: Initial Operational Test and Evaluation (IOT&E)	2	2014	4	2016
System Development Reviews: Defense Acquisition Board (DAB) Program Review FY10	1	2010	1	2010
System Development Reviews: DAB Program Review FY11	1	2011	1	2011
System Development Reviews: DAB Program Review FY12	1	2012	1	2012
System Development Reviews: DAB Program Review FY13	1	2013	1	2013
System Development Reviews: DAB Program Review FY14	1	2014	1	2014
System Development Reviews: DAB Program Review FY15	1	2015	1	2015
System Development Reviews: DAB Program Review FY16	1	2016	1	2016

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY

3600: *Research, Development, Test & Evaluation, Air Force*
BA 5: *Development & Demonstration (SDD)*

R-1 ITEM NOMENCLATURE

PE 0604851F: *ICBM - EMD*

COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	59.736	71.843	158.477	-	158.477	198.491	191.406	153.410	138.210	Continuing	Continuing
655037: <i>Support Equipment</i>	41.057	71.843	72.410	-	72.410	76.035	48.269	17.185	1.658	Continuing	Continuing
657006: <i>ICBM EMD: Fuze Support</i>	-	-	42.114	-	42.114	73.374	105.511	134.036	136.552	Continuing	Continuing
655081: <i>ICBM Crypto</i>	18.679	-	43.953	-	43.953	49.082	37.626	2.189	-	Continuing	Continuing

Note

In FY12, Project Number 655037, Support Equipment, includes the Single Integrated Operation Plan Targeting Application Computer System new start effort.

In FY12, the fuze efforts in Project Number 657006, ICBM EMD: Fuze Support, were transferred from PE 0604222F Nuclear Weapons Support in order to consolidate service activities as they progress towards deployable products.

The program funding includes reductions for overhead efficiencies that are not intended to impact program content. The efficiencies reductions total \$0.432M in FY12 from the Support Equipment Programs.

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 equipment. The efforts include design, development, and testing of replacement Electrical-Electronic Equipment Test Sets, Reentry Field Support Equipment, Minuteman Code System Media, the Payload Transporter Tractor and Trailer, Higher Authority Command/Rapid Message Processing Element (HAC/RMPE) Message Generator, and the Targeting Application Computer for Single Integrated Operation Plan (SIOP) Targeting Application Computer System (STACS).

The ICBM Cryptography Upgrade Increment II program expands on the ICBM Cryptography Upgrade Increment I program to incorporate remote key/code change and irreversible transformation of launch/enable codes increasing nuclear weapons security during annual code change cycles.

ICBM Fuze Support will continue studies and development planning leading to a development effort for Mk21 and Mk12A replacement fuzes. Development effort will make maximum use of technologies, parts and components developed under the Navy Mk5 fuze program.

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.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604851F: <i>ICBM - EMD</i>
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B. Program Change Summary (\$ in Millions)	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012 Base</u>	<u>FY 2012 OCO</u>	<u>FY 2012 Total</u>
Previous President's Budget	60.010	71.843	66.776	-	66.776
Current President's Budget	59.736	71.843	158.477	-	158.477
Total Adjustments	-0.274	-	91.701	-	91.701
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-0.274	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-	-	91.701	-	91.701

Change Summary Explanation

FY12 funding reflects a \$5.634M increase to project 655037 for the SIOP Targeting Application Computer System (STACS) new start program and to upgrade Minuteman Code System Media, a \$43.953M increase to project number 655081 for ICBM Crypto and a \$42.114M increase to project number 657006 for ICBM EMD: Fuze Support.

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force								DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0604851F: ICBM - EMD				PROJECT 655037: Support Equipment			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
655037: Support Equipment	41.057	71.843	72.410	-	72.410	76.035	48.269	17.185	1.658	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		
Note In FY12, Project Number 655037, Support Equipment, includes the Single Integrated Operation Plan Targeting Application Computer System new start effort.											
A. Mission Description and Budget Item Justification The Support Equipment program funding includes reductions for overhead efficiencies that are not intended to impact program content. The efficiencies reductions total \$0.432M in FY12. The ongoing Support Equipment program replaces obsolete/unsupportable/non-serviceable weapon system support equipment necessary to extend the operational life of the Minuteman III (MM III) weapon system through 2030. The efforts include design, development, and testing of replacement Electrical-Electronic Equipment Test Sets, Reentry Field Support Equipment, Minuteman Code System Media, the Payload Transporter Tractor and Trailer, Higher Authority Command/Rapid Message Processing Element (HAC/RMPE) Message Generator, and the Targeting Application Computer for Single Integrated Operation Plan (SIOP) Targeting Application Computer System (STACS). The production phase, MPAF funding is budgeted under MMIII Support Equipment Replacement, PE 0101213F. 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 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: Electrical-Electronic Equipment Test Set (EEETS)							5.407	8.603	3.389	-	3.389
Description: Design and develop the EEETS necessary for production/pre-launch checkout of MOD 7 wafer required for the ongoing test launch program. The program will replace the current unsupportable test set which consists of a non-standard processor, proprietary software, and requires Digital-to-Analog Converter (DAC) cards no longer made (no suitable substitute).											
FY 2010 Accomplishments: Begin design, development, fabrication and testing of EEETS.											
FY 2011 Plans: Continue design, development, fabrication and testing of EEETS.											
FY 2012 Base Plans:											

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)	R-1 ITEM NOMENCLATURE PE 0604851F: ICBM - EMD	PROJECT 655037: Support Equipment				
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Complete design, development, fabrication and testing of EEETS.						
FY 2012 OCO Plans:						
Title: Reentry Field Support Equipment (RFSE) Description: Design and develop the RFSE to replace the current reentry systems test set. The effort will increase the mean time between failure, eliminate unneeded Mk12 functions, and add new Mk21 functions. It will provide capability through 2030 to meet DoE mandated Limited Life Component warhead swaps and to test electrical continuity during buildup of MM III Reentry Systems FY 2010 Accomplishments: Begin design, development, fabrication and testing of RFSE. Begin Independent Validation and Verification (IV&V) for the RFSE. FY 2011 Plans: Continue design, development, fabrication and testing of RFSE. Continue IV&V for the RFSE. FY 2012 Base Plans: Continue design, development, fabrication and testing of RFSE. Continue IV&V for the RFSE. Complete Critical Design Review (CDR). FY 2012 OCO Plans:		18.111	38.089	37.809	-	37.809
Title: Code System Media (CSM) Description: The Minuteman CSM effort will develop software to support management of data flow and data products to keep the Minuteman III weapon system into operational mode. Current CSM processes utilize DC300 tape cartridges and 9-track tapes. Beginning in FY11, the National Security Agency (NSA) is no longer using DC300 tape cartridges and the shelf life expires in 2013 for the remaining 9-track tapes. The software will be modified to use CD-ROMs as the new media. Ensures capability through 2030 to load codes/software on MM ICBMs--critical to CY12 code change. FY 2010 Accomplishments: Begin design, development, fabrication and testing of CSM. Begin Nuclear Surety Cross Check Analysis (NSCCA) for the CSM. FY 2011 Plans:		17.539	23.312	14.682	-	14.682

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)	R-1 ITEM NOMENCLATURE PE 0604851F: ICBM - EMD	PROJECT 655037: Support Equipment				
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Continue design, development, fabrication and testing of CSM. Continue NSCCA for the CSM. FY 2012 Base Plans: Continue design, development, fabrication and testing of CSM software and hardware. Continue NSCCA for the CSM. Complete CDR. FY 2012 OCO Plans:						
Title: Payload Transporter Tractor and Trailer (PT3) Description: Design and develop the capabilities necessary to replace the current PT3, mitigating emerging threat technologies and methods. The new Weapons Transporter design increases safety and security during transport activities and improves maintenance operations. FY 2010 Accomplishments: FY 2011 Plans: Begin design, development, fabrication and testing of replacement PT3. FY 2012 Base Plans: Continue design, development, fabrication and testing of replacement PT3. FY 2012 OCO Plans:		-	0.790	8.325	-	8.325
Title: Higher Authority Command/Rapid Message Processing Element (HAC/RMPE) message generator Description: Design and develop the replacement for the Higher Authority Command/Rapid Message Processing Element (HAC/RMPE) message generator due to obsolescence and unsupportability for repair. This program will address the replacement of Test Support Equipment (TSE) with a modern, sustainable common platform and standard interfaces. FY 2010 Accomplishments: FY 2011 Plans: Begin design, development, fabrication and testing of HAC/RMPE message generator. FY 2012 Base Plans:		-	1.049	0.996	-	0.996

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force				DATE: February 2011	
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>		R-1 ITEM NOMENCLATURE PE 0604851F: <i>ICBM - EMD</i>		PROJECT 655037: <i>Support Equipment</i>	

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Complete design, development, fabrication and testing of HAC/RMPE message generator. Complete PDR. FY 2012 OCO Plans:					
Title: Single Integrated Operational Plan (SIOP) Targeting Applications Computer System (STACS) Description: Design and develop a replacement computer for the STACS. The program will enable output to compact disc media and update/replace unsupportable/obsolete hardware and software. FY 2010 Accomplishments: FY 2011 Plans: FY 2012 Base Plans: Begin design and development activities. Complete PDR. FY 2012 OCO Plans:	-	-	7.209	-	7.209
Accomplishments/Planned Programs Subtotals	41.057	71.843	72.410	-	72.410

C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• MPAF: <i>PE 0101213F, Minuteman Squadrons, MM III Support Equipment Replacement</i>	50.532	58.438	65.913	0.000	65.913	56.506	82.449	140.097	26.289	Continuing	Continuing

D. Acquisition Strategy The support equipment replacement programs will be Cost Plus Incentive Fee (CPIF) contract addendums added to the ICBM Prime Integration Contract (IPIC) for everything but the NSCCA and IV&V efforts, which will be contracted for separately under a Cost Plus Award Fee (CPAF) Contract.
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E. Performance Metrics Please refer to the Performance Base Budget Overview Book for information on how Air 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-3, RDT&E Project Cost Analysis: PB 2012 Air Force											DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0604851F: ICBM - EMD				PROJECT 655037: Support Equipment						
Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
ICBM Prime Integration Contract	SS/CPHF	Northrop Grumman Mission Systems:Clearfield, UT	38.981	67.349	Oct 2010	65.968	Oct 2011	-		65.968	130.976	303.274	TBD	
Subtotal			38.981	67.349		65.968		-		65.968	130.976	303.274		
Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
NSCCA	SS/CPAF	NGIT:Mclean, VA	0.713	1.065	Oct 2010	1.676	Oct 2011	-		1.676	2.165	5.619	TBD	
Subtotal			0.713	1.065		1.676		-		1.676	2.165	5.619		
Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Independent Validation and Verification	SS/CPAF	Northrop Grumman IT:Mclean, VA	0.149	0.518	Oct 2010	0.766	Oct 2011	-		0.766	0.676	2.109	TBD	
Subtotal			0.149	0.518		0.766		-		0.766	0.676	2.109		
Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
SPO/Other Program Support	Various	ICBM Program Office:Hill AFB, UT	1.214	2.911	Oct 2010	4.000	Oct 2011	-		4.000	0.000	8.125	0.000	
Subtotal			1.214	2.911		4.000		-		4.000	0.000	8.125	0.000	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force								DATE: February 2011						
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0604851F: ICBM - EMD				PROJECT 655037: Support Equipment						
				Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals				41.057	71.843		72.410		-		72.410	133.817	319.127	

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

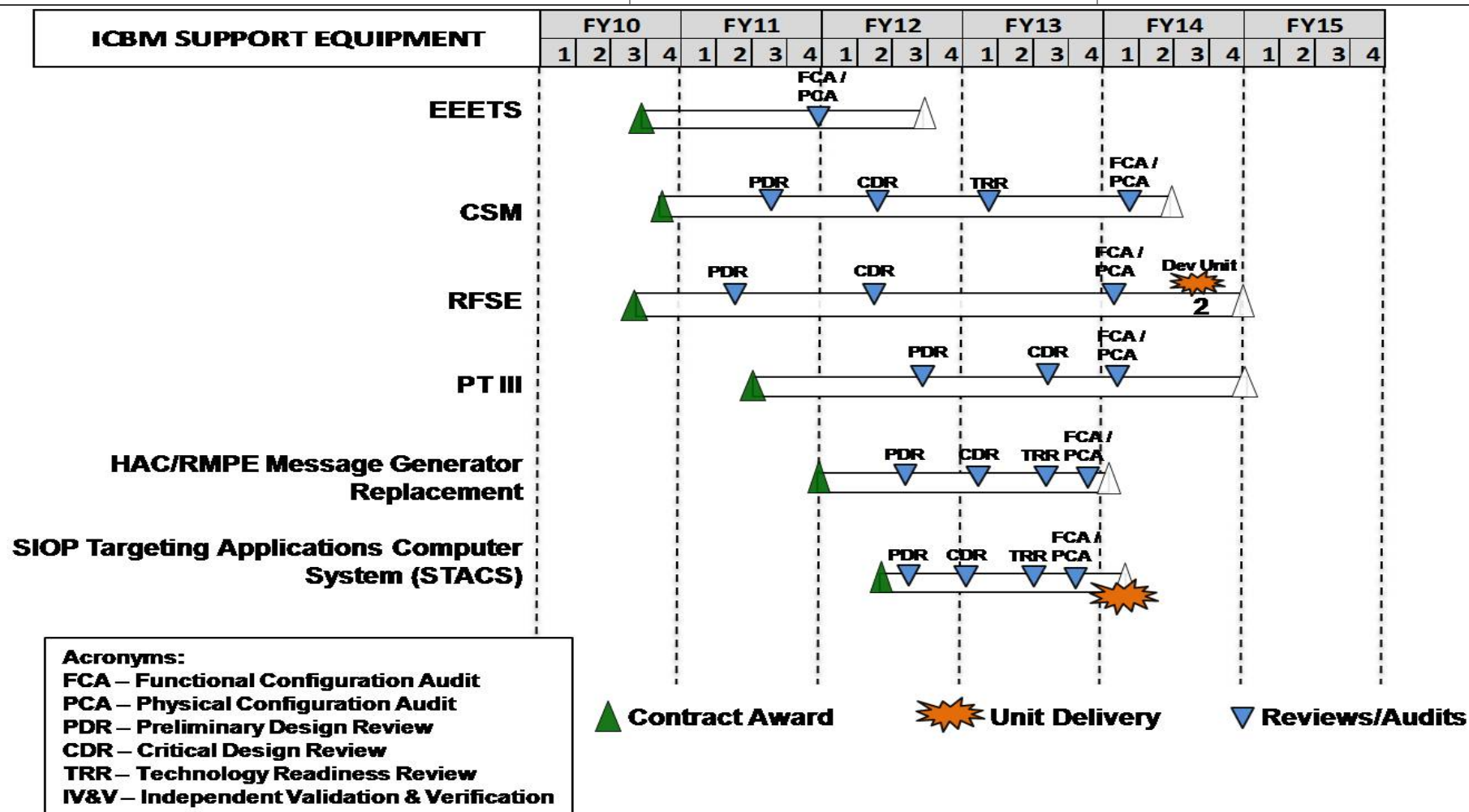
3600: Research, Development, Test & Evaluation, Air Force
BA 5: Development & Demonstration (SDD)

R-1 ITEM NOMENCLATURE

PE 0604851F: ICBM - EMD

PROJECT

655037: Support Equipment



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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604851F: <i>ICBM - EMD</i>	PROJECT 655037: <i>Support Equipment</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Reentry Field Support Equipment (RFSE) development contract award	3	2010	3	2010
Electrical-Electronic Equipment Test Set (EEETS) development contract award	4	2010	4	2010
CSM development contract award	4	2010	4	2010
RFSE Preliminary Design Review (PDR)	2	2011	2	2011
Payload Transporter III (PT III) Tractor Trailer requirement definition contract award	3	2011	3	2011
CSM PDR	3	2011	3	2011
HAC/RMPE Msg Gen contract award	4	2011	4	2011
EEETS Functional Configuration Audit.Physical Configuration Audit	1	2012	1	2012
SIOP Targeting Applications Computer System (STACS) contract award	2	2012	2	2012
RFSE and CSM Critical Design Review (CDR)	2	2012	2	2012
HAC/RMPE Msg Gen PDR	3	2012	3	2012
STACS PDR	3	2012	3	2012
PT III PDR	4	2012	4	2012
STACS and HAC/RMPE CDRs	1	2013	1	2013
EEETS contract completion	2	2013	2	2013
STACS Technology Readiness Review (TRR)	3	2013	3	2013

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force								DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0604851F: ICBM - EMD				PROJECT 657006: ICBM EMD: Fuze Support			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
657006: ICBM EMD: Fuze Support	-	-	42.114	-	42.114	73.374	105.511	134.036	136.552	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		
Note In FY12, the fuze efforts in project number 657006 ICBM EMD: Fuze Support, were transferred from PE 0604222F Nuclear Weapons Support to consolidate service activities as they progress towards deployable products.											
A. Mission Description and Budget Item Justification The ICBM Fuze Modernization program will replace the Mk21 fuze to meet warfighter requirements and maintain current capability. The program will also develop a new Mk12A fuze capability to match the W78 Warhead Life Extension Program (LEP) driven by the need to meet Nuclear Weapons Stockpile Plan and Requirements Planning Document providing direction on the number and mix of nuclear weapons available for employment. The Air Force ICBM Fuze Modernization Program will work in conjunction with the National Nuclear Security Administration (NNSA), the Navy, and United Kingdom (UK) Ministry of Defense (MoD) to capitalize on the extensive fuze work done to date by the Navy and NNSA, and make maximum use of Joint technologies, parts, components, development and production capabilities. The ICBM Fuze Modernization Program will also address the needed/associated Minuteman III Weapon System modifications, system testing, support equipment, data, training, and fielding efforts required to support the new Mk21 fuze and the new Mk12A fuze associated with the W78 warhead LEP. 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 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: Developmental Planning							-	-	10.100	-	10.100
Description: Developmental planning, requirements definition, contract and acquisition strategy.											
FY 2010 Accomplishments: Reflected in PE 0604222F											
FY 2011 Plans: Reflected in PE 0604222F											
FY 2012 Base Plans: Prepare for Milestone-B. Prepare and release Request for Proposal. Prepare for source selection for EMD contract.											

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)	R-1 ITEM NOMENCLATURE PE 0604851F: ICBM - EMD	PROJECT 657006: ICBM EMD: Fuze Support				
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Develop government Preliminary Design Review.						
FY 2012 OCO Plans: None						
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 2010 Accomplishments: Reflected in PE 0604222F FY 2011 Plans: Reflected in PE 0604222F FY 2012 Base Plans: Continue to evaluate AF-USN-UK performance requirements, physical characteristics, logistical and operation concepts, and physical environments with the goal of developing common Military Characteristics (MCs) and Stockpile-to-Target Sequence (STS) requirements. Continue to identify potential concepts and technologies and evaluate Technology Readiness Level/ Manufacturing Readiness Level (TRL/MRL). Continue development and validation of modeling and simulation to assess weapon system impacts. Continue to assess cost/schedule/performance impacts to Minuteman III weapon system. Support Developmental Planning activities. Develop engineering design models to evaluate hardware fuze and weapon system interface and performance. Examine nuclear surety themes as directed by NSPD-28. FY 2012 OCO Plans: None		-	-	12.500	-	12.500
Title: Hardware Development Description: Preliminary design of joint technology, components, and parts.		-	-	19.514	-	19.514

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force									DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0604851F: ICBM - EMD				PROJECT 657006: ICBM EMD: Fuze Support			
B. Accomplishments/Planned Programs (\$ in Millions)							FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
FY 2010 Accomplishments: Reflected in PE 0604222F											
FY 2011 Plans: Reflected in PE 0604222F											
FY 2012 Base Plans: Develop joint parts, components and technology for application to Mk21 and Mk12A/W78 LEP arming and fuzing. Examine nuclear surety themes as directed by NSPD-28. Provide development hardware for assessment through in the loop testing.											
FY 2012 OCO Plans: None											
Accomplishments/Planned Programs Subtotals							-	-	42.114	-	42.114
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• PE 0101213: MPAF: Missile Procurement - AF, Minuteman Squadrons, Modification	0.000	0.000	0.000	0.000	0.000	0.000	0.000	11.648	14.000	Continuing	Continuing
• PE 0604222F: RDT&E: Nuclear Weapons Support, 654236 Engineering Analysis, Joint Fuze	8.703	9.740	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
D. Acquisition Strategy											
Pre-Acquisition program development requires contracts to support the program office in risk reduction, cost estimates, engineering manufacturing design (EMD) acquisition and contract strategies, requests for proposal, source selection, systems engineering, and program planning. Program office will also continue fuze studies and analysis of weapon systems impacts, and support to the W78 Life Extension Program. Development contractor will be determined and awarded either directly or competitively as appropriate. Weapon System support and integration contractors will be awarded either as directed source or competitively as appropriate. EMD contract award is planned for FY2013.											

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604851F: <i>ICBM - EMD</i>	PROJECT 657006: <i>ICBM EMD: Fuze Support</i>

E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air 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-3, RDT&E Project Cost Analysis: PB 2012 Air Force **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)	R-1 ITEM NOMENCLATURE PE 0604851F: ICBM - EMD	PROJECT 657006: ICBM EMD: Fuze Support
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Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Preliminary Design Development	TBD	TBD:TBD,	-	-		19.000	Feb 2012	-		19.000	Continuing	Continuing	TBD
Subtotal			-	-		19.000		-		19.000			

Remarks
Prior to FY12, Fuze effort was funded in PE 0604222F thus no FY10 or FY11 funding existed in PE 0604851F, 657006 - ICBM EMD: Fuze Support.

Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Minuteman Systems Engineering	C/CPFF	Northrop Grumman Systems Corporation, IPIC:Clearfield, UT	-	-		9.250	Apr 2012	-		9.250	Continuing	Continuing	TBD
Acquisition Support	C/CPFF	Booz Allen Hamilton, SURVIAC:Clearfield, UT	-	-		2.000	Jun 2012	-		2.000	Continuing	Continuing	TBD
Acquisition Planning	C/CPAF	TBD:TBD,	-	-		4.364	Jan 2012	-		4.364	43.636	48.000	48.000
Subtotal			-	-		15.614		-		15.614			

Remarks
Prior to FY12, Fuze effort was funded in PE 0604222F thus no FY10 or FY11 funding existed in PE 0604851F, 657006 - ICBM EMD: Fuze Support.

Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Ground Test	TBD	TBD:TBD,	-	-		0.500	Dec 2011	-		0.500	Continuing	Continuing	TBD
Test Planning	C/CPFF	Northrop Grumman Systems Corporation, IPIC:Clearfield, UT	-	-		1.000	Nov 2011	-		1.000	Continuing	Continuing	TBD
Subtotal			-	-		1.500		-		1.500			

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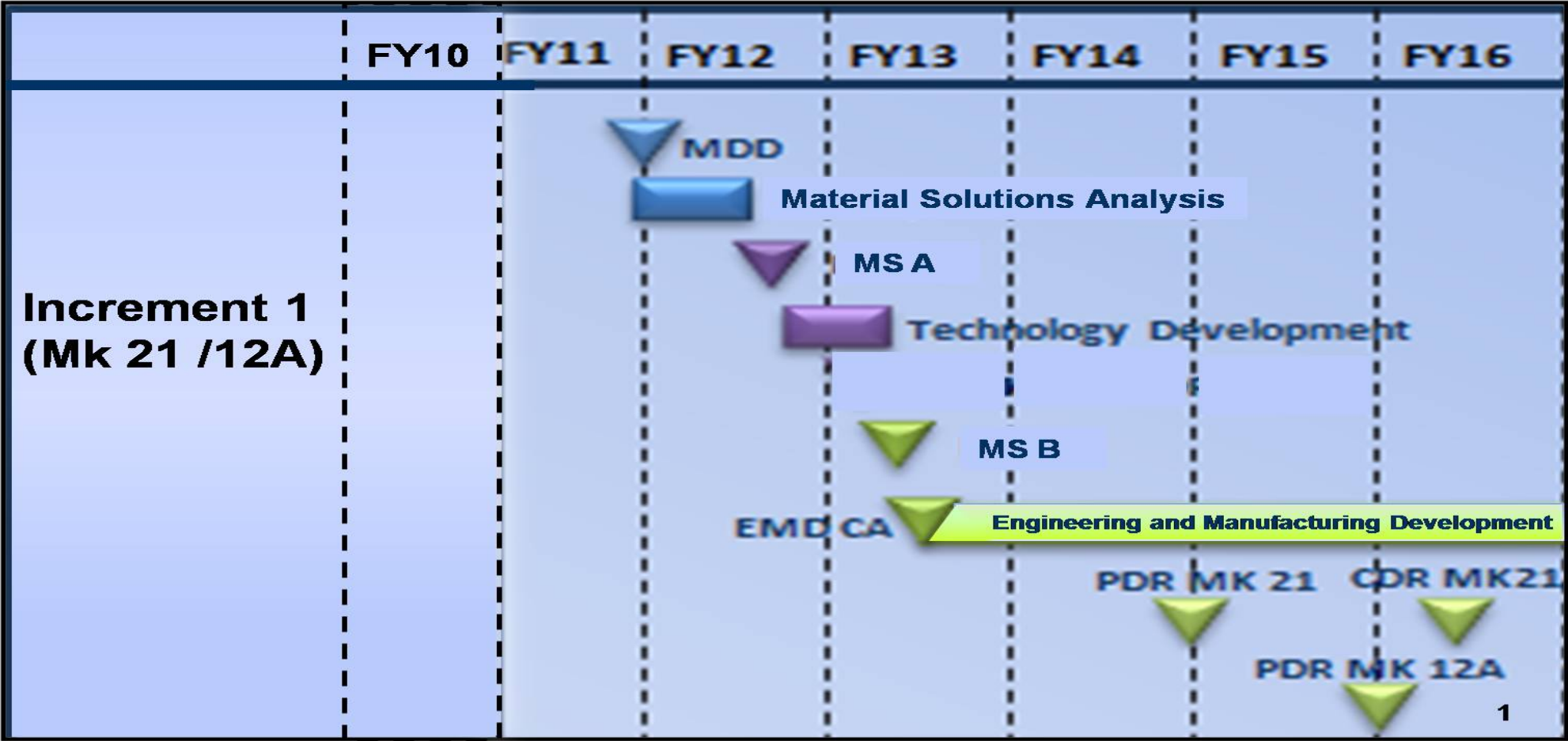
Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force											DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>				R-1 ITEM NOMENCLATURE PE 0604851F: <i>ICBM - EMD</i>				PROJECT 657006: <i>ICBM EMD: Fuze Support</i>						

Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Remarks Prior to FY12, Fuze effort was funded in PE 0604222F thus no FY10 or FY11 funding existed in PE 0604851F, 657006 - ICBM EMD: Fuze Support.													

Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Cost Estimation	C/TBD	Tecolote Research, Inc:Santa Barbara, CA	-	-		0.100	Nov 2011	-		0.100	0.000	0.100	0.000
Cost and Financial Management	C/CPFF	TBD:TBD,	-	-		1.400	Jan 2012	-		1.400	4.600	6.000	6.000
SPO/Other Program Support	TBD	Hill AFB:Clearfield, UT	-	-		4.500		-		4.500	0.000	4.500	0.000
Subtotal			-	-		6.000		-		6.000	4.600	10.600	6.000
Remarks Prior to FY12, Fuze effort was funded in PE 0604222F thus no FY10 or FY11 funding existed in PE 0604851F, 657006 - ICBM EMD: Fuze Support.													

			Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			-	-		42.114		-		42.114			
Remarks Prior to FY12, Fuze effort was funded in PE 0604222F thus no FY10 or FY11 funding existed in PE 0604851F, 657006 - ICBM EMD: Fuze Support.													

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)	R-1 ITEM NOMENCLATURE PE 0604851F: ICBM - EMD	PROJECT 657006: ICBM EMD: Fuze Support



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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604851F: <i>ICBM - EMD</i>	PROJECT 657006: <i>ICBM EMD: Fuze Support</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
MDD	1	2012	1	2012
Milestone A	4	2012	4	2012
Milestone B	1	2013	1	2013
EMD Contract Award	1	2013	1	2013
PDR Mk 21	1	2015	1	2015
PDR Mk 12A	1	2016	1	2016
CDR Mk 21	2	2016	2	2016

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force								DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0604851F: ICBM - EMD				PROJECT 655081: ICBM Crypto			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
655081: ICBM Crypto	18.679	-	43.953	-	43.953	49.082	37.626	2.189	-	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		
A. Mission Description and Budget Item Justification											
Increment II of the Inter-Continental Ballistic Missile Cryptography Upgrade program 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 Jan 05 and addresses Nuclear Weapon System Safety Group Operational Safety Review (NWSSG OSR) requirements 98-2, 00-1 and 02-2. These features will greatly increase security during code changes by reducing the frequency of open sites 75 days annually and reduce associated resource costs for 450 launch facilities (LF) and 45 launch control centers (LCC).											
The associated production funding for the program is in PE 0101213F MM III Modification.											
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 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: ICU II							18.679	-	43.953	-	43.953
Description: ICBM cryptography upgrade II completes the design and development and implements the KS-60 capabilities of remote key/code change and irreversible transformation.											
FY 2010 Accomplishments: Continue requirement definition, validation and risk mitigation for future design, develop & test of the software upgrades/changes to the Console Operating Program, Launch Facility hardware/software modification and Wing Code Processing System.											
FY 2011 Plans: Continue requirement definition, validation and risk mitigation for future design, develop & test of the software upgrades/changes to the Console Operating Program, Launch Facility hardware/software modification and Wing Code Processing System.											
FY 2012 Base Plans:											

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force				DATE: February 2011	
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>		R-1 ITEM NOMENCLATURE PE 0604851F: <i>ICBM - EMD</i>		PROJECT 655081: <i>ICBM Crypto</i>	

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Complete requirement definition, validation and risk mitigation for future design, develop & test of the software upgrades/changes to the Console Operating Program, Launch Facility hardware/software modification and Wing Code Processing System.					
<i>FY 2012 OCO Plans:</i>					
Accomplishments/Planned Programs Subtotals	18.679	-	43.953	-	43.953

C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• PE 0101213F: <i>MPAF, Missile Procurement - AF, Minuteman Squadrons, Modification</i>	0.000	0.000	0.000	0.000	0.000	0.000	13.200	25.100	29.700	Continuing	Continuing

D. Acquisition Strategy Cost Plus Incentive Fee contract will be added to the ICBM Prime Integration Contractor (IPIC).

E. Performance Metrics Please refer to the Performance Base Budget Overview Book for information on how Air 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-3, RDT&E Project Cost Analysis: PB 2012 Air Force											DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0604851F: ICBM - EMD				PROJECT 655081: ICBM Crypto						
Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
ICBM Prime Integration Contract	SS/CPIF	Northrop Grumman:Clearfield, UT	18.187	-		42.000	Mar 2012	-		42.000	Continuing	Continuing	TBD	
Subtotal			18.187	-		42.000		-		42.000				
Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
SPO/Other Program Support	Various	ICBM Program Office:Hill AFB, UT	0.492	-		0.353	Oct 2011	-		0.353	Continuing	Continuing	TBD	
Subtotal			0.492	-		0.353		-		0.353				
Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Not specified.	Various	ICBM Program Officer:Hill AFB, UT	-	-		1.600	Oct 2011	-		1.600	Continuing	Continuing	TBD	
Subtotal			-	-		1.600		-		1.600				
Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Subtotal			-	-		-		-		-	0.000	0.000	0.000	
			Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract	
Project Cost Totals			18.679	-		43.953		-		43.953				

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force							DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)			R-1 ITEM NOMENCLATURE PE 0604851F: ICBM - EMD			PROJECT 655081: ICBM Crypto			
	Total Prior Years Cost	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract	
Remarks									

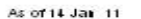
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Air Force

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R-1 ITEM NOMENCLATURE

PE 0604851F: ICBM - EMD

655081: *ICBM Crypto*

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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604851F: <i>ICBM - EMD</i>	PROJECT 655081: <i>ICBM Crypto</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
EMD Contract Award	2	2012	2	2012
Preliminary Design Review (PDR)	4	2012	4	2012
Critical Design Review (CDR)	2	2013	2	2013
Technology Readiness Review (TRR)	1	2014	1	2014

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE							
3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>				PE 0604853F: <i>Evolved Expendable Launch Vehicle - EMD</i>							
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	43.945	30.245	20.028	-	20.028	7.965	7.963	-	-	Continuing	Continuing
650004: <i>Evolved Expendable Launch Vehicle</i>	43.945	30.245	20.028	-	20.028	7.965	7.963	-	-	Continuing	Continuing

Note

The program funding includes overhead reduction efficiencies that are not intended to impact program content. The efficiencies reductions total \$.059M in FY12.

A. Mission Description and Budget Item Justification

The Evolved Expendable Launch Vehicle (EELV) program is a space launch system developed to provide two families of launch vehicles, Delta IV & Atlas V. The program satisfies the government's National Launch Forecast (NLF) requirements. EELV is a launch service, not a weapon system, which is primarily funded with production funds. EELV is responsible for launching government manifested payloads, including those once supported by Titan II, Delta II, Atlas II/III, and Titan IV. Evolved from heritage expendable launch systems and new applications of existing technology, EELV supports military, intelligence, civil, commercial, and international partnership mission requirements.

The program has developmental items including: qualification of the extended mission kit, fleet standardization of the RS-68 main engine upgrade, Pre-Planned Product Improvements to ensure sustainability (includes, but is not limited to, secondary payload adaptor standard service, Global Positioning System (GPS) Metric Tracking capability, development of replacement components, flight and ground instrumentation), special studies, and other related support activities.

As of 21 August 2007, the EELV Program has formally entered the sustainment phase. As of 31 October 2007, Air Force Space Command formally extended the EELV Program an additional 10 years, from 2020 through 2030. 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.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604853F: <i>Evolved Expendable Launch Vehicle - EMD</i>
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B. Program Change Summary (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	43.945	30.245	4.333	-	4.333
Current President's Budget	43.945	30.245	20.028	-	20.028
Total Adjustments	-	-	15.695	-	15.695
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-	-	15.695	-	15.695

Congressional Add Details (\$ in Millions, and Includes General Reductions)

Project: 650004: *Evolved Expendable Launch Vehicle*

Congressional Add: *Common RL-10*

	FY 2010	FY 2011
	20.000	-
Congressional Add Subtotals for Project: 650004	20.000	-
Congressional Add Totals for all Projects	20.000	-

Change Summary Explanation

FY12: \$15.695M added for an enhanced Flight Termination System that will meet National Security Agency coding standards.

The program funding includes overhead reduction efficiencies that are not intended to impact program content. The efficiencies reductions total \$0.059M in FY12.

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force									DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0604853F: Evolved Expendable Launch Vehicle - EMD				PROJECT 650004: Evolved Expendable Launch Vehicle			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
650004: Evolved Expendable Launch Vehicle	43.945	30.245	20.028	-	20.028	7.965	7.963	-	-	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

The Evolved Expendable Launch Vehicle (EELV) program is a space launch system developed to provide two families of launch vehicles, Delta IV & Atlas V. The program satisfies the government's National Launch Forecast (NLF) requirements. EELV is a launch service, not a weapon system, which is primarily funded with production funds. EELV is responsible for launching government manifested payloads, including those once supported by Titan II, Delta II, Atlas II/III, and Titan IV. Evolved from heritage expendable launch systems and new applications of existing technology, EELV supports military, intelligence, civil, commercial, and international partnership mission requirements.

The program has developmental items including: qualification of the extended mission kit, fleet standardization of the RS-68 main engine upgrade, Pre-Planned Product Improvements to ensure sustainability (includes, but is not limited to, secondary payload adaptor standard service, Global Positioning System (GPS) Metric Tracking capability, development of replacement components, flight and ground instrumentation), special studies, and other related support activities.

As of 21 August 2007, the EELV Program has formally entered the sustainment phase. As of 31 October 2007, Air Force Space Command formally extended the EELV Program an additional 10 years, from 2020 through 2030. 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.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: EELV RDT&E	23.945	30.245	20.028	-	20.028
Description: Fund EELV product improvements, replacement components, system enhancements, and special studies to allow EELV to meet National Launch Forecast requirements through 2030.					
FY 2010 Accomplishments: Continued fleet-wide integration and certification of RS-68 upgrade. Continued development and qualification of the Atlas V extended mission kit. Continued P3I efforts to include but not limited to development of secondary payload standard efforts, development of replacement components, flight and ground instrumentation, and special studies.					
FY 2011 Plans:					

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force							DATE: February 2011				
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)			R-1 ITEM NOMENCLATURE PE 0604853F: Evolved Expendable Launch Vehicle - EMD			PROJECT 650004: Evolved Expendable Launch Vehicle					
B. Accomplishments/Planned Programs (\$ in Millions)						FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	
Continued fleet-wide integration and certification of RS-68 upgrade. Continued development of GPS metric tracking system. Continued P3I efforts to include but not limited to development of secondary payload standard efforts, development of replacement components, flight and ground instrumentation, and special studies. FY 2012 Base Plans: Continue fleet-wide integration and certification of RS-68 upgrade. Complete development of secondary payload standard service. Complete GPS metric tracking development and conduct flight certifications. Continue P3I efforts, to include, but not limited to, development of replacement components, flight and ground instrumentation to include upgraded flight termination system (SLFTS), and conduct special studies. FY 2012 OCO Plans:											
Accomplishments/Planned Programs Subtotals						23.945	30.245	20.028	-	20.028	
						FY 2010	FY 2011				
Congressional Add: Common RL-10 FY 2010 Accomplishments: Phase 1 study effort through March 2011. FY 2011 Plans:						20.000	-				
Congressional Adds Subtotals						20.000	-				
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• PE 0305953F: Evolved Expendable Launch Vehicle, MPAF (BA 05, P-28).	1,094.787	1,153.976	1,740.222	0.000	1,740.222	1,744.243	2,034.102	2,098.865	2,222.604	Continuing	Continuing
D. Acquisition Strategy											
The EELV concept of families of launch vehicles emphasizes commonality of hardware and infrastructure to enhance production, operations, and support efficiencies. Four initial contracts were awarded for the Low Cost Concept Validation (LCCV) phase in August 1995. The Air Force downselected to two contractors - The Boeing Company (TBC) and Lockheed Martin (LM) - for the Pre-Engineering and Manufacturing Development (Pre-EMD) phase in December 1996. In 1998, two \$500M Other Transaction Agreements (OTA) were awarded to TBC and LM for the development effort. The contractors contributed funds of their own, estimated in excess of											

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604853F: <i>Evolved Expendable Launch Vehicle - EMD</i>	PROJECT 650004: <i>Evolved Expendable Launch Vehicle</i>
<p>\$4.5B, to bring their national launch operational capability on line. At the same time as the award of the development effort, Initial Launch Services (ILS) contracts were awarded to Boeing for 19 missions and to Lockheed Martin for 9 missions.</p> <p>All ILS (Buy 1/awarded) launch services are firm-fixed price contracts. Due to the decrease in the commercial market, the projected costs of the unawarded EELV launches have increased. The current acquisition strategy, implemented in FY06, separates the launch service price from the infrastructure costs. Follow-on (Buy 3) Launch Service procurements include launch service costs on a fixed-price contract. EELV Launch Capability infrastructure costs (includes launch and range operations, mission integration, mission unique development and integration, subcontract support engineering, factory engineering, etc.) are funded on an annual basis via a cost-plus, award-fee contract. The 2005 Space System Acquisition Strategy (SSAS) for EELV documents this modified approach to provide assured access to space with two viable launch vehicle families.</p> <p>The acquisition approach supports the 2004 National Space Transportation Policy. The EELV system will launch the majority of 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. The Air Force is evaluating the addition of other potential EELV suppliers.</p> <p>In December 2006, TBC and LM initiated a joint venture, the United Launch Alliance (ULA), with the approval of the Federal Trade Commission. ULA will continue mission success and assure access to space with two launch vehicle systems by combining Delta IV/Atlas V management and engineering in Denver, CO; combining most of the manufacturing in Decatur, AL; and combining launch teams at both launch sites.</p> <p>As of 21 August 2007, the EELV program has formally entered the sustainment phase. As of 31 Oct 2007, Air Force Space Command formally extended the EELV Program an additional 10 years, from 2020 through 2030.</p> <p><u>E. Performance Metrics</u></p> <p>Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.</p>		

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force											DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE				PROJECT						
3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)				PE 0604853F: Evolved Expendable Launch Vehicle - EMD				650004: Evolved Expendable Launch Vehicle						
Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Delta Prime Contractor	C/FFP	Boeing:Huntington Beach, CA	710.182	-		-		-		-	0.000	710.182	0.000	
Atlas Prime Contractor	C/FFP	Lockheed Martin:Denver, CO	583.511	-		-		-		-	0.000	583.511	0.000	
United Launch Alliance (ULA) Prime Contractor	SS/CPIF	ULA:Decatur, AL	86.823	24.396	Oct 2010	18.028	Oct 2011	-		18.028	14.012	143.259	TBD	
Subtotal			1,380.516	24.396		18.028		-		18.028	14.012	1,436.952		
Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
SPO/CTF Range Mission Spt	Various	Space and Missile Center:Los Angeles AFB, CA	43.617	-		-		-		-	0.000	43.617	0.000	
FFRDC	SS/CPAF	Aerospace:El Segundo, CA	70.989	3.994	Oct 2010	2.000	Oct 2011	-		2.000	1.598	78.581	0.000	
Other Cntr Spt	Various	Various:Various,	18.562	1.855		-		-		-	0.000	20.417	TBD	
Subtotal			133.168	5.849		2.000		-		2.000	1.598	142.615		
Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Subtotal			-	-		-		-		-	0.000	0.000	0.000	
Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Subtotal			-	-		-		-		-	0.000	0.000	0.000	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force						DATE: February 2011	
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>			R-1 ITEM NOMENCLATURE PE 0604853F: <i>Evolved Expendable Launch Vehicle - EMD</i>			PROJECT 650004: <i>Evolved Expendable Launch Vehicle</i>	

	Total Prior Years Cost	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	1,513.684	30.245	20.028	-	20.028	15.610	1,579.567	

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

3600: Research, Development, Test & Evaluation, Air Force
BA 5: Development & Demonstration (SDD)

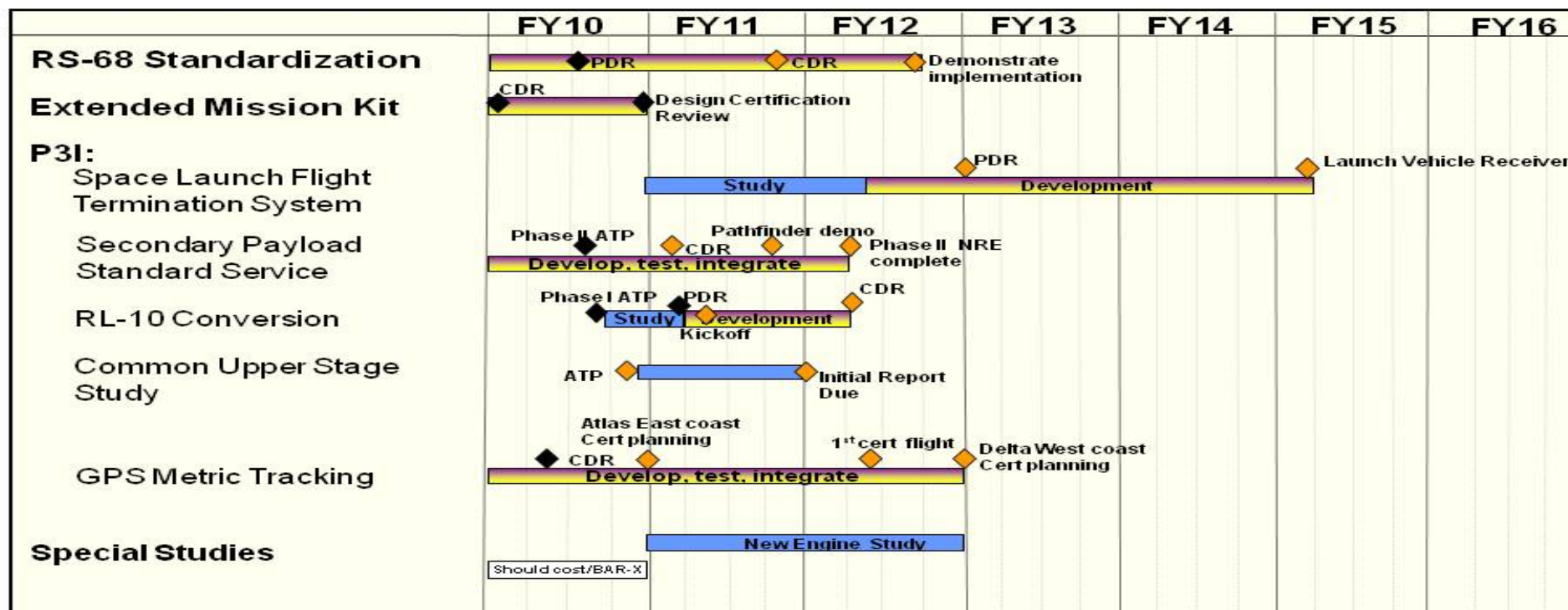
R-1 ITEM NOMENCLATURE

PE 0604853F: Evolved Expendable Launch Vehicle - EMD

PROJECT

650004: Evolved Expendable Launch Vehicle

EELV FY12 PB R-4 Schedule



◆ Key events ◆ Completed

Design/Develop Concept activities
Integration/Test Production/Fielding

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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604853F: <i>Evolved Expendable Launch Vehicle - EMD</i>	PROJECT 650004: <i>Evolved Expendable Launch Vehicle</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Pre-Planned Product Improvement (P3I): Secondary Payload Standard Service	1	2010	1	2012
Pre-Planned Product Improvement (P3I): GPS Metric Tracking Development	1	2010	1	2012
Pre-Planned Product Improvement (P3I): GPS Metric Tracking Delta IV West Coast certification flight	2	2012	3	2012
Fleet Standardization (RS-68 Upgrade implementation)	1	2010	4	2011
Fleet Standardization - Critical Design Review	1	2012	2	2012
Fleet Standardization - Demonstration implementation	4	2012	1	2013
Common upper stage (RL-10) Phase 1 study	3	2010	1	2011
Common Upper Stage (RL-10) engine CDR	2	2011	3	2011
Pre-planned Product Improvement: Enhanced Flight Termination System	1	2012	4	2014

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE							
3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>				PE 0605221F: <i>KC-X, Next Generation Aerial Refueling Aircraft</i>							
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	14.937	863.875	877.084	-	877.084	1,150.032	817.471	383.983	47.706	Continuing	Continuing
655271: <i>KC-X RDT&E</i>	14.937	863.875	877.084	-	877.084	1,150.032	817.471	383.983	47.706	Continuing	Continuing

Note

Totals include funding for Program Resources Collection Process (PRCP) Program Number 387, KC-X.

The KC-X program entered source selection on 9 Jul 2010 and is planning a CY 2011 Milestone B Defense Acquisition Board (DAB) and contract award. The program schedule and the budget request presented in these documents represent a restructure based upon a contract award in CY 2011. Any additional restructuring of the funding will occur after contract award to reflect the vendor specific development strategy.

In FY 2009, PE 0401221F, KC-X Replacement Tanker, 4927, KC-X Replacement Tanker, efforts were transferred to PE 0605221F, KC-X Next Generation Aerial Refueling Aircraft, 5271, KC-X RDT&E, in order to move funds to Budget Activity (BA) 05 to correctly represent the phase of the KC-X Program.

The program funding includes reductions for overhead efficiencies that are not intended to impact program content. The efficiencies reductions are \$13.806M in FY 2012.

A. Mission Description and Budget Item Justification

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. Replacement of the legacy KC-135 fleet will take place in three stages, known as the KC-X, the KC-Y, and the KC-Z. The initial KC-X increment will replace roughly a third of the current capability with the purchase of 179 aircraft. On 24 Sep 2009 a draft Request For Proposal (RFP) was released which led to the final RFP release on 24 Feb 2010. The KC-X Program is currently in source selection.

The KC-X will be able to 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 medical evacuation capabilities. The KC-X 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-X 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-X development effort will also procure the necessary ground and flight test assets to support developmental/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, both aircrew and maintenance Training System Requirements Analyses (TSRA) are being conducted to determine training requirements. Aircrew and Maintenance

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605221F: <i>KC-X, Next Generation Aerial Refueling Aircraft</i>
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training systems will be developed and procured via a future trainer-specific source selection, using KC-X funding. 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-X 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.

This program is in Budget Activity 05, System Development and Demonstration (SDD) because after Milestone B, it will be conducting engineering and manufacturing development tasks aimed at meeting validated requirements prior to full-rate production.

B. Program Change Summary (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	15.000	863.875	1,146.007	-	1,146.007
Current President's Budget	14.937	863.875	877.084	-	877.084
Total Adjustments	-0.063	-	-268.923	-	-268.923
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-0.063	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-	-	-268.923	-	-268.923

Change Summary Explanation

The FY 2010 Defense Appropriations Bill reduced \$132.9M in RDT&E, moved \$291.715M of FY 2010 RDT&E into the Tanker Replacement Transfer Fund (TRTF), and left \$15.0M in RDT&E to support program office & source selection activities. The Tanker Replacement Transfer Fund amount of \$291.615M will be used as FY 2010 RDT&E in FY 2011 per SECAF Memo to Congress dated 2 Nov 2010. Funds completed transfer on 6 Jan 2011.

The KC-X program entered source selection on 9 Jul 2010 and is planning a CY 2011 Milestone B Defense Acquisition Board (DAB) and contract award. The program schedule and the budget request presented in these documents represent a FY 2012 PB restructure based upon a contract award in CY 2011. Adjustments in FY 2012 of \$268.923M reflect a restructure based upon a contract award in CY 2011 and additional reductions.

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605221F: <i>KC-X, Next Generation Aerial Refueling Aircraft</i>	PROJECT 655271: <i>KC-X RDT&E</i>
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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
655271: KC-X RDT&E	14.937	863.875	877.084	-	877.084	1,150.032	817.471	383.983	47.706	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

Note

Totals include funding for Program Resources Collection Process (PRCP) Program Number 387, KC-X.

The KC-X program entered source selection on 9 Jul 2010 and is planning a CY 2011 Milestone B Defense Acquisition Board (DAB) and contract award. The program schedule and the budget request presented in these documents represent a restructure based upon a contract award in CY 2011. Any additional restructuring of the funding will occur after contract award.

The FY 2010 Defense Appropriations Bill reduced \$132.9M in RDT&E, moved \$291.715M of FY 2010 RDT&E into the Tanker Replacement Transfer Fund (TRTF), and left \$15.0M in RDT&E to support program office & source selection activities. The Tanker Replacement Transfer Fund amount of \$291.615M will be used as FY 2010 RDT&E in FY 2011 per SECAF Memo to Congress dated 2 Nov 2010. Funds completed transfer on 6 Jan 2011. The FY 2012 PB restructures the KC-X budget for the CY 2011 contract award.

In FY 2009, PE 0401221F, KC-X Replacement Tanker, 4927, KC-X Replacement Tanker, efforts were transferred to PE 0605221F, KC-X Next Generation Aerial Refueling Aircraft, 5271, KC-X RDT&E, in order to move funds to Budget Activity (BA) 05 to correctly represent the phase of the KC-X Program.

The program funding includes reductions for overhead efficiencies that are not intended to impact program content. The efficiencies reductions are \$13.806M in FY 2012.

A. Mission Description and Budget Item Justification

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. Replacement of the legacy KC-135 fleet will take place in three stages, known as the KC-X, the KC-Y, and the KC-Z. The initial KC-X increment will replace roughly a third of the current capability with the purchase of 179 aircraft. On 24 Sep 2009 a draft Request For Proposal (RFP) was released which led to the final RFP release on 24 Feb 2010. The KC-X Program is currently in source selection.

The KC-X will be able to 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 medical evacuation capabilities. The KC-X 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-X 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

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011				
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)	R-1 ITEM NOMENCLATURE PE 0605221F: KC-X, Next Generation Aerial Refueling Aircraft	PROJECT 655271: KC-X RDT&E					
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-X development effort will also procure the necessary ground and flight test assets to support developmental/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, both aircrew and maintenance Training System Requirements Analyses (TSRA) are being conducted to determine training requirements. Aircrew and Maintenance training systems will be developed and procured via a future trainer-specific source selection, using KC-X funding. 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-X 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.							
This program is in Budget Activity 05, System Development and Demonstration (SDD) because after Milestone B, it will be conducting engineering and manufacturing development tasks aimed at meeting validated requirements prior to full-rate production.							
B. Accomplishments/Planned Programs (\$ in Millions)			FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: KC-X Product Development Description: To begin recapitalizing the aging KC-135 fleet--EMD activities FY 2010 Accomplishments: No KC-X EMD contract activities FY 2011 Plans: Program office plans to award the contract. Begin the Engineering and Manufacturing Development (EMD) phase which includes purchase of 4 EMD aircraft for development, integration, and demonstration of capability. FY 2012 Base Plans: Continue KC-X tanker EMD activities. FY 2012 OCO Plans:			-	810.412	775.084	-	775.084
Title: KC-X Support Description: To begin recapitalizing the aging KC-135 fleet -- Support Activities FY 2010 Accomplishments: No KC-X Studies and Analyses activities FY 2011 Plans:			-	1.800	2.000	-	2.000

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)	R-1 ITEM NOMENCLATURE PE 0605221F: KC-X, Next Generation Aerial Refueling Aircraft	PROJECT 655271: KC-X RDT&E				
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
KC-X Studies and Analyses activities FY 2012 Base Plans: Continue KC-X Studies and Analyses activities. FY 2012 OCO Plans: NA						
Title: KC-X Test & Evaluation Description: To begin recapitalizing the aging KC-135 fleet -- Test & Planning FY 2010 Accomplishments: No KC-X Test and Planning Activites FY 2011 Plans: KC-X Test and Planning activities FY 2012 Base Plans: Continue KC-X Test and Planning activities. FY 2012 OCO Plans: NA		-	15.500	30.000	-	30.000
Title: KC-X Program Office Support Description: To begin recapitalizing the aging KC-135 fleet -- Program Office Support FY 2010 Accomplishments: Program office released the final Request For Proposal on 24 Feb 2010. Program office entered source selection on 9 Jul 2010. The Tanker Replacement Transfer Fund (TRTF) amount of \$291.615M will be used as FY 2010 RDT&E in FY 2011 per SECAF Memo to Congress dated 2 Nov 2010. These TRTF funds will support EMD contract, program support, studies, training systems, and test support beginning in CY 2011. FY 2011 Plans: Continue program office mission support. FY 2012 Base Plans:		14.937	21.013	20.000	-	20.000

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605221F: <i>KC-X, Next Generation Aerial Refueling Aircraft</i>	PROJECT 655271: <i>KC-X RDT&E</i>
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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Continue program office mission support. FY 2012 OCO Plans: NA					
Title: KC-X Trainer Development Description: To begin recapitalizing the aging KC-135 fleet -- Trainer Development FY 2010 Accomplishments: No KC-X Trainer Development activities FY 2011 Plans: Solicitation for KC-X aircrew and maintenance training systems. FY 2012 Base Plans: Continue solicitation of, and award KC-X aircrew training and maintenance systems development contracts. FY 2012 OCO Plans: NA	-	15.150	50.000	-	50.000
Accomplishments/Planned Programs Subtotals	14.937	863.875	877.084	-	877.084

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

<u>Line Item</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012 Base</u>	<u>FY 2012 OCO</u>	<u>FY 2012 Total</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• PE 0401221F: <i>KC-X, APAF, BA2</i>	0.000	0.000	0.000	0.000	0.000	1,704.446	2,746.445	3,351.189	2,604.153	Continuing	Continuing
• PE 0401221F (1): <i>KC-X, MILCON</i>	0.000	0.000	0.000	0.000	0.000	50.000	69.000	358.600	221.924	Continuing	Continuing

D. Acquisition Strategy

The KC-X program entered source selection on 9 Jul 2010 and is planning a CY 2011 Milestone B Defense Acquisition Board (DAB) and contract award. The program schedule and the budget request presented in these documents represent a restructure based upon a contract award in CY 2011. Any additional restructuring of the funding will occur after contract award to reflect the vendor specific development strategy. The KC-X is a commercial derivative aerial refueling tanker. The Engineering and Manufacturing Development (EMD) program is a Fixed Priced Incentive contract that will include 4 RDT&E aircraft that will be converted to production aircraft after testing and other activities are complete. Production will begin with two Low Rate Initial Production (LRIP) lots that will lead into Full Rate Production.

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605221F: <i>KC-X, Next Generation Aerial Refueling Aircraft</i>	PROJECT 655271: <i>KC-X RDT&E</i>

E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air 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-3, RDT&E Project Cost Analysis: PB 2012 Air Force **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)	R-1 ITEM NOMENCLATURE PE 0605221F: KC-X, Next Generation Aerial Refueling Aircraft	PROJECT 655271: KC-X RDT&E
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Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Non-recurring, RDT&E tanker aircraft and support	C/TBD	TBD:TBD,	-	810.412		775.084		-		775.084	Continuing	Continuing	0.000
Subtotal			-	810.412		775.084		-		775.084			0.000

Remarks

Contract dates will be provided after source selection is completed.

Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Studies and Analysis	Various	Various:Various,	-	1.800		2.000		-		2.000	Continuing	Continuing	0.000
Subtotal			-	1.800		2.000		-		2.000			0.000

Remarks

Contract dates will be provided after source selection is completed.

Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Test and Planning	Various	Various:Various,	0.665	15.500		30.000		-		30.000	Continuing	Continuing	0.000
Subtotal			0.665	15.500		30.000		-		30.000			0.000

Remarks

Contract dates will be provided after source selection is completed.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force											DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>				R-1 ITEM NOMENCLATURE PE 0605221F: <i>KC-X, Next Generation Aerial Refueling Aircraft</i>				PROJECT 655271: <i>KC-X RDT&E</i>					

Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Program Office Support	Various	KC-X Program Office:Wright Patterson AFB, OH	32.195	21.013		20.000		-		20.000	Continuing	Continuing	0.000	
Trainer Development	TBD	TBD:TBD,	-	15.150		50.000		-		50.000	Continuing	Continuing	0.000	
Subtotal			32.195	36.163		70.000		-		70.000			0.000	

Remarks
 Multiple A&AS Contracts over \$1M: FY 2010 (total cost: \$9.416M); FY 2011 (total cost \$8.375M); FY 2012 (\$8.627M). All competitive, various contract types, various locations.
 Contract dates will be provided after source selection is completed.

	Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	32.860	863.875		877.084		-		877.084			0.000

Remarks
 FY 2010: The Tanker Replacement Transfer Fund (TRTF) amount of \$291.615M will be used as FY 2010 RDT&E per SECAF Memo to Congress dated 2 Nov 2010.

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

3600: Research, Development, Test & Evaluation, Air Force
BA 5: Development & Demonstration (SDD)

R-1 ITEM NOMENCLATURE

PE 0605221F: KC-X, Next Generation Aerial
Refueling Aircraft

PROJECT

655271: KC-X RDT&E

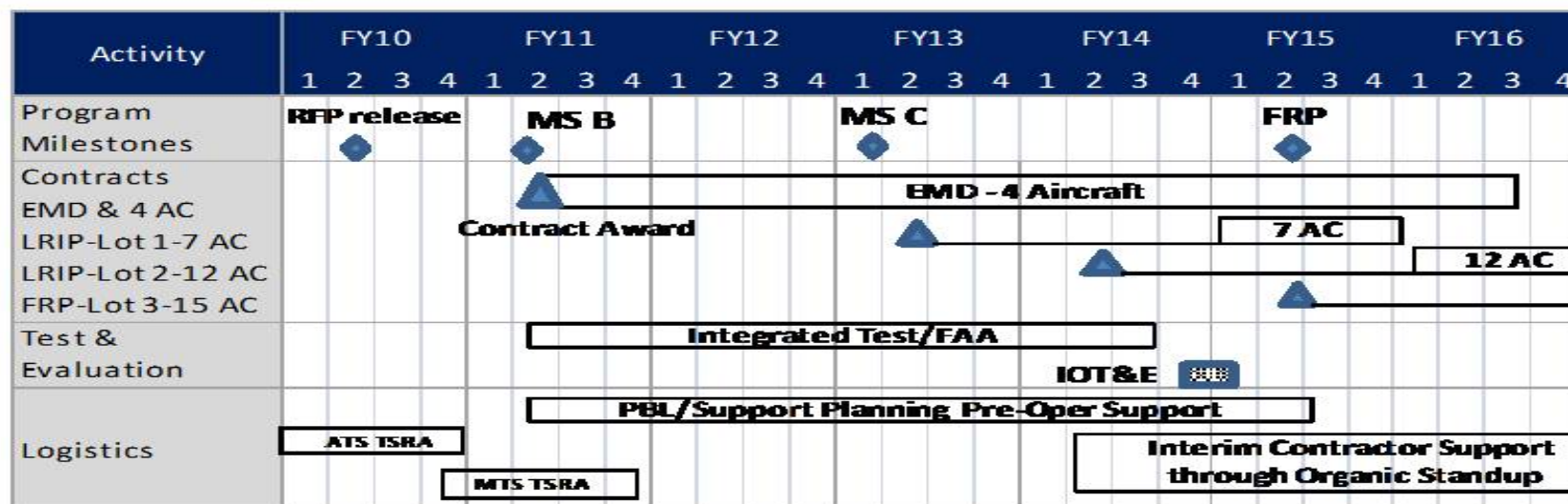


U.S. AIR FORCE

KC-X Notional Schedule



Dominant Air Power: Design For Tomorrow... Deliver Today



RFP - Request for Proposal
EMD - Engineering Manufacturing and Development
IOT&E - Initial Operational Test & Evaluation
MTS - Maintenance Training System

DAB - Defense Acquisition Board
FAA - Federal Aviation Agency
ATS - Aircrew Training System
TSRA - Training Systems Requirement Analysis

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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

3600: *Research, Development, Test & Evaluation, Air Force*
BA 5: *Development & Demonstration (SDD)*

R-1 ITEM NOMENCLATURE

PE 0605221F: *KC-X, Next Generation Aerial Refueling Aircraft*

PROJECT

655271: *KC-X RDT&E*

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Product Development: Non recurring, RDT&E tanker aircraft and support	2	2011	4	2016
Support: Studies and Analysis	1	2010	4	2016
Test & Evaluation: Test & Planning	2	2011	1	2015
Management Services: Trainer Development	1	2010	4	2016
Management Services: Program Office Support	1	2010	4	2016
MS B	2	2011	2	2011
EMD & 4 Aircraft	2	2011	3	2016
LRIP - Lot 1: 7 Aircraft	2	2013	1	2016
LRIP - Lot 2: 12 Aircraft	2	2014	4	2016
FRP - Lot 3: 15 Aircraft	2	2015	4	2016
Logistics	1	2010	4	2016

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE							
3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>				PE 0605229F: <i>CSAR HH-60 Recapitalization</i>							
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	-	12.584	94.113	-	94.113	40.365	19.826	-	4.508	Continuing	Continuing
654364: <i>HH-60 Recap RDT&E</i>	-	10.650	94.113	-	94.113	40.365	19.826	-	4.508	Continuing	Continuing
657001: <i>Avionics Development and Integration</i>	-	1.934	-	-	-	-	-	-	-	Continuing	Continuing

Note

In FY12, Project Number 657001, Avionics Development and Integration efforts were transferred to PE 0207224F, Project Number 676016, and PE 0101235F, Modification Number 3149T, in order to effectively execute this effort for both HH-60G and UH-1N aircraft.

A. Mission Description and Budget Item Justification

The HH-60 Recapitalization (Recap) acquisition program is designed to replace the Air Force HH-60G Pave Hawk helicopter with a new aircraft to perform Combat Search and Rescue (CSAR). The primary mission of HH-60G Recap will be to recover isolated personnel (IP) from hostile or denied territory. Rescue forces may also conduct other missions inherent in their capabilities to conduct Personnel Recovery (PR), such as non-conventional assisted recovery, non-combatant evacuation operations, civil search and rescue, international aid, emergency medical evacuation, disaster/humanitarian relief, and insertion/extraction of combat forces. HH-60 Recap will address current HH-60G capability shortfalls in survivability, adverse weather capability, mission equipment, avionics human factors, and Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR) interoperability.

654364 – HH-60 Recap RDT&E: Funding is needed, but not limited to, efforts to procure a Government Off The Shelf/Contractor Off the Shelf (GOTS/COTS) aircraft modified with mission equipment to perform the CSAR mission. There will be a required effort to integrate mature subsystems and the associated software development. The mature subsystem integration and software development will include human systems integration, advanced communication/net ready, and improved survivability among others. Two production-representative test aircraft will be procured.

657001 - Avionics Development and Integration: This effort is an OSD-mandated program to fund a fully-integrated avionics upgrade that includes predictive terrain awareness and traffic collision avoidance warnings for all currently fielded Air Force helicopters.

HH-60 Recapitalization 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

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force			DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)		R-1 ITEM NOMENCLATURE PE 0605229F: CSAR HH-60 Recapitalization			
B. Program Change Summary (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	-	12.584	21.227	-	21.227
Current President's Budget	-	12.584	94.113	-	94.113
Total Adjustments	-	-	72.886	-	72.886
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-	-	72.886	-	72.886
Change Summary Explanation					
Increase in FY12 funding is for the procurement of two (2) production-representative aircraft for testing.					

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>				R-1 ITEM NOMENCLATURE PE 0605229F: <i>CSAR HH-60 Recapitalization</i>				PROJECT 654364: <i>HH-60 Recap RDT&E</i>			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
654364: <i>HH-60 Recap RDT&E</i>	-	10.650	94.113	-	94.113	40.365	19.826	-	4.508	Continuing	Continuing
Quantity of RDT&E Articles	0	0	2	0	2	0	0	0	0		

A. Mission Description and Budget Item Justification

The HH-60 Recapitalization program will replace the aging PAVE HAWK HH-60G Combat Search and Rescue aircraft. The primary mission of the HH-60G Recap will be to recover isolated personnel from hostile or denied territory. Other possible missions, inherent in their capabilities to conduct personnel recovery, include non-conventional assisted recovery, non-combatant evacuation operations, civil search and rescue, international aid, emergency medical evacuation, disaster/humanitarian relief, and insertion/extraction of combat forces.

Budget Justification: Funding is needed for, but not limited to, 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. Additionally, two production representative test aircraft will be procured.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: HH-60 Recap	-	10.650	94.113	-	94.113
Description: Procure a helicopter with improved adverse weather capability, survivability, CSAR mission equipment, avionics human factors, and C4ISR interoperability.					
FY 2010 Accomplishments:					
FY 2011 Plans: Program office support, Joint Capabilities Integration and Development System (JCIDS) requirement document reviews, development of statutory and regulatory acquisition documentation and preparation for an FY12 contract award					
FY 2012 Base Plans: Finalization of Source Selection activities in preparation for an FY12 contract award to include program office support, and development of statutory & regulatory acquisition documentation concurrent with an FY12 Milestone B. Procurement of two test vehicles. Design, integration, testing, and certification of the mission components required by the Capability Development Document. System design and demonstration including but not limited to non-recurring engineering, test vehicle hardware, software, simulator development and data.					
FY 2012 OCO Plans:					

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605229F: <i>CSAR HH-60 Recapitalization</i>	PROJECT 654364: <i>HH-60 Recap RDT&E</i>
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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Accomplishments/Planned Programs Subtotals	-	10.650	94.113	-	94.113

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

<u>Line Item</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012 Base</u>	<u>FY 2012 OCO</u>	<u>FY 2012 Total</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• PE 0207229F: <i>APAF, CSAR HH-60 Recapitalization</i>	0.000	0.000	0.000	0.000	0.000	237.863	463.147	748.555	615.916	Continuing	Continuing

D. Acquisition Strategy

HH-60 Recap acquisition program will replace the HH-60G helicopter with a new aircraft to perform Combat Search and Rescue (CSAR). The acquisition strategy is to procure a Government Off The Shelf/Contractor Off the Shelf (GOTS/COTS) aircraft modified with mission equipment to perform the CSAR mission. There will be a required effort to integrate mature subsystems and the associated software development will include human systems integration, advanced communication/net ready and improved survivability among others. The acquisition strategy is to develop a test and evaluation master plan, prepare milestone documents, develop a request for proposal, support source selection activities, and contract award.

E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air 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-3, RDT&E Project Cost Analysis: PB 2012 Air Force											DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE				PROJECT					
3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)				PE 0605229F: CSAR HH-60 Recapitalization				654364: HH-60 Recap RDT&E					
Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Studies and Analysis	TBD	TBD:TBD,	-	1.500		0.500		-		0.500	0.000	2.000	0.000
Software and Integration	TBD	TBD:TBD,	-	-		10.647		-		10.647	0.000	10.647	0.000
Subtotal			-	1.500		11.147		-		11.147	0.000	12.647	0.000
Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-	0.000	0.000	0.000
Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Government Test and Evaluation	TBD	46 Test Sq:Eglin AFB, FL	-	-		3.280	Feb 2011	-		3.280	0.000	3.280	0.000
Test Aircraft and Associated Support	C/TBD	TBD:,	-	-		78.186		-		78.186	0.000	78.186	0.000
Subtotal			-	-		81.466		-		81.466	0.000	81.466	0.000
Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
SPO Support	TBD	Various:WPAFB, OH	-	9.150		1.500		-		1.500	0.000	10.650	0.000
Subtotal			-	9.150		1.500		-		1.500	0.000	10.650	0.000
			Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			-	10.650		94.113		-		94.113	0.000	104.763	0.000

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force						DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>			R-1 ITEM NOMENCLATURE PE 0605229F: <i>CSAR HH-60 Recapitalization</i>			PROJECT 654364: <i>HH-60 Recap RDT&E</i>			
	Total Prior Years Cost	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract	
<u>Remarks</u>									

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

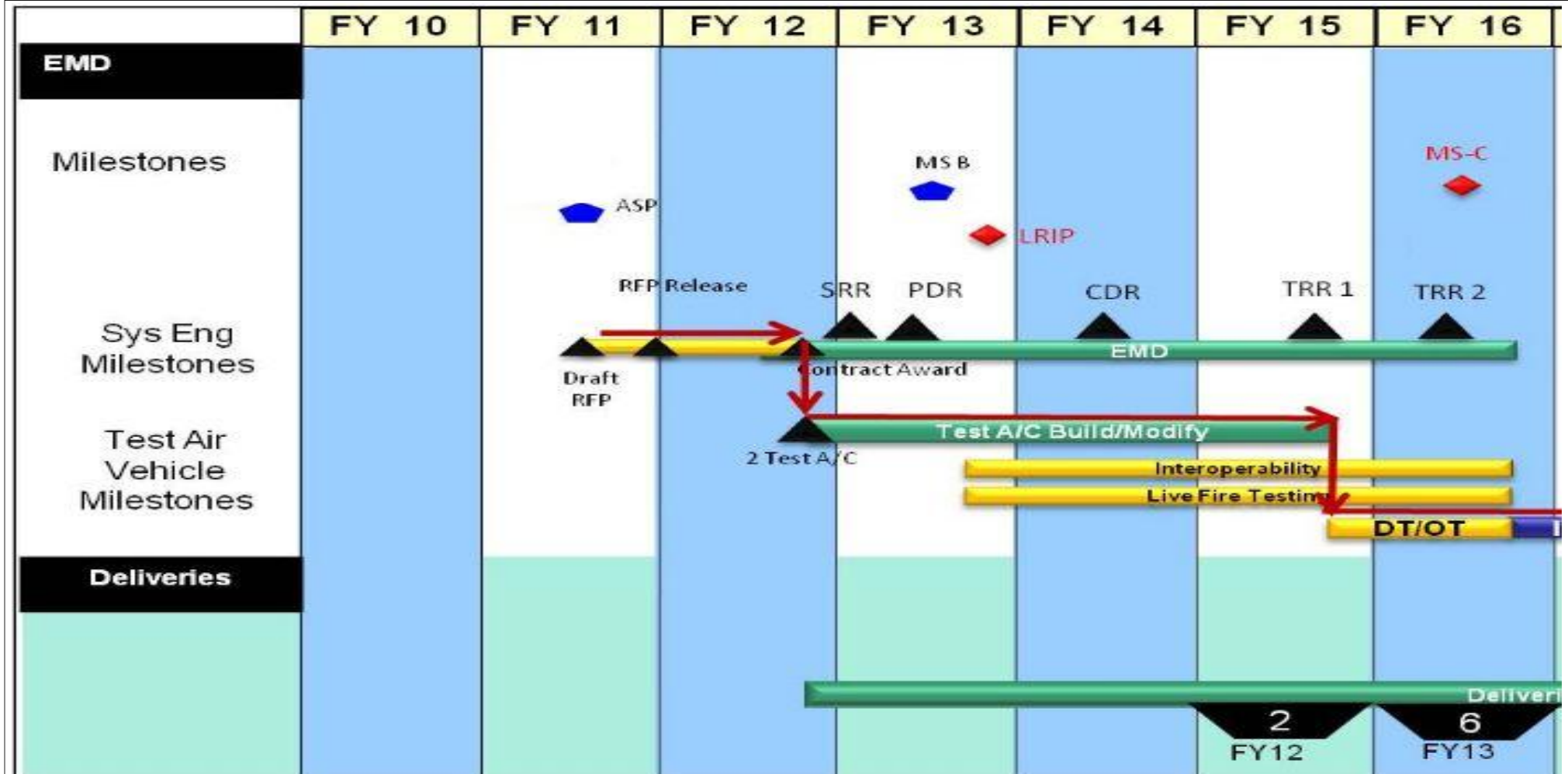
3600: Research, Development, Test & Evaluation, Air Force
BA 5: Development & Demonstration (SDD)

R-1 ITEM NOMENCLATURE

PE 0605229F: CSAR HH-60 Recapitalization

PROJECT

654364: HH-60 Recap RDT&E



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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605229F: <i>CSAR HH-60 Recapitalization</i>	PROJECT 654364: <i>HH-60 Recap RDT&E</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Acquisition Strategy Panel	3	2011	3	2011
Request for Proposal	3	2011	4	2011
Source Selection Contract Award	3	2012	4	2012
Test Aircraft Purchased	4	2012	4	2012
Initiate Responsible Test Organization Activities	4	2012	4	2015
System Readiness Review	1	2013	1	2013
Preliminary Design Review	2	2013	2	2013
Milestone B	3	2013	3	2013
Low rate initial production	4	2013	4	2013
Interoperability and Live Fire Testing	4	2013	4	2016
Critical Design Review	3	2014	3	2014
Test Readiness Review 1	4	2015	4	2015
Developmental and Operational Test	4	2015	4	2016
Test Readiness Review 2	2	2016	2	2016
Milestone C	3	2016	3	2016

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force								DATE: February 2011									
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0605229F: CSAR HH-60 Recapitalization				PROJECT 657001: Avionics Development and Integration									
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost						
657001: Avionics Development and Integration	-	1.934	-	-	-	-	-	-	-	Continuing	Continuing						
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0								
Note In FY12, Project number 657001, Avionics Development and Integration efforts were transferred to PE 0207224F, Project Number 67616, and PE 0101235F, APAF, Modification Number 3149T, in order to effectively execute this effort for both HH-60G and UN-1N aircraft.																	
A. Mission Description and Budget Item Justification The Air Force Rotary Wing Avionics Development and Integration effort is an OSD-mandated program to fund a fully integrated avionics upgrade that includes predictive terrain awareness and traffic collision avoidance warnings for all Air Force helicopters. The Air Force will assess the requirements of both the UH-1N and HH-60 and develop acquisition solutions unique to each platform. FY11 is the last year of funding in this Line. The funds have been redistributed to PE 0101235F (WSC H00100) for the UH-1N and PE 0207224F (BPAC 676016) for the HH-60.																	
B. Accomplishments/Planned Programs (\$ in Millions)								FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total					
Title: Avionics Development and Integration Description: Procure avionics upgrades that include predictive terrain awareness and traffic collision avoidance warnings for UH-1N and HH-60G helicopters. FY 2010 Accomplishments: FY 2011 Plans: Investigate and develop technologies to integrate avionics upgrades that include predictive terrain awareness and traffic collision avoidance warnings. Efforts to include studies and analysis. FY 2012 Base Plans: FY 2012 OCO Plans:								-	1.934	-	-	-					
								Accomplishments/Planned Programs Subtotals					-	1.934	-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605229F: <i>CSAR HH-60 Recapitalization</i>	PROJECT 657001: <i>Avionics Development and Integration</i>	

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

<u>Line Item</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u> <u>Base</u>	<u>FY 2012</u> <u>OCO</u>	<u>FY 2012</u> <u>Total</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• APAF: <i>PE 0101235F, ICBM Helicopter Support</i>	0.000	0.000	3.000	0.000	3.000	3.000	4.750	4.750	0.000	Continuing	Continuing
• RDT&E: <i>PE 0207224, Combat Rescue and Recovery</i>	0.000	0.000	2.292	0.000	2.292	2.091	3.633	4.528	0.000	Continuing	Continuing

D. Acquisition Strategy

Assess the requirements of both the UH-1N and HH-60 and develop acquisition solutions unique to each platform. The solution set for the UH-1N is expected to be an in-production, non-developmental, Government Off-The-Shelf or Commercial Off-The-Shelf (GOTS/COTS) aircraft modification.

E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air 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-3, RDT&E Project Cost Analysis: PB 2012 Air Force											DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>				R-1 ITEM NOMENCLATURE PE 0605229F: <i>CSAR HH-60 Recapitalization</i>				PROJECT 657001: <i>Avionics Development and Integration</i>					
Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Studies and Analysis	TBD	TBD:TBD,	-	1.000		-		-		-	0.000	1.000	0.000
Subtotal			-	1.000		-		-		-	0.000	1.000	0.000
Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Not specified.	TBD	Not specified.:Location not provided.	-	-		-		-		-	0.000	0.000	0.000
Subtotal			-	-		-		-		-	0.000	0.000	0.000
Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-	0.000	0.000	0.000
Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
SPO Support	TBD	TBD:TBD,	-	0.934		-		-		-	0.000	0.934	0.000
Subtotal			-	0.934		-		-		-	0.000	0.934	0.000
			Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			-	1.934		-		-		-	0.000	1.934	0.000
Remarks													

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

3600: Research, Development, Test & Evaluation, Air Force
BA 5: Development & Demonstration (SDD)

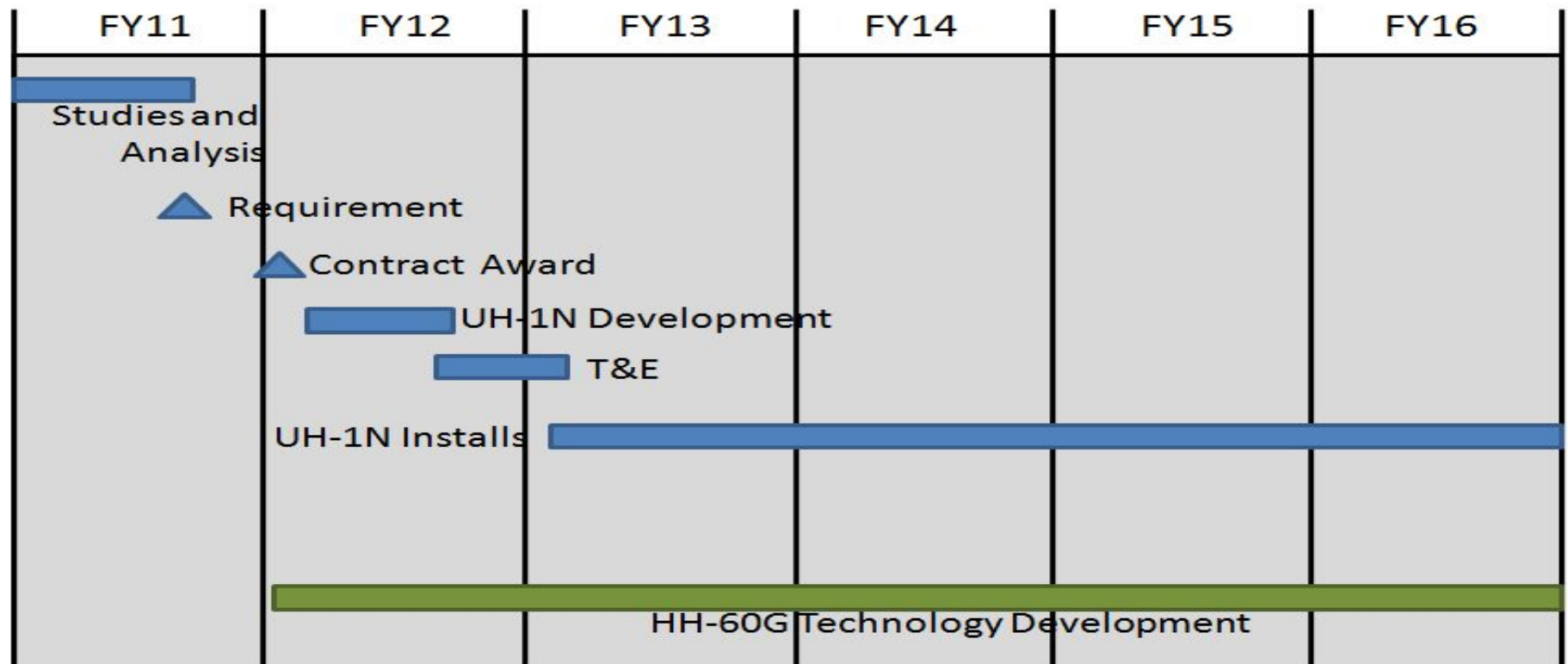
R-1 ITEM NOMENCLATURE

PE 0605229F: CSAR HH-60 Recapitalization

PROJECT

657001: Avionics Development and Integration

Rotary Wing Avionics Development and Integration



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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605229F: <i>CSAR HH-60 Recapitalization</i>	PROJECT 657001: <i>Avionics Development and Integration</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Finalization of Source Selection Activities	1	2012	2	2012
Contract Award for UH-1N Solution	2	2012	2	2012

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE							
3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>				PE 0605277F: CSAR-X							
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	13.788	-	-	-	-	-	-	-	-	Continuing	Continuing
655213: <i>Personnel Recovery Vehicle</i>	13.788	-	-	-	-	-	-	-	-	Continuing	Continuing

Note

Totals include funding for Program Resources Collection Process (PRCP) Program Number 329, CSAR-X.

A. Mission Description and Budget Item Justification

The primary mission of the Combat Search and Rescue Replacement Vehicle (CSAR-X) is to recover downed aircrew and isolated personnel from hostile or denied territory. Rescue forces may also conduct other missions inherent in their capabilities to conduct Personnel Recovery (PR), such as non-conventional assisted recovery, non-combatant evacuation operations, civil search and rescue, international aid, emergency medical evacuation, disaster/humanitarian relief, and insertion/ extraction of combat forces. Budget Justification: In the spring of 2009 the Secretary of Defense (SECDEF) directed the Air Force to "Terminate the CSAR-X program and procure replacement Rotary Wing Aircraft based upon currently fielded CSAR capabilities." The Air Force terminated the existing CSAR-X contract in June 09. Remaining funds in FY09 will be used for termination related costs, acquisition planning, studies and analysis, and program office support. Funds in FY10 will be used to develop and execute an acquisition strategy to procure replacement Rotary Wing Aircraft based upon currently fielded CSAR capabilities leveraging existing multi-service solutions. Initially this joint approach will include providing short term relief to the aging HH-60G fleet by purchasing rotary-wing aircraft in production for the Army and modifying them with CSAR mission equipment to replace aircraft lost in combat and operational missions. These aircraft, identified as Operational Loss Replacement (OLR) will procure UH-60 Aircraft from the Army and then purchase and integrate modification kits to bring the UH-60M to the fielded HH-60G configuration. OLR is an interim step to maintain combat capability. Portions of FY10 funding will also be used to support the HH-60G recapitalization program with any follow on studies and analysis, the development of an acquisition strategy and to support subsequent acquisition activities. FY10 will be the last year of RDT&E funding in this PE and BPAC. Future HH-60G recapitalization RDT&E activities will be tracked in PE 0605229F. Previous year funding for CSAR-X is located in PE 0604261, Personnel Recovery Systems. The FY 2009 PB separated the CSAR-X and HC/MC-130 Recap projects under PE 0604261, Personnel Recovery Systems, into distinct PEs (0605277F and 0605278F, respectively) to provide more budget clarity. This program was in Budget Activity 5, System Development and Demonstration (SDD) because it had passed Milestone B approval and was conducting engineering and manufacturing development tasks and meeting validated requirements prior to full rate production.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605277F: CSAR-X
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B. Program Change Summary (\$ in Millions)	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012 Base</u>	<u>FY 2012 OCO</u>	<u>FY 2012 Total</u>
Previous President's Budget	14.975	-	-	-	-
Current President's Budget	13.788	-	-	-	-
Total Adjustments	-1.187	-	-	-	-
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-1.187	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-	-	-	-	-

Change Summary Explanation

Reductions in support of other Air Force programs.

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>				R-1 ITEM NOMENCLATURE PE 0605277F: CSAR-X				PROJECT 655213: <i>Personnel Recovery Vehicle</i>			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
655213: <i>Personnel Recovery Vehicle</i>	13.788	-	-	-	-	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

Note

Totals Include funding for Program Resources Collection Process (PRCP) Program Number 329, CSAR-X.

A. Mission Description and Budget Item Justification

The primary mission of the Combat Search And Rescue Replacement Vehicle (CSAR-X) is to recover downed aircrew and isolated personnel from hostile or denied territory. Rescue forces may also conduct other missions inherent in their capabilities to conduct Personnel Recovery (PR), such as non-conventional assisted recovery, non-combatant evacuation operations, civil search and rescue, international aid, emergency medical evacuation, disaster/humanitarian relief, and insertion/ extraction of combat forces. Budget justification: In the spring of FY09, the Secretary of Defense directed the Air Force to "terminate the CSAR-X program and procure replacement rotary wing aircraft based upon currently fielded CSAR capabilities." In June of 2009 the Air Force terminated the existing CSAR-X contract.

Funds in FY 10 will be used to develop and execute an acquisition strategy to procure replacement rotary wing aircraft in production for the Army and modifying them with CSAR mission equipment to replace aircraft lost in combat and operational missions. These aircraft, identified as Operational Loss Replacement (OLR) will procure UH-60 aircraft from the Army and then purchase and integrate modification kits to bring the UH-60M aircraft up to the fielded HH-60G configuration. OLR is an interim step to maintain combat capability. Portions of FY10 funding will also be used to support the HH-60G recapitalization program with any follow on studies and analysis, the development of an acquisition strategy and to support subsequent acquisition activities. FY10 will be the last year of RDT&E funding in this PE and BPAC. This program was in Budget Activity 5, System Development and Demonstration (SDD) because it had passed Milestone B approval and was conducting engineering and manufacturing development tasks and meeting validated requirements prior to full rate production. Future HH-60G recapitalization RDT&E activities will be tracked in PE0605229.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: MAJOR THRUST	-	-	-	-	-
Description: CSAR-X contract termination related activities and CSAR helicopter SPO support activities.					
FY 2010 Accomplishments:					
FY 2011 Plans:					
FY 2012 Base Plans:					

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force							DATE: February 2011				
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>			R-1 ITEM NOMENCLATURE PE 0605277F: CSAR-X			PROJECT 655213: <i>Personnel Recovery Vehicle</i>					
B. Accomplishments/Planned Programs (\$ in Millions)						FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	
<i>FY 2012 OCO Plans:</i> <i>Title:</i> OLR Acquisition Milestones <i>Description:</i> Studies, analysis, preparation of milestone documents, and development of CSAR modifications for H-60 Operational loss replacement helicopter program. <i>FY 2010 Accomplishments:</i> Studies, Analysis, preparation of acquisition documents and development of CSAF mission modifications for the HH-60 OLR program <i>FY 2011 Plans:</i> <i>FY 2012 Base Plans:</i> <i>FY 2012 OCO Plans:</i>						13.788	-	-	-	-	
Accomplishments/Planned Programs Subtotals						13.788	-	-	-	-	
C. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012 Base</u>	<u>FY 2012 OCO</u>	<u>FY 2012 Total</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• PE 0207224: <i>APAF</i>	94.990	218.447	104.711	39.300	144.011	47.956	11.875	0.000	0.000	Continuing	Continuing
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-3, RDT&E Project Cost Analysis: PB 2012 Air Force											DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0605277F: CSAR-X				PROJECT 655213: Personnel Recovery Vehicle						
Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Studies and Analysis	Various	Various:Various	1.251	-		-		-		-	0.000	1.251	0.000	
Non-recurring Engineering	TBD	TBD:TBD,	10.760	-		-		-		-	0.000	10.760	0.000	
Subtotal			12.011	-		-		-		-	0.000	12.011	0.000	
Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Subtotal			-	-		-		-		-	0.000	0.000	0.000	
Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Government Test and Evaluation	TBD	TBD:TBD	-	-		-		-		-	0.000	0.000	0.000	
Subtotal			-	-		-		-		-	0.000	0.000	0.000	
Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
SPO Support	TBD	TBD:TBD	1.777	-		-		-		-	0.000	1.777	0.000	
Termination related costs	TBD	TBD:TBD	-	-		-		-		-	0.000	0.000	0.000	
Subtotal			1.777	-		-		-		-	0.000	1.777	0.000	
			Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract	
Project Cost Totals			13.788	-		-		-		-	0.000	13.788	0.000	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force						DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>			R-1 ITEM NOMENCLATURE PE 0605277F: <i>CSAR-X</i>			PROJECT 655213: <i>Personnel Recovery Vehicle</i>			
	Total Prior Years Cost	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract	
Remarks									

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

3600: *Research, Development, Test & Evaluation, Air Force*
BA 5: *Development & Demonstration (SDD)*

R-1 ITEM NOMENCLATURE

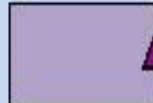
PE 0605277F: CSAR-X

PROJECT

655213: *Personnel Recovery Vehicle*

Operational Loss Replacement

	FY09	FY10	FY11	FY12	FY13	FY14	FY15
Non-Recurring Engineering (NRE)							
UH-60M Aircraft Production							
HH-60 Modification Kit/Install							
Overseas Contingency Operations (OCO) UH-60M Aircraft Production							
OCO HH-60 Modification Kit/Install							



▲ Milestone Review

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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605277F: CSAR-X	PROJECT 655213: <i>Personnel Recovery Vehicle</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
CSAR-X Procurement cancelled by SECDEF. Termination Activities ongoing.	3	2010	4	2011

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605278F: <i>HC/MC-130 Recap</i>
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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	20.496	15.536	27.071	-	27.071	19.003	16.054	9.861	10.044	Continuing	Continuing
655249: <i>HC-130Recap</i>	20.496	15.536	27.071	-	27.071	19.003	16.054	9.861	10.044	Continuing	Continuing

Note

Prior years funding estimate is \$26.618M. The total cost to complete all RDT&E work in support of the HC/MC-130 Recap program is estimated to be \$154.3M, per the Milestone C, OSD accomplished Independent Cost Estimate.

A. Mission Description and Budget Item Justification

Totals include funding for PRCP Program Number 257, HC/MC-130 Recap.

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.

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 JROC validated the CPD in Aug 2009.

FY12 HC/MC-130J funding completes the HC/MC systems engineering and development for the basic aircraft

FY12 HC/MC-130J program RDT&E funding also provides for Trial Kit Install (TKI) of the C-130J Block 7.0 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.

The FY12 MC-130J program also has funds in PE 010160429BB for USSOCOM to develop and procure SOF-peculiar modifications to the common-configured aircraft procured by the USAF.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605278F: <i>HC/MC-130 Recap</i>
--	---

B. Program Change Summary (\$ in Millions)	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012 Base</u>	<u>FY 2012 OCO</u>	<u>FY 2012 Total</u>
Previous President's Budget	20.582	15.536	28.348	-	28.348
Current President's Budget	20.496	15.536	27.071	-	27.071
Total Adjustments	-0.086	-	-1.277	-	-1.277
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-0.086	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-	-	-1.277	-	-1.277

Change Summary Explanation

FY12 request is \$1.277M less than what was projected in the FY11 budget.
\$0.090M is for inflation and \$1.187M is for program underexecution.

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force								DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0605278F: HC/MC-130 Recap				PROJECT 655249: HC-130Recap			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
655249: HC-130Recap	20.496	15.536	27.071	-	27.071	19.003	16.054	9.861	10.044	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		
A. Mission Description and Budget Item Justification											
Totals include funding for PRCP Progrm Number 257, HC/MC-130 Recap.											
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.											
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 JROC validated the CPD in Aug 2009.											
FY12 HC/MC-130J funding completes the HC/MC systems engineering and development for the basic aircraft											
FY12 HC/MC-130J program RDT&E funding also provides for Trial Kit Install (TKI) of the C-130J Block 7.0 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.											
The FY12 MC-130J program also has funds in PE 010160429BB for USSOCOM to develop and procure SOF-peculiar modifications to the common-configured aircraft procured by the USAF.											
B. Accomplishments/Planned Programs (\$ in Millions)							FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: Systems Engineering							17.582	2.600	3.700	-	3.700
Description: Systems Engineering, integration and test of mature, fielded capabilities											
FY 2010 Accomplishments:											

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)		R-1 ITEM NOMENCLATURE PE 0605278F: HC/MC-130 Recap		PROJECT 655249: HC-130Recap	
B. Accomplishments/Planned Programs (\$ in Millions)					
	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Continued integration of matured items such as Electro-Optical-Infrared Imaging (EO/IR), Universal Aerial Refueling Receptacle Slipway Installation (UARRSI), Enhanced Cargo Handling System (ECHS), Enhanced Service Life (ESL) Wing, and a Combat Systems Officer (CSO) crew station on to a C-130J. FY 2011 Plans: Concluding integration of matured items such as Electro-Optical-Infrared Imaging (EO/IR), Universal Aerial Refueling Receptacle Slipway Installation (UARRSI), Enhanced Cargo Handling System (ECHS), Enhanced Service Life (ESL) Wing, and a Combat Systems Officer (CSO) crew station on to a C-130J. FY 2012 Base Plans: Funding provides for systems engineering, test of mature systems, and program management in support of HC/MC-130J Block 7.6 efforts. FY 2012 OCO Plans:					
Title: Test and Evaluation Description: Test and evaluation planning, conduct, and support for developmental and operational testing. FY 2010 Accomplishments: Operational assessment as well as intial Contractor Test and Evaluation. FY 2011 Plans: Testing will move into the Developmental Test and Evaluation (DT&E) phase concluding with a DT&E report. FY 2012 Base Plans: Funding provides for OT&E efforts in support of HC/MC-130J, verifying operational effectiveness and suitability. FY 2012 OCO Plans:					
Title: Software Integration Description: Funding provides for the integration of C-130J Block 7.0 common block TKI and software into the Block 6.6 configuration resulting in a Block 7.6 configuration on both the HC-130J and MC-130J aircraft variant. FY 2010 Accomplishments: FY 2011 Plans:					

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force				DATE: February 2011	
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>		R-1 ITEM NOMENCLATURE PE 0605278F: <i>HC/MC-130 Recap</i>		PROJECT 655249: <i>HC-130Recap</i>	

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
<i>FY 2012 Base Plans:</i> Funding provides for the integration of C-130J Block 7.0 common block TKI and software into the Block 6.6 configuration resulting in a Block 7.6 configuration on both the HC-130J and MC-130J aircraft variant.					
<i>FY 2012 OCO Plans:</i> <i>Title:</i> Other <i>Description:</i> Funding provides for unique costs to the government such as contractor test support.	-	-	1.571	-	1.571
<i>FY 2010 Accomplishments:</i> <i>FY 2011 Plans:</i> <i>FY 2012 Base Plans:</i> Funding provides for unique costs to the government such as contractor test support.					
<i>FY 2012 OCO Plans:</i>					
Accomplishments/Planned Programs Subtotals	20.496	15.536	27.071	-	27.071

C. Other Program Funding Summary (\$ in Millions)												
	<u>Line Item</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012 Base</u>	<u>FY 2012 OCO</u>	<u>FY 2012 Total</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
•	N/A:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

D. Acquisition Strategy
The 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.

E. Performance Metrics
Please refer to the Performance Base Budget Overview Book for information on how Air 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-3, RDT&E Project Cost Analysis: PB 2012 Air Force											DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0605278F: HC/MC-130 Recap				PROJECT 655249: HC-130Recap						
Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Systems Engineering and Integration	SS/CPFF	Lockheed Martin:Marietta, GA	50.498	8.900	Oct 2010	9.323	Nov 2011	-		9.323	36.325	105.046	TBD	
Subtotal			50.498	8.900		9.323		-		9.323	36.325	105.046		
Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Other	Various	ASC/WIS:WPAFB, OH	-	-		4.248	Feb 2012	-		4.248	11.956	16.204	0.000	
Subtotal			-	-		4.248		-		4.248	11.956	16.204	0.000	
Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Test and Evaluation Support	C/FFP	46th Test Wing:EAFB, FL	2.914	6.636	Oct 2010	13.500	Nov 2011	-		13.500	10.000	33.050	TBD	
Subtotal			2.914	6.636		13.500		-		13.500	10.000	33.050		
Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Subtotal			-	-		-		-		-	0.000	0.000	0.000	
			Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract	
Project Cost Totals			53.412	15.536		27.071		-		27.071	58.281	154.300		
Remarks														

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

3600: Research, Development, Test & Evaluation, Air Force
BA 5: Development & Demonstration (SDD)

R-1 ITEM NOMENCLATURE

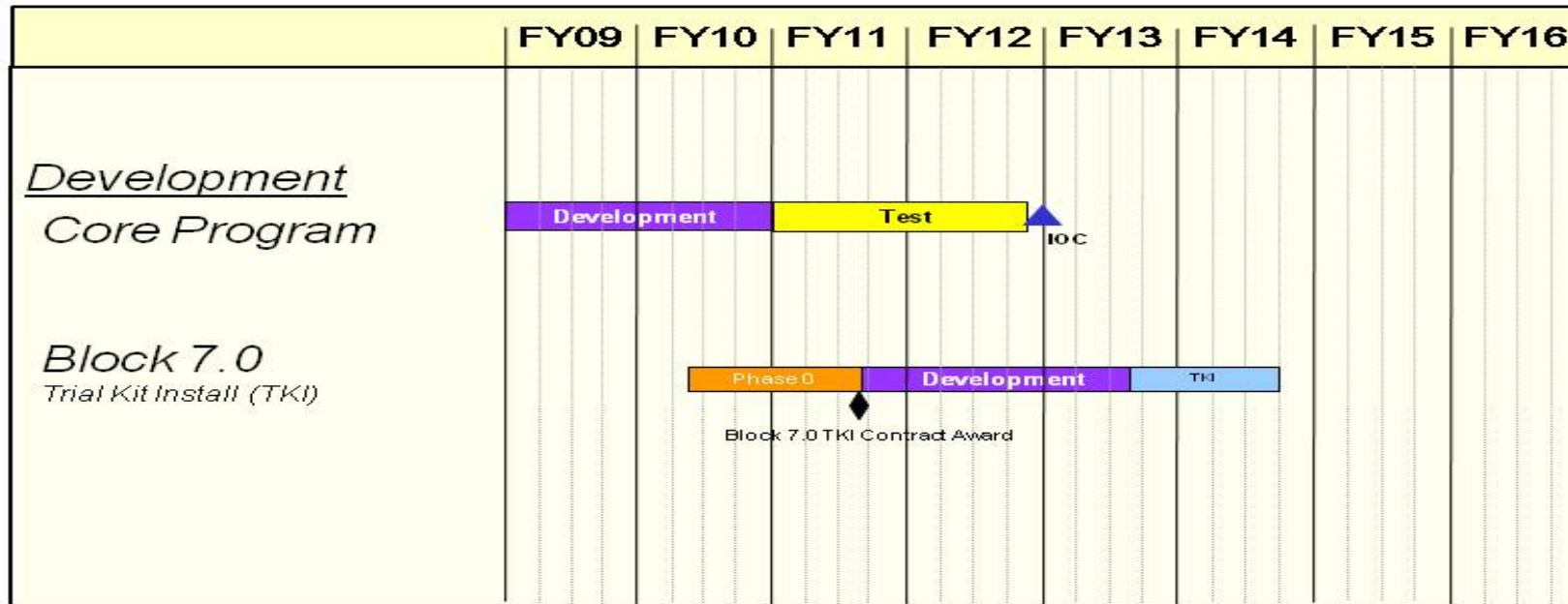
PE 0605278F: HC/MC-130 Recap

PROJECT

655249: HC-130Recap



HC/MC-130 Recap Schedule



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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605278F: <i>HC/MC-130 Recap</i>	PROJECT 655249: <i>HC-130Recap</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
HC/MC-130 Recap Systems Inegration & Development	1	2010	4	2012
HC/MC-130 Recap Flight test	1	2011	4	2012
HC/MC-130 Recap Block 7.0 TKI Development	3	2011	3	2014
HC/MC-130 Recap TKI	3	2013	3	2014

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE							
3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>				PE 0605452F: <i>Joint SIAP Program Executive Office</i>							
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	14.358	-	-	-	-	-	-	-	-	Continuing	Continuing
655370: <i>Joint SIAP Program Executive Office</i>	14.358	-	-	-	-	-	-	-	-	Continuing	Continuing

A. Mission Description and Budget Item Justification

The Single Integrated Air Picture (SIAP) was a Joint Requirements Oversight Council (JROC) validated collaborative enterprise Special Interest Program, comprising multiple engineering and acquisition programs in each of the Services, all linked by a joint engineering and development organization. The Joint Program Executive Office (JPEO) Single Integrated Air Picture (SIAP) integrates the Joint product with Service combat systems creating a Joint System of Systems (SoS) capability for the warfighter. The JPEO SIAP provides the joint system engineering oversight to establish horizontal integration of systems to generate accurate, consistent and timely information for the theater-wide Common Tactical Picture (CTP). The JPEO SIAP provides oversight and management of the SIAP program for the SIAP Acquisition Executive (AE). Specific management areas include research, development, and testing of the Joint Track Manager, conduct of Joint SoS engineering, and oversight of Joint integration and development. The core set of SIAP SoS requirements are outlined in the SIAP Capability Development Document (CDD) generated by US Joint Forces Command and validated by the JROC in Sep 2007. The SIAP CDD requirement will be achieved through the development and implementation of the SIAP SoS. Based on guidance from the Secretary of Defense, the JPEO SIAP has been directed to continue to oversee the ongoing development of the Joint Track Manager (JTM) for the Services. The Army Integrated Air and Missile Defense (AIAMD) program and the Navy Aegis Modernization (AMOD) program are two lead programs working the incremental architecture approach for the JTM. The JTM will leverage existing technologies combined with current systems and contracts to provide an enhanced capability for the warfighter in the area of Joint Integrated Air and Missile Defense. Working collaboratively with the Services, the JPEO will oversee the ongoing development of a JTM capability to support the warfighter and to support the Quadrennial Defense Review (QDR). 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 it is beyond Milestone B approval and is conducting engineering and manufacturing development tasks aimed at meeting validated requirements prior to full-rate production.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605452F: <i>Joint SIAP Program Executive Office</i>
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B. Program Change Summary (\$ in Millions)	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012 Base</u>	<u>FY 2012 OCO</u>	<u>FY 2012 Total</u>
Previous President's Budget	14.877	-	-	-	-
Current President's Budget	14.358	-	-	-	-
Total Adjustments	-0.519	-	-	-	-
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.457	-			
• Other Adjustments	-0.062	-	-	-	-

Change Summary Explanation

In FY 2010, Project 5275, SIAP Tier 1 Funding, efforts transferred to PE 0605452F, Joint SIAP Program Executive Office, Project 5370, Joint SIAP Program Executive Office, per Cost Assessment & Program Evaluation (Office of Secretary of Defense) direction.

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force									DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0605452F: Joint SIAP Program Executive Office				PROJECT 655370: Joint SIAP Program Executive Office			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
655370: Joint SIAP Program Executive Office	14.358	-	-	-	-	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

The Single Integrated Air Picture (SIAP) was a Joint Requirements Oversight Council (JROC) validated collaborative enterprise Special Interest Program, comprising multiple engineering and acquisition programs in each of the Services, all linked by a joint engineering and development organization. The Joint Program Executive Office (JPEO) Single Integrated Air Picture (SIAP) integrates the Joint product with Service combat systems creating a Joint System of Systems (SoS) capability for the warfighter. The JPEO SIAP provides the joint system engineering oversight to establish horizontal integration of systems to generate accurate, consistent and timely information for the theater-wide Common Tactical Picture (CTP). The JPEO SIAP provides oversight and management of the SIAP program for the SIAP Acquisition Executive (AE). Specific management areas include research, development, and testing of the Joint Track Manager, conduct of Joint SoS engineering, and oversight of Joint integration and development. The core set of SIAP SoS requirements are outlined in the SIAP Capability Development Document (CDD) generated by US Joint Forces Command and validated by the JROC in Sep 2007. The SIAP CDD requirement will be achieved through the development and implementation of the SIAP SoS. Based on guidance from the Secretary of Defense, the JPEO SIAP has been directed to continue to oversee the ongoing development of the Joint Track Manager (JTM) for the Services. The Army Integrated Air and Missile Defense (AIAMD) program and the Navy Aegis Modernization (AMOD) program are two lead programs working the incremental architecture approach for the JTM. The JTM will leverage existing technologies combined with current systems and contracts to provide an enhanced capability for the warfighter in the area of Joint Integrated Air and Missile Defense. Working collaboratively with the Services, the JPEO will oversee the ongoing development of a JTM capability to support the warfighter and to support the Quadrennial Defense Review (QDR). 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 it is beyond 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 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: JTM Engineering and Development	14.358	-	-	-	-
Description: Joint Track Manager Engineering and Development					
FY 2010 Accomplishments: Joint Track Manager Engineering and Development					
FY 2011 Plans:					
FY 2012 Base Plans:					

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605452F: <i>Joint SIAP Program Executive Office</i>	PROJECT 655370: <i>Joint SIAP Program Executive Office</i>
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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
<i>FY 2012 OCO Plans:</i>					
Accomplishments/Planned Programs Subtotals	14.358	-	-	-	-

C. Other Program Funding Summary (\$ in Millions)												
	Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• N/A:		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

D. Acquisition Strategy

The JTM will continue ongoing development to implement capability into Service combat systems. All contracts will use 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.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force										DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0605452F: Joint SIAP Program Executive Office				PROJECT 655370: Joint SIAP Program Executive Office					
Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Joint Track Manager Engineering	Various	Various:Various,	9.453	-		-		-		-	0.000	9.453	9.453
Subtotal			9.453	-		-		-		-	0.000	9.453	9.453
Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Not specified.	TBD	Not specified.:Location not provided.	-	-		-		-		-	0.000	0.000	0.000
Subtotal			-	-		-		-		-	0.000	0.000	0.000
Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Joint Track Manager Testing	Various	Various:Various,	3.754	-		-		-		-	0.000	3.754	4.273
Subtotal			3.754	-		-		-		-	0.000	3.754	4.273
Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
JPEO Management	Various	Various:Various	1.151	-		-		-		-	0.000	1.151	1.151
Subtotal			1.151	-		-		-		-	0.000	1.151	1.151
			Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			14.358	-		-		-		-	0.000	14.358	14.877

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force						DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>			R-1 ITEM NOMENCLATURE PE 0605452F: <i>Joint SIAP Program Executive Office</i>			PROJECT 655370: <i>Joint SIAP Program Executive Office</i>			
	Total Prior Years Cost	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract	
Remarks									

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

3600: Research, Development, Test & Evaluation, Air Force
BA 5: Development & Demonstration (SDD)

R-1 ITEM NOMENCLATURE

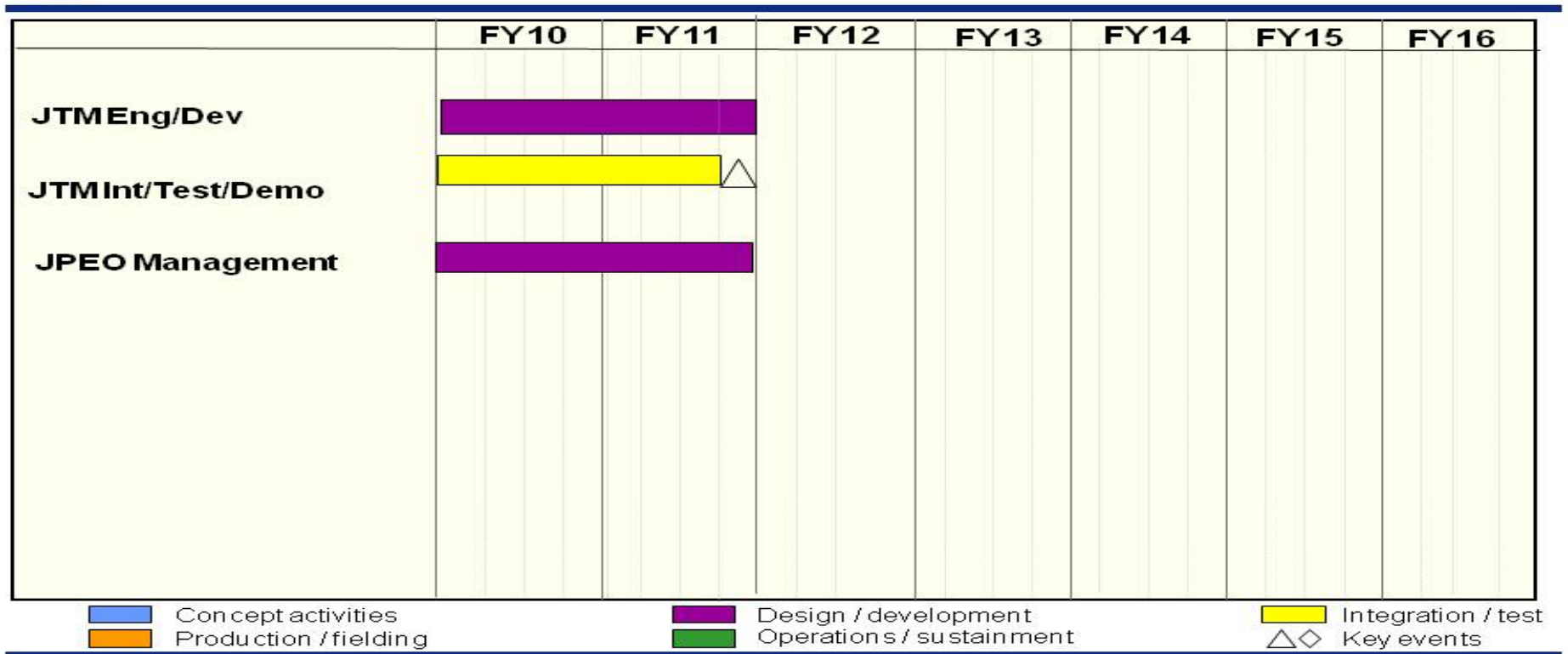
PE 0605452F: Joint SIAP Program Executive Office

PROJECT

655370: Joint SIAP Program Executive Office



JPEO JTM Schedule



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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605452F: <i>Joint SIAP Program Executive Office</i>	PROJECT 655370: <i>Joint SIAP Program Executive Office</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Joint Track Manager Engineering and Development	1	2010	4	2011
Joint Track Manager Integration/Test/Demonstration	1	2010	4	2011
JPEO Management	1	2010	4	2011

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>				R-1 ITEM NOMENCLATURE PE 0101125F: <i>NUCLEAR WEAPON MODERNIZATION</i>							
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	-	-	93.867	-	93.867	158.218	315.238	397.880	336.786	Continuing	Continuing
657007: <i>B61 LIFE EXTENSION PROGRAM</i>	-	-	83.941	-	83.941	118.823	116.609	57.038	41.281	Continuing	Continuing
657008: <i>LONG RANGE STAND-OFF</i>	-	-	9.926	-	9.926	39.395	198.629	340.842	295.505	Continuing	Continuing

Note

The program funding includes reductions for acquisition excellence efficiencies in FY15 and FY16 that are not intended to impact program content. Reductions for efficiencies may be spread to other Air Force programs at a later date. Amounts of the reductions are: \$7.0M/FY15 and \$102.5M/FY16.

In FY12 B61 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.

A. Mission Description and Budget Item Justification

The purpose of this program element is to conduct and support Air Force and Joint DoD-DoE acquisition activities for the modernization and sustainment of nuclear weapons.

B61 Life Extension Program (LEP): Lead the joint DoD-DoE B61 Life Extension Program (LEP) feasibility, design, cost, and down-select effort. Lead development and acquisition of B61 tail subassembly for B61 LEP. Ensure integration of B61 LEP with current and future aircraft.

Long Range Stand Off (LRSO): identify viable concepts and materiel solutions to replace the legacy Air Launched Cruise Missile (ALCM) fleet in support of the Air Force's strategic deterrence and global strike mission requirements.

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.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force			DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)		R-1 ITEM NOMENCLATURE PE 0101125F: NUCLEAR WEAPON MODERNIZATION			
B. Program Change Summary (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	-	-	93.867	-	93.867
Current President's Budget	-	-	93.867	-	93.867
Total Adjustments	-	-	-	-	-
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-	-	-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force								DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE				PROJECT			
3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)				PE 0101125F: NUCLEAR WEAPON MODERNIZATION				657007: B61 LIFE EXTENSION PROGRAM			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
657007: B61 LIFE EXTENSION PROGRAM	-	-	83.941	-	83.941	118.823	116.609	57.038	41.281	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

Note

In FY12 B61 LEP efforts were transferred from PE 0604222F, Nuclear Weapons Support, to PE 0101125F, Nuclear Weapon Modernization in order to support B61 LEP development.

A. Mission Description and Budget Item Justification

B61 Life Extension Program (LEP): The LEP of the B61 gravity weapon will extend the service life of the weapon, consolidate multiple B61 variants into one modification and improve safety, security, and use control (surety). Provides leadership, management, and oversight of the Air Force-led, joint Department of Defense (DoD) - Department of Energy (DoE) B61 Project Officer's Group (POG). Lead the joint DoD-DoE B61 LEP feasibility, design, cost, and down-select study. Provide technical oversight of the DoE nuclear package LEP activities. Develop weapons trainers, test equipment, tech data, and training for the B61 LEP. Conduct ground and flight tests and support aircraft integration for the B61 LEP. Develop and acquire a B61 tail subassembly (TSA) and ensure integration of B61 LEP onto threshold aircraft. This may include weapon trainers, test equipment, tech data, training and training materials. Additionally, the program office will conduct lab, ground and flight tests, engineering studies and technology analyses, modeling and simulation, logistics evaluations, human system integration, technology maturation, and risk reduction activities in support of the required materiel solution.

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 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: B61 POG Support and B61 LEP	-	-	83.941	-	83.941
Description: Accomplish DoD-DoE B61 LEP effort. Develop and acquire B61 tail subassembly and ensure integration of B61 LEP onto current and future aircraft.					
FY 2010 Accomplishments:					
FY 2011 Plans:					
FY 2012 Base Plans:					

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force				DATE: February 2011	
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>		R-1 ITEM NOMENCLATURE PE 0101125F: <i>NUCLEAR WEAPON MODERNIZATION</i>		PROJECT 657007: <i>B61 LIFE EXTENSION PROGRAM</i>	

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Provide technical oversight of the DoE B61 LEP activities. Refine proposed materiel solution concepts. Refine acquisition strategy to include program development schedule and cost estimates. Prepare documentation for Technology Development phase exit criteria and Milestone B entrance criteria. Support DoD-DoE B61 POG. <i>FY 2012 OCO Plans:</i>					
Accomplishments/Planned Programs Subtotals	-	-	83.941	-	83.941

C. Other Program Funding Summary (\$ in Millions)										
Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete
• PE 0604222F: <i>RDT&E</i>	6.382	25.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing
										Total Cost
										Continuing

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.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force											DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0101125F: NUCLEAR WEAPON MODERNIZATION				PROJECT 657007: B61 LIFE EXTENSION PROGRAM						

Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
B61 LEP	C/TBD	TBD:,	-	-	Jan 2011	39.301	Nov 2012	-		39.301	Continuing	Continuing	TBD
Subtotal			-	-		39.301		-		39.301			

Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
B61 LEP Program Office	MIPR	AAC/EBD:,	-	-		11.169	Nov 2011	-		11.169	Continuing	Continuing	0.000
Aircraft Integration	MIPR	Various:,	-	-		32.550	Nov 2011	-		32.550	Continuing	Continuing	0.000
Subtotal			-	-		43.719		-		43.719			0.000

Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Test Oversight	MIPR	RTO:,	-	-		0.921	Nov 2011	-		0.921	Continuing	Continuing	0.000
Subtotal			-	-		0.921		-		0.921			0.000

Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-	0.000	0.000	0.000

			Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			-	-		83.941		-		83.941			

Remarks													
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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

3600: *Research, Development, Test & Evaluation, Air Force*
BA 5: *Development & Demonstration (SDD)*




R-1 ITEM NOMENCLATURE

PE 0101125F: *NUCLEAR WEAPON
MODERNIZATION*

PROJECT

657007: *B61 LIFE EXTENSION PROGRAM*

0101225F B61 LEP Schedule

	FY10	FY11	FY12	FY13	FY14	FY15	FY16
MDD/Milestone A Preparation							
Technology Development Phase							
Engineering & Manufacturing Development Phase							

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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0101125F: <i>NUCLEAR WEAPON MODERNIZATION</i>	PROJECT 657007: <i>B61 LIFE EXTENSION PROGRAM</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
MDD and Milestone A Preparation	1	2010	3	2011
Combined Materiel Development Decision / Milestone A Decision	3	2011	3	2011
Technology Development Phase	3	2011	1	2014
Milestone B Decision	1	2014	1	2014

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force								DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0101125F: NUCLEAR WEAPON MODERNIZATION				PROJECT 657008: LONG RANGE STAND-OFF			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
657008: LONG RANGE STAND- OFF	-	-	9.926	-	9.926	39.395	198.629	340.842	295.505	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		
Note 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.											
A. Mission Description and Budget Item Justification Long Range Stand Off (LRSO) seeks to identify viable concepts and materiel solutions to replace the legacy Air Launched Cruise Missile (ALCM) fleet in support of the Air Force's strategic deterrence and global strike capabilities. This effort will analyze the areas of survivability, lethality, reliability and affordability. Funding supports Materiel Solution Analysis (MSA) phase activities and associated engineering studies and technology analyses, requirements definition, technology maturation, and risk reduction activities. This program is in Budget Activity 5, System Development and Demonstration (SDD) because it is conducting engineering and manufacturing development tasks aimed at meeting validated requirements prior to full-rate production.											
B. Accomplishments/Planned Programs (\$ in Millions)							FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: LRSO							-	-	9.926	-	9.926
Description: Conduct LRSO Materiel Solution Analysis (MSA) phase. Identify and refine viable materiel solution concepts for LRSO.											
FY 2010 Accomplishments:											
FY 2011 Plans:											
FY 2012 Base Plans: Complete LRSO Analysis of Alternatives (AoA). Refine concepts for viable materiel solutions. Develop technology development strategy and refine program schedule and cost estimate. Prepare documentation for Milestone A decision.											
FY 2012 OCO Plans:											
Accomplishments/Planned Programs Subtotals							-	-	9.926	-	9.926

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0101125F: <i>NUCLEAR WEAPON</i> <i>MODERNIZATION</i>	PROJECT 657008: <i>LONG RANGE STAND-OFF</i>	

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

<u>Line Item</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u> <u>Base</u>	<u>FY 2012</u> <u>OCO</u>	<u>FY 2012</u> <u>Total</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• PE 0101122F: <i>RDT&E</i>	3.219	3.300	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

D. Acquisition Strategy

During MSA phase, an AoA will be completed. Multiple contracts will 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.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force											DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>				R-1 ITEM NOMENCLATURE PE 0101125F: <i>NUCLEAR WEAPON</i> <i>MODERNIZATION</i>				PROJECT 657008: <i>LONG RANGE STAND-OFF</i>					
Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-	0.000	0.000	0.000
Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
LRSO Materiel Solution Analysis Phase activities	TBD	Various;	-	-		9.926	Nov 2011	-		9.926	Continuing	Continuing	0.000
Subtotal			-	-		9.926		-		9.926			0.000
Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-	0.000	0.000	0.000
Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-	0.000	0.000	0.000
			Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			-	-		9.926		-		9.926			0.000
Remarks													

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

3600: *Research, Development, Test & Evaluation, Air Force*
BA 5: *Development & Demonstration (SDD)*




R-1 ITEM NOMENCLATURE

PE 0101125F: *NUCLEAR WEAPON
MODERNIZATION*

PROJECT

657008: *LONG RANGE STAND-OFF*

0101225F LRSO Schedule

	FY10	FY11	FY12	FY13	FY14	FY15	FY16
MDD Preparation	 MDD						
Materiel Solution Analysis Phase							
Technology Development Phase				 A			

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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0101125F: <i>NUCLEAR WEAPON</i> <i>MODERNIZATION</i>	PROJECT 657008: <i>LONG RANGE STAND-OFF</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Materiel Development Decision Preparation	1	2010	2	2011
Materiel Development Decision	2	2011	2	2011
Materiel Solutions Analysis Phase	2	2011	3	2013
Milestone A Decision	3	2013	3	2013
Technology Development Phase	3	2013	4	2016

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>				R-1 ITEM NOMENCLATURE PE 0207100F: <i>LAAR Squadrons</i>							
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	-	-	23.721	-	23.721	-	-	-	-	Continuing	Continuing
657005: <i>Light Attack</i>	-	-	23.721	-	23.721	-	-	-	-	Continuing	Continuing

Note

In FY 2012, Project 657005, Light Attack, includes New Start efforts.

A. Mission Description and Budget Item Justification

Light Attack Armed Reconnaissance (LAAR) program will acquire an aircraft with modifications to satisfy the requirement for conducting strike, armed reconnaissance and advanced aircraft training for Irregular Warfare (IW) operations in support of Building Partnership Capacity (BPC) for lesser developed partner nations (PN). This program provides a CONUS based capability to support irregular warfare efforts that help prepare PN to defend and govern themselves by demonstrating a light armed and reconnaissance capability that is consistent with their needs for supporting infrastructure, performance, anticipated methods of employment, acquisition and sustainment costs, and multi-role/multi-mission capability. LAAR is for training U.S. pilots to train PN pilots; not for USAF combat employment.

Funding for LAAR is Budget Activity (BA) 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 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	-	-	-	-	-
Current President's Budget	-	-	23.721	-	23.721
Total Adjustments	-	-	23.721	-	23.721
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-	-	23.721	-	23.721

Change Summary Explanation

FY12 New Start Program.

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force								DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0207100F: LAAR Squadrons				PROJECT 657005: Light Attack			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
657005: Light Attack	-	-	23.721	-	23.721	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		
Note											
In FY 2012, Project 657005, Light Attack, includes New Start effort.											
A. Mission Description and Budget Item Justification											
Light Attack Armed Reconnaissance (LAAR) program will acquire an aircraft with modifications to satisfy the requirement for conducting strike, armed reconnaissance and advanced aircraft training for Irregular Warfare (IW) operations in support of Building Partnership Capacity (BPC) for lesser developed partner nations (PN). This program provides a CONUS based capability to support irregular warfare efforts that help prepare PN to defend and govern themselves by demonstrating a light armed and reconnaissance capability that is consistent with their needs for supporting infrastructure, performance, anticipated methods of employment, acquisition and sustainment costs, and multi-role/multi-mission capability. LAAR is for training U.S. pilots to train PN pilots; not for USAF combat employment.											
Funding for LAAR is Budget Activity (BA) 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. Accomplishments/Planned Programs (\$ in Millions)							FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: Light Attack							-	-	23.721	-	23.721
Description: Effort will acquire an aircraft with modifications to satisfy the requirement for conducting strike, armed reconnaissance and advanced aircraft training for Irregular Warfare (IW) operations in support of Building Partnership Capacity (BPC) for lesser developed partner nations (PN).											
FY 2010 Accomplishments:											
FY 2011 Plans:											
FY 2012 Base Plans:											
Funding supports system engineering, prime mission equipment (PME) integration, and test planning and execution; development and operational testing.											
FY 2012 OCO Plans:											
Accomplishments/Planned Programs Subtotals							-	-	23.721	-	23.721

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0207100F: <i>LAAR Squadrons</i>	PROJECT 657005: <i>Light Attack</i>	

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

<u>Line Item</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u> <u>Base</u>	<u>FY 2012</u> <u>OCO</u>	<u>FY 2012</u> <u>Total</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• PE 0207100F: <i>LAAR APAF BA</i> <i>05 BP10</i>	0.000	0.000	158.549	0.000	158.549	106.647	0.000	0.000	0.000	Continuing	Continuing

D. Acquisition Strategy

The USAF Light Attack Armed Reconnaissance (LAAR) effort will leverage the Light Air Support (LAS) Indefinite Deliveries/Indefinite Quantities (IDIQ) contract as a priced option if the technical requirements are validated to mirror this effort. Award follow-on task order for the LAAR aircraft estimated to be December 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.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force											DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0207100F: LAAR Squadrons				PROJECT 657005: Light Attack					

Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Weapon Integration	TBD	TBD:TBD,	-	-		23.721	Feb 2012	-		23.721	0.000	23.721	0.000
Test & Evaluation	TBD	TBD:TBD,	-	-		-	Feb 2012	-		-	0.000	0.000	0.000
Subtotal			-	-		23.721		-		23.721	0.000	23.721	0.000

Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-	0.000	0.000	0.000

Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-	0.000	0.000	0.000

Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-	0.000	0.000	0.000

Remarks Management costs are included in the "Product Development" line.													
			Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			-	-		23.721		-		23.721	0.000	23.721	0.000
Remarks													

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

3600: Research, Development, Test & Evaluation, Air Force
BA 5: Development & Demonstration (SDD)

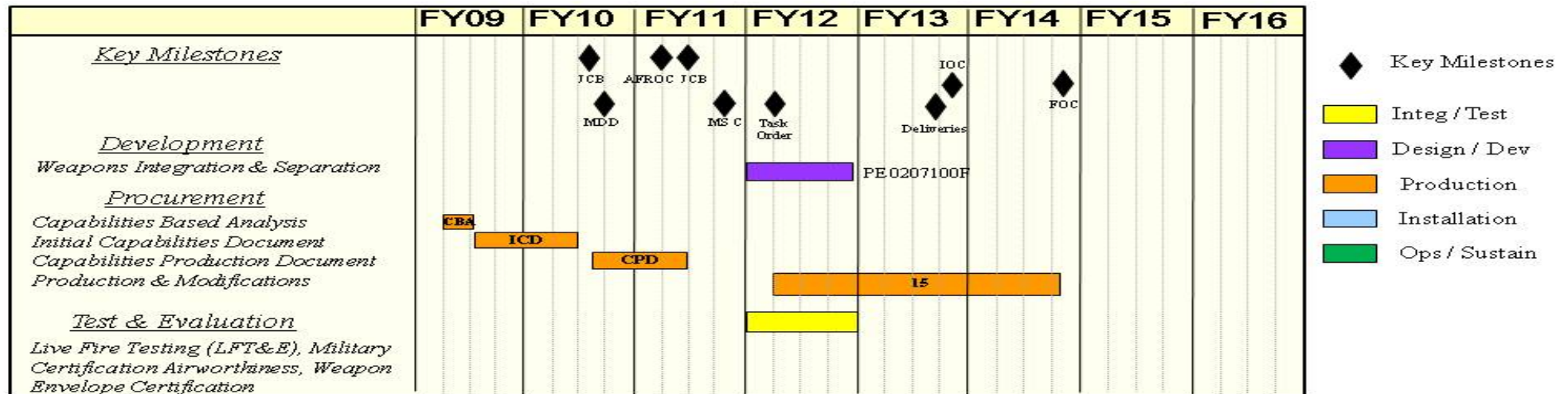
R-1 ITEM NOMENCLATURE

PE 0207100F: LAAR Squadrons

PROJECT

657005: Light Attack

Light Attack Armed Reconnaissance (LAAR)



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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0207100F: <i>LAAR Squadrons</i>	PROJECT 657005: <i>Light Attack</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Development (Weapon Integration and Separation Testing)	1	2012	4	2012
Test and Evaluation (LFT&E and Military Certification)	1	2012	4	2012

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE							
3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>				PE 0207451F: <i>Single Integrated Air Picture (SIAP)</i>							
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	12.939	1.832	-	-	-	-	-	-	-	Continuing	Continuing
655232: <i>Single Integrated Air Picture (SIAP)</i>	12.939	1.832	-	-	-	-	-	-	-	Continuing	Continuing

A. Mission Description and Budget Item Justification

In Fiscal Year 2012 (FY12), no Air Force requirement exists.

The Single Integrated Air Picture (SIAP) is a Joint Requirements Oversight Council (JROC) validated collaborative enterprise Special Interest Program. It comprises of multiple engineering and acquisition programs in each of the services and all linked by a joint program executive office. The product of fused data from multiple sensors - a System-of-System (SoS) that provides unambiguous, actionable tracks of all airborne objects in a surveillance volume. All airborne objects of interest must be detected, tracked, and reported. Every object must have one and only one track and set of identified characteristics. Weapon systems from each Service must see and act on the same track data consistently. The Army and Navy, with the help of the other services and MDA, are to harvest any usable components/capabilities from the Integrated Architecture Behavior Model (IABM) to aid in the development of a Joint Track Manager (JTM) for use in their weapon systems. The core set of SIAP SoS requirements are outlined in the SIAP Capabilities Development Document (CDD) generated by the US Joint Forces Command and validated by the JROC in Sep 2007. The SIAP CDD requirements will be achieved through the development and implementation of the SIAP SoS. The Air Force is applying expertise in various program offices to assist with: defining the JTM functionality, the required SIAP architecture, the definition of JTM, and the integration methodology for weapon systems and the airborne network.

Project 5232 funds Air Force specific JTM related engineering efforts including Air Force staff that works directly with the Joint SIAP Program Executive Office (JPEO) to help define and develop the functional content of the JTM. The Army and Navy, with the help from the other services and Missile Defense Agency (MDA), will conduct a JTM Demonstration in the fourth quarter of fiscal year 2011 to illustrate the results of their work.

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.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE
3600: <i>Research, Development, Test & Evaluation, Air Force</i>	PE 0207451F: <i>Single Integrated Air Picture (SIAP)</i>
BA 5: <i>Development & Demonstration (SDD)</i>	

B. Program Change Summary (\$ in Millions)	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012 Base</u>	<u>FY 2012 OCO</u>	<u>FY 2012 Total</u>
Previous President's Budget	13.399	1.832	-	-	-
Current President's Budget	12.939	1.832	-	-	-
Total Adjustments	-0.460	-	-	-	-
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-0.056	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.404	-			
• Other Adjustments	-	-	-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force									DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0207451F: Single Integrated Air Picture (SIAP)				PROJECT 655232: Single Integrated Air Picture (SIAP)			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
655232: Single Integrated Air Picture (SIAP)	12.939	1.832	-	-	-	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

The Single Integrated Air Picture (SIAP) was a Joint Requirements Oversight Council (JROC) validated collaborative enterprise Special Interest Program, comprising multiple engineering and acquisition programs in each of the services, all linked by a joint engineering and development organization. The product of fused data from multiple sensors - a "System of System" (SoS) that provides unambiguous, actionable tracks of all airborne objects in a surveillance volume. All airborne objects of interest must be detected, tracked, and reported. Every object must have one and only one track and set of identified characteristics. Weapon systems from each Service must see and act on the same track data consistently. The Army and Navy, with the help of the other services and MDA, are to harvest any usable components/capabilities from the IABM to aid in the development of a Joint Track Manager (JTM) for use in their weapon systems.

The core set of SIAP SoS requirements are outlined in the SIAP Capabilities Development Document (CDD) generated by the US Joint Forces Command and validated by the JROC in Sep 2007. The SIAP CDD requirements will be achieved through the development and implementation of the SIAP SoS.

The Air Force is applying expertise in various AF program offices to assist with defining the JTM functionality, the required SIAP architecture, the definition of JTM, and the integration methodology for AF weapon systems and the airborne network. Project 5232 funds AF specific JTM related engineering efforts including AF staff that works directly with the Joint SIAP Program Executive Office (JPEO) to help define and develop the functional content of the JTM. The Army and Navy, with the help from the other services and MDA, will conduct a JTM Demonstration to illustrate the results of their work.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: Development & Risk Reduction	8.090	-	-	-	-
Description: Development and Risk Reduction					
FY 2010 Accomplishments: Architecture analysis for Air and Missile Defense, develop next generation Integrated Data Registration capability (IDR), development and demo of Air Force Composite Tracking Network (AFTCN).					
FY 2011 Plans:					
FY 2012 Base Plans:					
FY 2012 OCO Plans:					

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)	R-1 ITEM NOMENCLATURE PE 0207451F: Single Integrated Air Picture (SIAP)	PROJECT 655232: Single Integrated Air Picture (SIAP)				
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: System Engineering Description: Engineering Support FY 2010 Accomplishments: ETASS Contract Support, AFC2IC Surviac Task, BC3 SME Support for JTM Analysis Team Meeting, AWACS/ MITRE SME Support, BOEING SME Support FY 2011 Plans: FY 2012 Base Plans: FY 2012 OCO Plans:		2.626	-	-	-	-
Title: Test & Evaluation Description: Test & Evaluation FY 2010 Accomplishments: CEIF, AWACS FY 2011 Plans: FY 2012 Base Plans: FY 2012 OCO Plans:		0.385	-	-	-	-
Title: Program Office Support Description: Program Office Support FY 2010 Accomplishments: PMA, Travel, PASS Contract Support FY 2011 Plans: PMA, Travel, MITRE, PASS and ETASS Contract Support FY 2012 Base Plans: FY 2012 OCO Plans:		1.838	1.832	-	-	-
Accomplishments/Planned Programs Subtotals		12.939	1.832	-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE	PROJECT
3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)	PE 0207451F: Single Integrated Air Picture (SIAP)	655232: Single Integrated Air Picture (SIAP)

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

Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• PE 0605452F: SIAP Joint Program Executive Office, RDT&E AF	14.877	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
• PE 0606323F: Multi-Service Systems Engineering, RDT&E AF	0.000	18.901	13.953	0.000	13.953	13.938	13.935	0.000	0.000	Continuing	Continuing

D. Acquisition Strategy

Program element terminated at the end of FY11.

E. Performance Metrics

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

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force											DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE				PROJECT					
3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)				PE 0207451F: Single Integrated Air Picture (SIAP)				655232: Single Integrated Air Picture (SIAP)					
Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
A3MD Development & Risk Reduction	C/CPFF	Raytheon:Tewksbury, MA	3.040	-		-		-		-	0.000	3.040	6.816
Battle Command & Control Center (BC3)	C/CPFF	Raytheon/Solipsys:Lexington Park, MA	0.250	-		-		-		-	0.000	0.250	0.250
Integrated Data Registration (IDR)	C/CPFF	BAE Systems:Wayne, NJ	2.800	-		-		-		-	0.000	2.800	2.800
Weapon System Support to MSSET	C/CPFF	Thales-Raytheon Systems:Fullerton, CA	2.000	-		-		-		-	0.000	2.000	2.107
Subtotal			8.090	-		-		-		-	0.000	8.090	11.973
Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
ESC Engineering Support	C/CPFF	Jacobs Technology:Lexington, MA	0.281	-		-		-		-	0.000	0.281	0.281
AFC2IC Surviac Task	C/CPFF	DTIC:Ft. Belvoir, VA	1.500	-		-		-		-	0.000	1.500	1.500
Battle Command & Control Center (BC3) Support	C/CPFF	SMDC:Lexington Park, MA	0.501	-		-		-		-	0.000	0.501	0.501
AWACS Support	C/CPFF	MITRE:Bedford, MA	0.080	-		-		-		-	0.000	0.080	0.080
BOEING Support	C/CPFF	BOEING:Seattle, WA	0.264	-		-		-		-	0.000	0.264	0.264
Subtotal			2.626	-		-		-		-	0.000	2.626	2.626
Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
CEIF Support	C/TBD	CEIF:Hanscom AFB, MA	0.184	-		-		-		-	0.000	0.184	2.933

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force											DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>				R-1 ITEM NOMENCLATURE PE 0207451F: <i>Single Integrated Air Picture (SIAP)</i>				PROJECT 655232: <i>Single Integrated Air Picture (SIAP)</i>					

Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
AWACS Demo Support	C/CPFF	BOEING:Seattle, WA	0.201	-		-		-		-	0.000	0.201	0.201
Subtotal			0.385	-		-		-		-	0.000	0.385	3.134

Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Office Support	C/TBD	PE Systems:Hanscom AFB, MA	1.838	1.832	Feb 2011	-		-		-	0.000	3.670	6.174
Subtotal			1.838	1.832		-		-		-	0.000	3.670	6.174

	Total Prior Years Cost	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	12.939	1.832	-	-	-	0.000	14.771	23.907

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

3600: Research, Development, Test & Evaluation, Air Force
BA 5: Development & Demonstration (SDD)

R-1 ITEM NOMENCLATURE

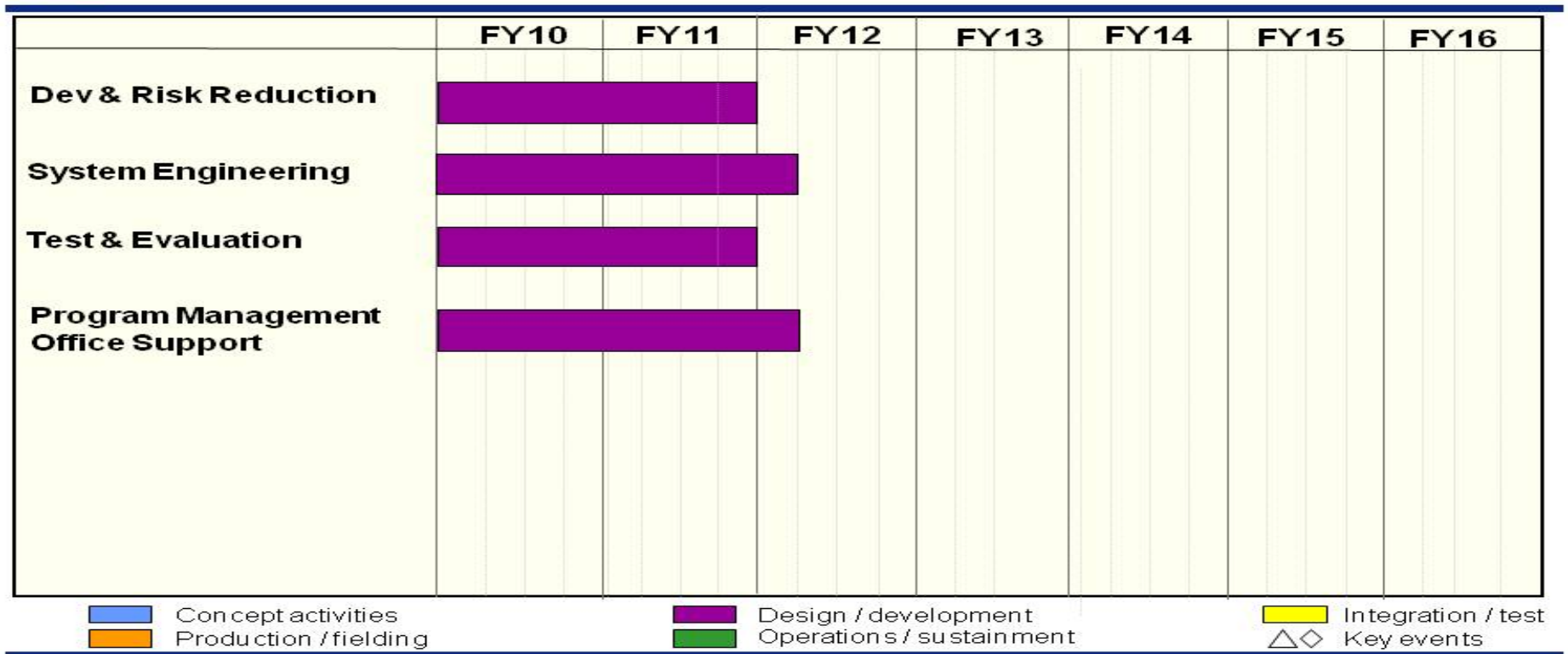
PE 0207451F: Single Integrated Air Picture (SIAP)

PROJECT

655232: Single Integrated Air Picture (SIAP)



Air Force JTM Schedule



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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0207451F: <i>Single Integrated Air Picture (SIAP)</i>	PROJECT 655232: <i>Single Integrated Air Picture (SIAP)</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Development & Risk Reduction	1	2010	4	2011
System Engineering	1	2010	1	2012
Test & Evaluation	1	2010	4	2011
Program Management Office Support	1	2010	1	2012

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE							
3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>				PE 0207701F: <i>Full Combat Mission Training</i>							
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	58.077	57.393	39.826	-	39.826	24.442	24.885	17.612	22.083	Continuing	Continuing
655012: <i>Full Combat Mission Training</i>	23.012	6.314	16.122	-	16.122	15.464	12.529	12.222	12.506	Continuing	Continuing
655354: <i>F-16 Block 40/50 MTC</i>	35.065	51.079	23.704	-	23.704	8.978	12.356	5.390	9.577	Continuing	Continuing

A. Mission Description and Budget Item Justification

The program funding includes reductions for overhead reduction efficiencies that are not intended to impact program content. The efficiencies reductions total \$1.743 in FY12.

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 Full Combat Mission Training is funded 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. 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.

RDT&E for Full Combat Mission Training is funded 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.

B. Program Change Summary (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	79.807	57.393	34.838	-	34.838
Current President's Budget	58.077	57.393	39.826	-	39.826
Total Adjustments	-21.730	-	4.988	-	4.988
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-21.730	-	4.988	-	4.988

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Air Force

R-1 Line Item #88

R-1 ITEM NOMENCLATURE

PE 0207701F: *Full Combat Mission Training*

FY12 ; Increased to align F-16 trainer development with updated Schedule and Cost Estimates

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force								DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0207701F: Full Combat Mission Training				PROJECT 655012: Full Combat Mission Training			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
655012: Full Combat Mission Training	23.012	6.314	16.122	-	16.122	15.464	12.529	12.222	12.506	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		
Note The program has been funded to latest cost estimate, less efficiencies. The reduction for efficiencies are not intended to impact program content.											
A. Mission Description and Budget Item Justification The program funding includes reductions for overhead reduction efficiencies that are not intended to impact program content. The efficiencies reductions total \$1.743 in FY12. 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. FY12 FCMT funding provides research in areas benefiting the AF DMO/LVC environment as a whole. Provides Mission Essential Competency studies and contract administration for new systems that support the initial Combat Air Forces (CAF) DMO/LVC capability. 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. 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. This porgram 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.											
B. Accomplishments/Planned Programs (\$ in Millions)							FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: Cross Domain Solutions (CDS)							4.085	1.340	4.605	-	4.605
Description: Development, demonstration and insertion of multi-level security capability.											
FY 2010 Accomplishments: CDS for F-15E and B-2											
FY 2011 Plans:											

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: 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 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Continue CDS for F-15E and B-2 FY 2012 Base Plans: 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 2012 OCO Plans:						
Title: Develop DMO Capabilities Description: Continue development, demonstration, studies and insertion of DMO/LVC related technologies and proficiency based continuation training strategies. FY 2010 Accomplishments: Continue network re-architecture initiative FY 2011 Plans: Continue network re-architecture initiative FY 2012 Base Plans: Enhance visual fidelity of F-22 simulators to support DMO capability. Develop network architecture initiatives for technology refresh and cost reductions; side by side feasibility testing of DMO and Global Information Grid (GIG) network. FY 2012 OCO Plans:		7.505	1.092	8.343	-	8.343
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 2010 Accomplishments: Refine methodology for linking knowledge, skills, and experiences to gaps and to training opportunities; completion of F-22 and F-15C Mission Essential Competencies (MEC) data and results; start F-15E and F-16 multirole MEC, and Joint Terminal Attack Control (JTAC) Close Air Support (CAS) MEC refresher; Complete		1.000	1.022	1.022	-	1.022

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: 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 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
definition and gap analyses for remotely piloted aircraft and mission areas; Develop competency-based scenarios for remotely piloted aircraft; Develop scenarios and syllabi for close air support live and virtual training. FY 2011 Plans: Complete F-15E and F-16 multirole process and results. Complete JTAC CAS MEC refresher; Refine development of MEC process for schoolhouse tactical training using A-10 and F-22 mission areas and schoolhouses as initial domains; Refine development of methods to link schoolhouse initial competency sets and MEC ops definitions and data; Validate close air support distributed mission training using competency-based methods in live and virtual environments. FY 2012 Base Plans: Evaluate training impact of Live, Virtual, and Constructive (LVC) integration with 4th generation systems; Complete evaluation of different mixes of live and virtual training in support of initial and refresher mission proficiency; Validate methodology for quantifying knowledge and skill proficiency for air to air and air to ground mission areas; Develop methods to integrate competency-based data into existing USAF sortie and experience tracking systems; Demonstrate proficiency tracking tools in two identified mission areas; Demonstrate integration of schoolhouse initial competency set data with recurring MEC requirements data for comprehensive LVC training development and management. FY 2012 OCO Plans:					
Title: Develop objective performance enhancement Description: Studies to develop objective performance enhancement and measurement tools, for use in the DMO/LVC environment. FY 2010 Accomplishments: Develop and integrate metrics and measurement reporting method for F-15C and F-22 performance measurement. Develop and refine data displays and visualization for air combat assessment. Complete development of authoring tools to permit ops definition of metrics and measures. Begin development of methods to routinely track and certify readiness and performance across live and virtual systems and events for operational squadrons; Demonstrate persistent performance measurement in F-15C and F-22 mission training centers; Demonstrate cross mission LVC performance assessment; Conduct field evaluation of persistent performance measurement at Aviano AB, IT. FY 2011 Plans:					
	1.000	1.022	1.022	-	1.022

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: 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 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Validate air-to-air and air-to-ground performance measures and visualization tools; Complete field evaluations of persistent readiness assessment in F-15C, F-16, and F-22 live and virtual contexts; Demonstrate integrated Close Air Support common metrics for ground controllers and air platforms; Validate metrics and visualization tools for remotely piloted aircraft readiness assessment; Complete validation of authoring tools to rapidly develop metrics for ops unit assessments and certification. FY 2012 Base Plans: Complete integrated data summaries of LVC performance measures for 4th gen systems; Design and validate performance based tools for mission planning and after action review; Develop 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; Demonstrate LVC performance measurement across mission areas and platforms; Demonstrate 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 2012 OCO Plans:						
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 2010 Accomplishments: Start Nellis LVC field study; implement study designs for alternate mixes of live and virtual training with F-15C and F-22 ops units; Develop LVC field evaluation design for integrated USAF and Australian RAAF coalition mission training; Complete distributed mission training study with Joint Terminal Attack and Control (JTAC) and remotely piloted aircraft virtual training; Complete initial ops evaluation of less-than-full-fidelity virtual training at Aviano AB, IT; Develop evaluation study design for integrated air combat and command and control LVC training. FY 2011 Plans: Complete initial USAF and Australian RAAF coalition mission training evaluation; Conduct field evaluation of integrated performance measurement and sortie tracking methods for ops readiness certification; Conduct additional studies of alternate mixes of live and virtual training with F-15E and F-16 ops squadrons; Complete second skill decay study evaluating impacts of different mixes of live and virtual training on combat skill retention and decay; Complete initial evaluation of Nellis LVC operational assessment. Integrate data into next spiral of		1.000	1.022	1.022	-	1.022

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: 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 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Nellis LVC operational assessment; Demonstrate common aircraft, range, and virtual environment performance measurement and tracking in Nellis LVC ops assessment. FY 2012 Base Plans: Refine LVC architecture and instrumentation to permit training effectiveness evaluations of 4th and 5th gen systems interoperating in LVC; Complete initial training effectiveness evaluation of RPA competency-based training with Combat Air Force units; Complete training effectiveness evaluations of JTAC training and rehearsal integrated with Air Support Operations and with RPA virtual and constructive environments; Complete field evaluation of deployable tactical trainers as part of USAFE LVC Construct; Complete assessment of the integration of JTAC training within the context of coalition mission training research and ops support with the British RAF. FY 2012 OCO Plans:						
Title: Other Network Studies Description: Research and development to provide for the integration of fielded and newly introduced, Air Force high-fidelity flight and mission trainers. FY 2010 Accomplishments: Study and demonstrate DMO network conversion to the GIG FY 2011 Plans: Continue study and demonstration of the DMO network conversion to the GIG FY 2012 Base Plans: FY 2012 OCO Plans:		3.467	0.100	-	-	-
Title: Program Office Support Description: Program Office Support FY 2010 Accomplishments: Program Office Support FY 2011 Plans:		4.955	0.716	0.108	-	0.108

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0207701F: <i>Full Combat Mission Training</i>	PROJECT 655012: <i>Full Combat Mission Training</i>
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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Program Office Support					
<i>FY 2012 Base Plans:</i> Program Office Support.					
<i>FY 2012 OCO Plans:</i>					
Accomplishments/Planned Programs Subtotals	23.012	6.314	16.122	-	16.122

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

<u>Line Item</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012 Base</u>	<u>FY 2012 OCO</u>	<u>FY 2012 Total</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• PE 0207701F: <i>Full Combat Mission Training, O & M, AF</i>	165.792	212.644	182.283	0.000	182.283	198.216	259.482	264.531	218.842	Continuing	Continuing

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 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 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 FCMT funds to ensure compatibility with the DMO-LVC environment. Additional DMO capable trainers will be acquired for those systems where current quantities are inadequate to meet training requirements using FCMT 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.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force											DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0207701F: Full Combat Mission Training				PROJECT 655012: Full Combat Mission Training						
Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
ASC/WNS AFMC	C/Various	ASC/WNS AFMC:Wright Patterson AFB, OH	121.474	0.992	Jan 2011	7.002	Jan 2012	-		7.002	Continuing	Continuing	0.000	
ASC/WWUS (F-22)	SS/CPIF	ASC/WWUS AFMC:Wright Patterson AFB, OH	69.500	0.200	Aug 2011	0.200	Aug 2012	-		0.200	Continuing	Continuing	0.000	
507 MASSG (B-52)	SS/FFP	507 MASSG:Hill AFB, UT	5.000	0.200	Aug 2011	-		-		-	0.000	5.200	0.000	
ASC/WNS (B-1, B-2 & Joint Terminal Control Training and Rehearsal System [JTC TRS]))	SS/CPIF	ASC/WNS AFMC:Wright Patterson AFB, OH	27.193	0.200	Feb 2011	2.639		-		2.639	Continuing	Continuing	0.000	
Subtotal			223.167	1.592		9.841		-		9.841			0.000	
Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Air Force Research Lab, 711 Human Performance Wing, Human	C/CPFF	711 HPW/RHA:Wright Patterson AFB, OH	17.402	3.066	Jan 2011	6.173	Jan 2012	-		6.173	Continuing	Continuing	0.000	
Subtotal			17.402	3.066		6.173		-		6.173			0.000	
Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Not specified.	TBD	Not specified.:Location not provided.	-	-		-		-		-	0.000	0.000	0.000	
Subtotal			-	-		-		-		-	0.000	0.000	0.000	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force											DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>				R-1 ITEM NOMENCLATURE PE 0207701F: <i>Full Combat Mission Training</i>				PROJECT 655012: <i>Full Combat Mission Training</i>						

Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Office Support	C/Various	ASC/WNS AFMC:Wright Patterson AFB, OH	30.032	1.656	Dec 2010	0.108	Dec 2011	-		0.108	Continuing	Continuing	0.000
Subtotal			30.032	1.656		0.108		-		0.108			0.000

	Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	270.601	6.314		16.122		-		16.122			0.000

Remarks

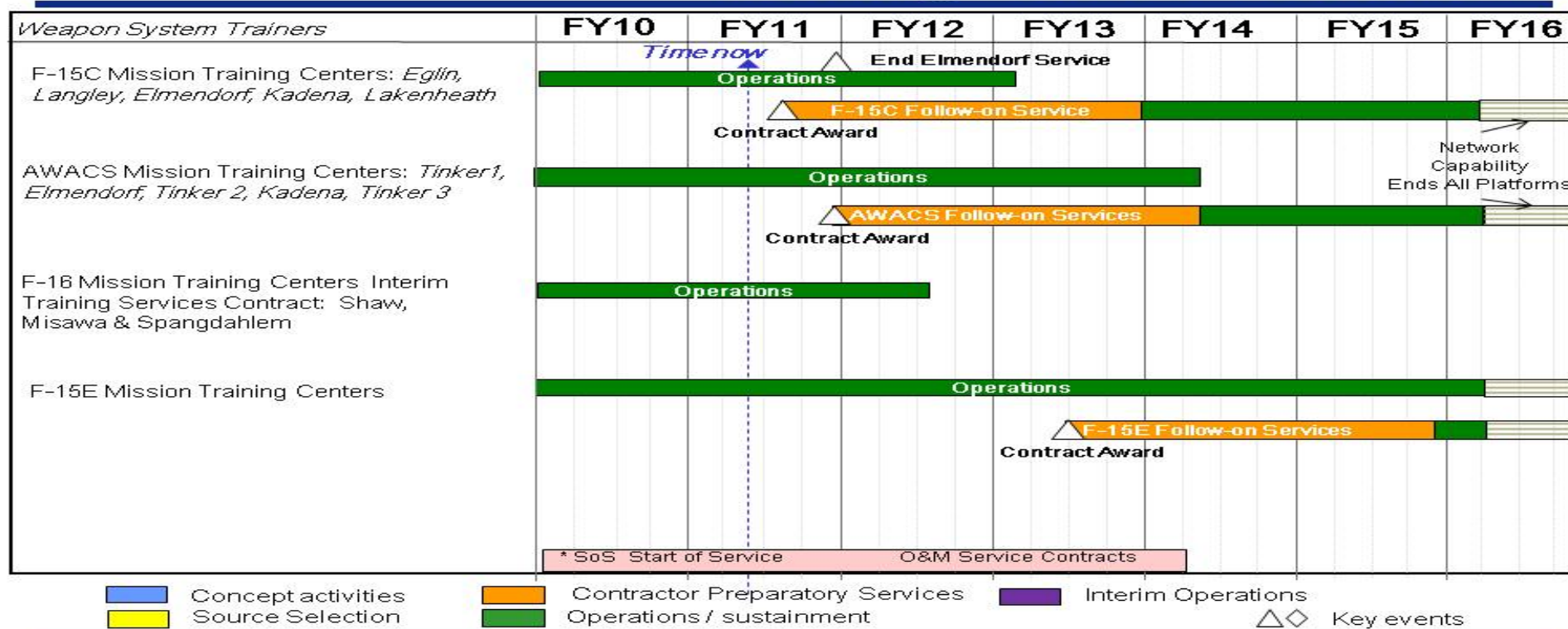
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APPROPRIATION/BUDGET ACTIVITY
3600: *Research, Development, Test & Evaluation, Air Force*
BA 5: *Development & Demonstration (SDD)*

PROJECT
655012: *Full Combat Mission Training*



**DMO
CAF Schedule
Training Service Contracts**



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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

3600: Research, Development, Test & Evaluation, Air Force
BA 5: Development & Demonstration (SDD)

R-1 ITEM NOMENCLATURE

PE 0207701F: Full Combat Mission Training

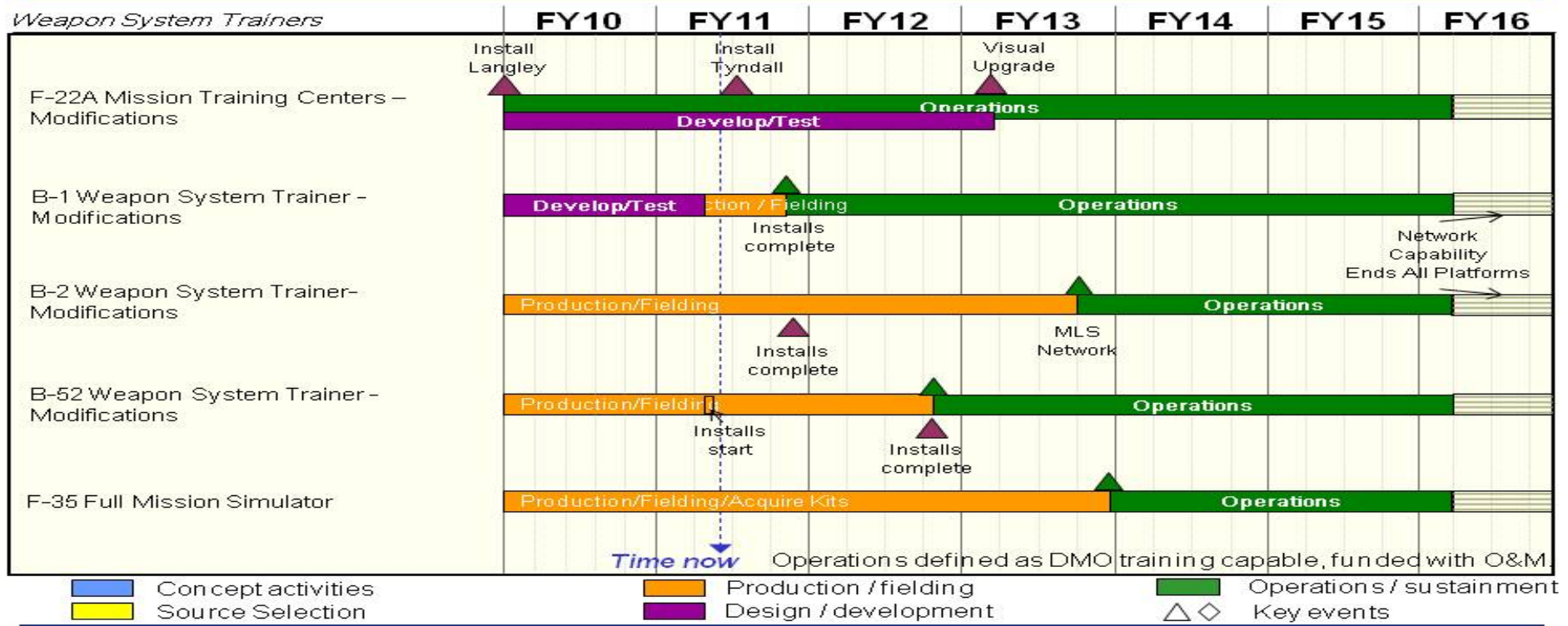
PROJECT

655012: Full Combat Mission Training



DMO CAF Schedule AF Owned Systems I

Weapon System Trainers



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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

3600: Research, Development, Test & Evaluation, Air Force
BA 5: Development & Demonstration (SDD)

R-1 ITEM NOMENCLATURE

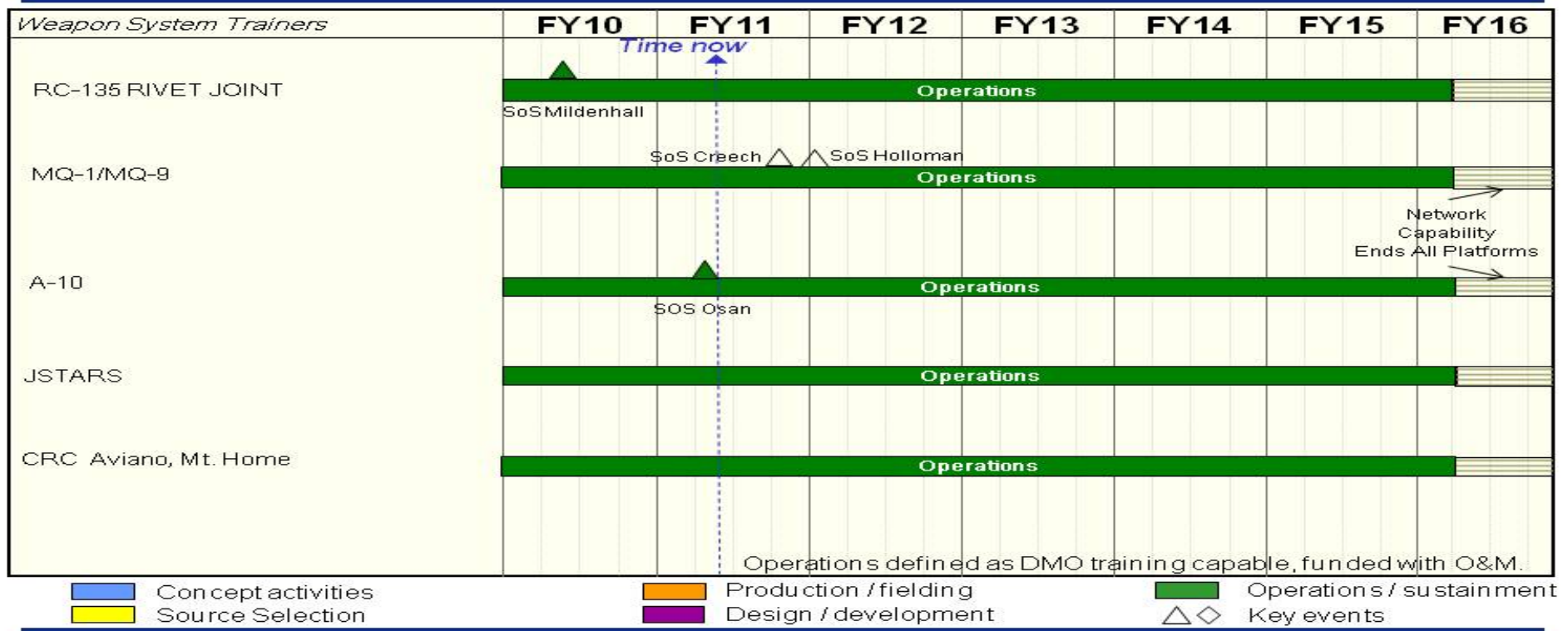
PE 0207701F: Full Combat Mission Training

PROJECT

655012: Full Combat Mission Training



DMO CAF Schedule AF Owned Systems II



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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0207701F: <i>Full Combat Mission Training</i>	PROJECT 655012: <i>Full Combat Mission Training</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
F-22 DMO Development Complete	1	2010	1	2013
F-22 Install: Langley	1	2010	1	2010
F-22 Install: Tyndall	3	2011	3	2011
B-1 Mod kits installed	2	2011	4	2011
B-2 Mod kits installed	4	2011	4	2011
B-2 Operations	4	2013	1	2016
B-52 Mod kits installed	2	2011	4	2012
F-35 Full Mission Simulator Operation	4	2013	1	2016

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force								DATE: February 2011				
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0207701F: Full Combat Mission Training				PROJECT 655354: F-16 Block 40/50 MTC				
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost	
655354: F-16 Block 40/50 MTC	35.065	51.079	23.704	-	23.704	8.978	12.356	5.390	9.577	Continuing	Continuing	
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0			
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. 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.												
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.												
B. Accomplishments/Planned Programs (\$ in Millions)								FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: F-16 MTC R&D								33.672	49.079	22.929	-	22.929
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 2010 Accomplishments: F-16 MTC Training System Support Center development. Includes, but is not limited to, the development and support of F-16 flight simulators.												
FY 2011 Plans: Continue F-16 MTC development, test and fielding												
FY 2012 Base Plans: Continue F-16 MTC development, test and fielding												
FY 2012 OCO Plans:												
Title: Program Office Support								1.393	2.000	0.775	-	0.775
Description: Program Office Support												

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force				DATE: February 2011	
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>		R-1 ITEM NOMENCLATURE PE 0207701F: <i>Full Combat Mission Training</i>		PROJECT 655354: <i>F-16 Block 40/50 MTC</i>	

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
<i>FY 2010 Accomplishments:</i> Program Office Support <i>FY 2011 Plans:</i> Program Office Support <i>FY 2012 Base Plans:</i> Program Office Support <i>FY 2012 OCO Plans:</i>					
Accomplishments/Planned Programs Subtotals	35.065	51.079	23.704	-	23.704

C. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012 Base</u>	<u>FY 2012 OCO</u>	<u>FY 2012 Total</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• PE 0207701F: <i>F-16 Block 40/50 MTC; APAF</i>	57.286	59.640	44.401	0.000	44.401	9.763	2.016	2.080	2.090	Continuing	Continuing

D. Acquisition Strategy
F-16 Block 40/50 MTCs are being developed and fielded under a competitively awarded 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.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force										DATE: February 2011				
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: 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)					FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Trainer Development	C/Various	L3 Comm, Link Simulation & Training:Arlington, TX	33.672	49.079	Dec 2010	22.929	Dec 2011	-		22.929	Continuing	Continuing	0.000	
Subtotal			33.672	49.079		22.929		-		22.929			0.000	
Support (\$ in Millions)					FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Subtotal			-	-		-		-		-	0.000	0.000	0.000	
Test and Evaluation (\$ in Millions)					FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Subtotal			-	-		-		-		-	0.000	0.000	0.000	
Management Services (\$ in Millions)					FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Program Office Support	C/FFP	ASC/WNS AFMC:Wright Patterson AFB, OH	1.393	2.000	Dec 2010	0.775	Dec 2011	-		0.775	Continuing	Continuing	0.000	
Subtotal			1.393	2.000		0.775		-		0.775			0.000	
			Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract	
Project Cost Totals			35.065	51.079		23.704		-		23.704			0.000	
Remarks														

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

3600: Research, Development, Test & Evaluation, Air Force
BA 5: Development & Demonstration (SDD)

R-1 ITEM NOMENCLATURE

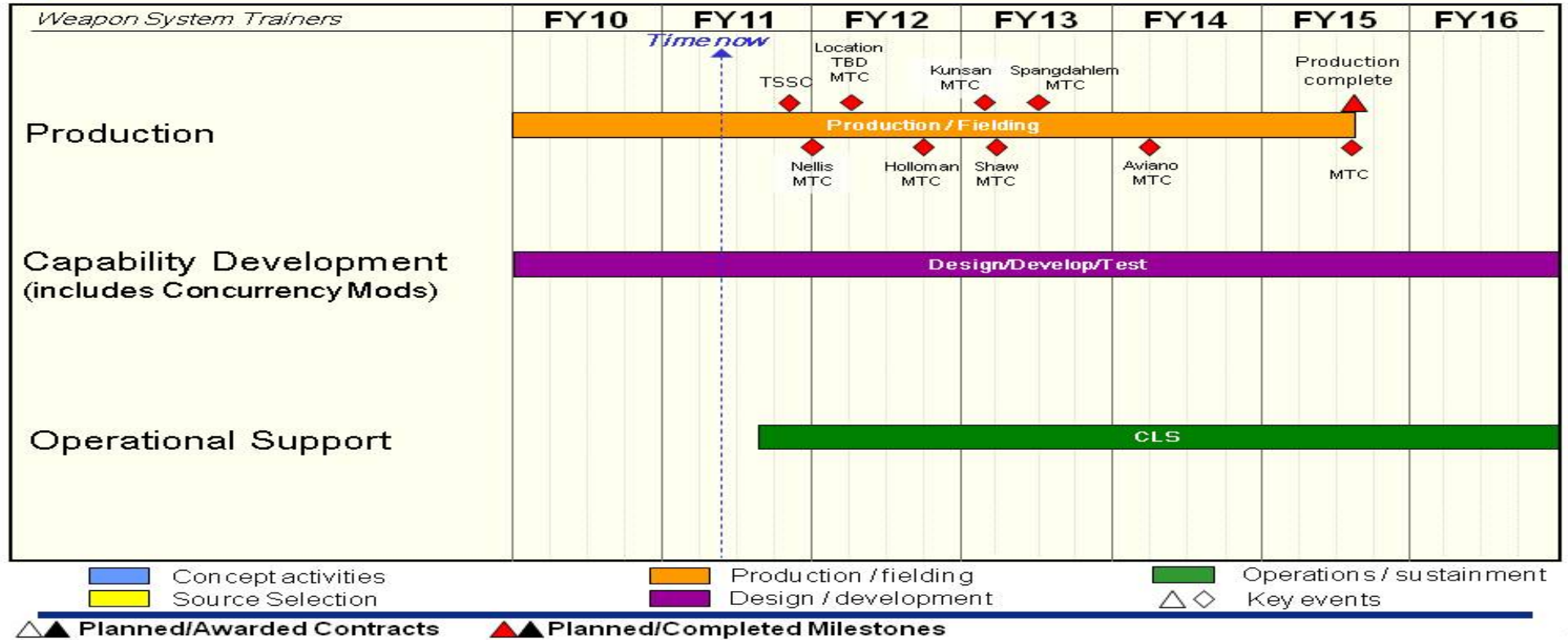
PE 0207701F: Full Combat Mission Training

PROJECT

655354: F-16 Block 40/50 MTC



F-16 Block 40/50 MTC Schedule



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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

3600: *Research, Development, Test & Evaluation, Air Force*
BA 5: *Development & Demonstration (SDD)*

R-1 ITEM NOMENCLATURE

PE 0207701F: *Full Combat Mission Training*

PROJECT

655354: *F-16 Block 40/50 MTC*

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Design/Develop/Test F-16 MTC, including concurrency mods	1	2010	4	2016
MTC #1 Nellis AFB NV Fielded	4	2011	4	2011
MTC #2 Location TBD Fielded	2	2012	2	2012
MTC #3 Holloman AFB NM Fielded	4	2012	4	2012
MTC #4 Kunsan AB Korea	1	2013	1	2013
MTC #5 Shaw AB SC	2	2013	2	2013
MTC #6 Spangdahlem AB GE	3	2013	3	2013
MTC #7 Aviano AB IT	1	2014	1	2014
MTC # 8 Production and Fielding Dependent of F-16 Aircraft	3	2015	3	2015

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>				R-1 ITEM NOMENCLATURE PE 0401138F: <i>Joint Cargo Aircraft</i>							
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	9.031	26.407	27.089	-	27.089	6.472	-	-	-	Continuing	Continuing
655259: C-27J	9.031	26.407	27.089	-	27.089	6.472	-	-	-	Continuing	Continuing

Note

Prior Years funding estimate is \$40.128M. The To Complete funding estimate is \$0.000.

A. Mission Description and Budget Item Justification

Totals include funding for Program Resources Collection Process (PRCP) Program Number 183, Joint Cargo Aircraft

The C-27J is a medium-size airlift aircraft that will provide 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.

The C-27J acquisition program began in FY07 as an Army-led joint program to acquire a commercial derivative aircraft capable of providing direct support airlift of TS/MC cargo to Army ground forces. A joint Army-Air Force source selection team chose the C-27J to provide this capability, and the Army awarded a firm fixed price (FFP) aircraft production and support contract to L3 Communications (L3 Com) in June 2007.

In FY10, the Air Force assumed full responsibility for the TS/MC direct support airlift mission and sole responsibility for managing the C-27J acquisition program. Thirteen C-27J aircraft procured by the Army in FY07-09 will be transferred to the Air Force as part of the transition from a joint program to an Air Force-only program.

FY12 Budget Justification:

Provides for the development and testing of aircrew and maintenance training devices necessary to support C-27J pilot and loadmaster mission qualification training, and to support training of C-27J maintenance personnel.

Provides for follow-on qualification and operational testing of the C-27J weapon system.

Provides for technical studies and analyses to investigate and develop solutions for: 1) weapon system deficiencies identified during initial qualification test and evaluation (QT&E), live fire test & evaluation (LFT&E), and operational test & evaluation (OT&E); 2) operational capability requirements identified by Air Mobility Command (AMC) and/or the Air National Guard (ANG); 3) technologies and equipment to enhance C-27J operational effectiveness, survivability, and sustainability; 4) maintaining aircraft airworthiness certifications.

Provides for updates to C-27J aircraft airworthiness certifications.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0401138F: <i>Joint Cargo Aircraft</i>
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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)	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012 Base</u>	<u>FY 2012 OCO</u>	<u>FY 2012 Total</u>
Previous President's Budget	9.353	26.407	18.920	-	18.920
Current President's Budget	9.031	26.407	27.089	-	27.089
Total Adjustments	-0.322	-	8.169	-	8.169
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-0.069	-			
• SBIR/STTR Transfer	-0.253	-			
• Other Adjustments	-	-	8.169	-	8.169

Change Summary Explanation

Funding was increased in FY12 to support the development, testing, and delivery of several aircrew and maintenance training devices, and to support follow-on test and evaluation of the C-27J weapon system.

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE				PROJECT			
3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)				PE 0401138F: Joint Cargo Aircraft				655259: C-27J			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
655259: C-27J	9.031	26.407	27.089	-	27.089	6.472	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

Totals include funding for Program Resources Collection Process (PRCP) Program Number 183, Joint Cargo Aircraft

The C-27J is a medium-size airlift aircraft that will provide 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.

The C-27J acquisition program began in FY07 as an Army-led joint program to acquire a commercial derivative aircraft capable of providing direct support airlift of TS/MC cargo to Army ground forces. A joint Army-Air Force source selection team chose the C-27J to provide this capability, and the Army awarded a firm fixed price (FFP) aircraft production and support contract to L3 Communications (L3 Com) in June 2007.

In FY10, the Air Force assumed full responsibility for the TS/MC direct support airlift mission and sole responsibility for managing the C-27J acquisition program. Thirteen C-27J aircraft procured by the Army in FY07-09 will be transferred to the Air Force as part of the transition from a joint program to an Air Force-only program.

FY12 Budget Justification:

Provides for the development and testing of aircrew and maintenance training devices necessary to support C-27J pilot and loadmaster mission qualification training, and to support training of C-27J maintenance personnel.

Provides for follow-on qualification and operational testing of the C-27J weapon system.

Provides for technical studies and analyses to investigate and develop solutions for: 1) weapon system deficiencies identified during initial qualification test and evaluation (QT&E), live fire test & evaluation (LFT&E), and operational test & evaluation (OT&E); 2) operational capability requirements identified by Air Mobility Command (AMC) and/or the Air National Guard (ANG); 3) technologies and equipment to enhance C-27J operational effectiveness, survivability, and sustainability; 4) maintaining aircraft airworthiness certifications.

Provides for updates to C-27J aircraft airworthiness certifications.

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.

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)	R-1 ITEM NOMENCLATURE PE 0401138F: Joint Cargo Aircraft	PROJECT 655259: C-27J				
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: Training System Development Description: Develop, test, and field first-article C-27J aircrew and maintenance training devices. FY 2010 Accomplishments: Developed system requirements documents for C-27J training devices. FY 2011 Plans: Initiate the development of C-27J aircrew and maintenance training devices, including a virtual cockpit trainer (VCT), a loadmaster crew resource management trainer (LMCRMT), a cockpit procedures trainer (CPT), and virtual aircraft maintenance training (VAMT) devices. FY 2012 Base Plans: Complete the development of, and validate/verify the performance of the VCT, LMCRMT, CPT, and VAMT devices. FY 2012 OCO Plans:		-	17.092	18.594	-	18.594
Title: Test & Evaluation Description: Conduct initial and follow-on QT&E and OT&E of the C-27J weapon system. FY 2010 Accomplishments: Completed initial QT&E, LFT&E, and OT&E on the C-27J weapon system. FY 2011 Plans: Conduct QT&E of aircraft mission computer software changes. Conduct follow-on test and evaluation of C-27J deficiencies and enhancements identified during initial QT&E and OT&E. FY 2012 Base Plans: Conduct follow-on test and evaluation of C-27J deficiencies and enhancements identified in initial QT&E and OT&E. Conduct follow-on OT&E of organic flightline maintenance capability. FY 2012 OCO Plans:		6.535	3.128	3.367	-	3.367
Title: Studies & Analyses Description: Conduct studies and analyses of C-27J deficiencies and emerging operational capability requirements. Maintain aircraft type and airworthiness certifications.		2.496	6.187	5.128	-	5.128

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0401138F: <i>Joint Cargo Aircraft</i>	PROJECT 655259: <i>C-27J</i>	

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
<i>FY 2010 Accomplishments:</i> Investigated cargo compartment pallet locking rail deficiencies identified in initial OT&E. Developed and tested C-27J aircraft/weapons/electronics interface modules for Air Force mission planning systems. Completed commercial aircraft type certification.					
<i>FY 2011 Plans:</i> Develop and evaluate a solution for the cargo compartment pallet locking rail deficiency. Investigate and develop recommendations to correct weapon system deficiencies identified in initial QT&E/OT&E. Complete military aircraft type certification.					
<i>FY 2012 Base Plans:</i> Investigate and develop recommendations to correct weapon system deficiencies identified in initial QT&E/OT&E. Investigate requirements and develop recommendations to address Federal Aviation Administration (FAA) mandated communication, navigation, identification and air traffic management requirements.					
<i>FY 2012 OCO Plans:</i>					
Accomplishments/Planned Programs Subtotals	9.031	26.407	27.089	-	27.089

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

<u>Line Item</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012 Base</u>	<u>FY 2012 OCO</u>	<u>FY 2012 Total</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• PE 0401138F: <i>APAF, AF</i>	318.066	351.200	571.582	0.000	571.582	189.841	105.733	47.814	20.957	Continuing	Continuing

D. Acquisition Strategy

Training System Development: In FY11, negotiate a firm fixed price (FFP) contract/contract modification for the development, testing, and delivery of a VCT, LMCRT, CPT, and VAMTs for C-27J aircrew and maintenance personnel. These training systems will be incrementally funded over a two-year timeframe (FY11-12), and are expected to be fielded in the 3Q/FY14 timeframe.

Test and Evaluation: Provide funding to government test and evaluation organizations via military interdepartmental purchase requests.

Technical Studies & Analyses: Exercise a FFP contract line item number (CLIN) for L3 Com engineering support services (ESS), and/or modify the contract via engineering change proposals. Analysis requirements will be determined by the government and may include evaluation of: product quality deficiency reports (PQDR), FAA airworthiness directives, vendor service bulletins, AMC/ANG operational capability requirements, FAA mandated Communication-Navigation-Surveillance and Air Traffic Management (CNS/ATM) requirements, component obsolescence and diminishing manufacturing source issues, technology refresh requirements, aircrew

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0401138F: <i>Joint Cargo Aircraft</i>	PROJECT 655259: <i>C-27J</i>

and maintenance training requirements and tasks, and the transition of product support responsibilities from interim contractor support (ICS) to approved long-term sustainment strategies.

System/Airworthiness Certification: Provide funding to ASC/EN for maintenance of C-27J aircraft type and airworthiness certifications.

E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air 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-3, RDT&E Project Cost Analysis: PB 2012 Air Force											DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0401138F: Joint Cargo Aircraft				PROJECT 655259: C-27J						
Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Training System Development	C/FFP	TBD:,	-	17.092	Jun 2011	18.594		-		18.594	0.000	35.686	35.686	
Mission Planning System Development	Various	Various:,	2.863	-		-		-		-	0.000	2.863	0.000	
Aircraft Type & Airworthiness Certification	Various	Various:,	2.772	0.100		0.050		-		0.050	0.050	2.972	0.000	
Subtotal			5.635	17.192		18.644		-		18.644	0.050	41.521	35.686	
Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Contractor Engineering Support Services/Data	C/FFP	L3 Com:Waco, TX	10.186	6.087	Mar 2011	5.078	Jan 2012	-		5.078	3.548	24.899	0.000	
Business Case Analysis	C/FFP	Belzon:Huntsville, AL	4.549	-		-		-		-	0.000	4.549	0.000	
Government Studies & Analyses	Various	Various:,	1.914	-		-		-		-	0.000	1.914	0.000	
Subtotal			16.649	6.087		5.078		-		5.078	3.548	31.362	0.000	
Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Qualification and Operational Test & Evaluation	MIPR	Various:,	20.175	2.758		3.000		-		3.000	2.500	28.433	0.000	
Subtotal			20.175	2.758		3.000		-		3.000	2.500	28.433	0.000	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force											DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>				R-1 ITEM NOMENCLATURE PE 0401138F: <i>Joint Cargo Aircraft</i>				PROJECT 655259: <i>C-27J</i>					

Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Office/Mission Support	Various	Various:,	6.700	0.370		0.367		-		0.367	0.374	7.811	0.000
Subtotal			6.700	0.370		0.367		-		0.367	0.374	7.811	0.000

	Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	49.159	26.407		27.089		-		27.089	6.472	109.127	35.686

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

3600: Research, Development, Test & Evaluation, Air Force
BA 5: Development & Demonstration (SDD)

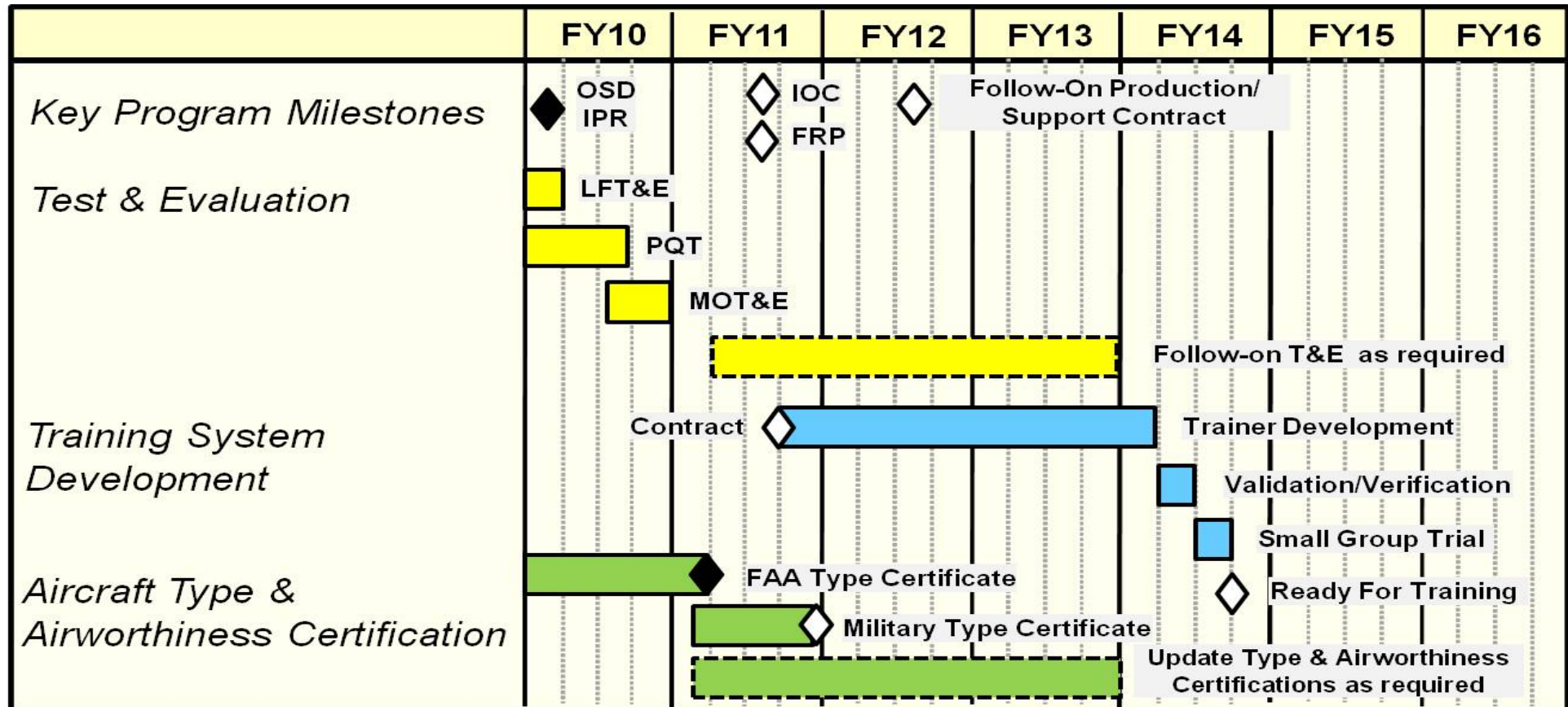
R-1 ITEM NOMENCLATURE

PE 0401138F: Joint Cargo Aircraft

PROJECT

655259: C-27J

C-27J RDT&E Activities



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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0401138F: <i>Joint Cargo Aircraft</i>	PROJECT 655259: <i>C-27J</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
OSD Interim Program Review (IPR)	1	2010	1	2010
Initial Operational Capability (IOC)	3	2011	3	2011
Full-Rate Production (FRP) Decision Review	3	2011	3	2011
Follow-On Production/Support Contract	3	2012	3	2012
Live Fire Test & Evaluation (LFT&E)	1	2010	1	2010
Product Qualification Test (PQT)	1	2010	3	2010
Multi-Service Operational Test & Evaluation (MOT&E)	3	2010	4	2010
Training Systems Development	3	2011	1	2014
Training Systems Validation/Verification	2	2014	2	2014
Small Group Trial	3	2014	3	2014
Training Systems Ready For Training Certification	3	2014	3	2014
FAA Commercial Aircraft Type Certificate	1	2011	1	2011
Air Force Supplemental Military Aircraft Type Certificate	4	2011	4	2011

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0401318F: CV-22
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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	18.953	18.270	20.723	-	20.723	22.658	20.998	20.625	14.069	Continuing	Continuing
654103: CV-22	18.953	18.270	20.723	-	20.723	22.658	20.998	20.625	14.069	Continuing	Continuing

A. Mission Description and Budget Item Justification

Totals include funding for Program Resources Coollection Process (PRCP) Program Number 212, V-22 Osprey Joint Advance Vertical Lift Aircraft.

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 adds terrain following radar, additional fuel tanks, additional radios, flare/chaff dispensers, RF/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. 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 2016. 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 correction of deficiencies and Block 20 development. 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 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.

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

The program funding includes reductions for overhead reduction efficiencies that are not intended to impact program content. The efficiencies reductions total \$0.282M in FY 2012.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0401318F: CV-22
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B. Program Change Summary (\$ in Millions)	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012 Base</u>	<u>FY 2012 OCO</u>	<u>FY 2012 Total</u>
Previous President's Budget	19.640	18.270	21.983	-	21.983
Current President's Budget	18.953	18.270	20.723	-	20.723
Total Adjustments	-0.687	-	-1.260	-	-1.260
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-0.082	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.605	-			
• Other Adjustments	-	-	-1.260	-	-1.260

Change Summary Explanation

In FY 2012, in addition to the adjustment for efficiencies (-\$0.282M), the program was adjusted -\$0.909M for underexecution and -\$0.069M for inflation.

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0401318F: CV-22	PROJECT 654103: CV-22
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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
654103: CV-22	18.953	18.270	20.723	-	20.723	22.658	20.998	20.625	14.069	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

Totals include funding for Program Resources Coollection Process (PRCP) Program Number 212, V-22 Osprey Joint Advance Vertical Lift Aircraft.

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 adds terrain following radar, additional fuel tanks, additional radios, flare/chaff dispensers, RF/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. 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 2016. 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 correction of deficiencies and Block 20 development. 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 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.

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

The program funding includes reductions for overhead reduction efficiencies that are not intended to impact program content. The efficiencies reductions total \$0.282M in FY 2012.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: CV-22 Block 20 RDT&E	18.953	18.270	20.723	-	20.723
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.					

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0401318F: CV-22	PROJECT 654103: CV-22	

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
<p><i>FY 2010 Accomplishments:</i> RDT&E activities will continue on Block 20. Block 20 development includes, but is not limited to improved brakes, communications, software, and other requirements specified in the V-22 Block C/20 Capabilities Production Document. Initiate Block 20 Increment 3 and continue Increment 1 & 2 efforts. Complete improved brakes System Requirements Review (SRR).</p> <p><i>FY 2011 Plans:</i> RDT&E activities will continue on Block 20. 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. Complete Line-of-sight communications Critical Design Review (CDR). Continue Increment 1, 2 & 3 efforts.</p> <p><i>FY 2012 Base Plans:</i> RDT&E activities will continue on Block 20. 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. Complete line-of-sight communications proof of concept testing. Complete long-range communications System Requirements Review (SRR) and System Functional Review (SFR). Continue Increment 1, 2 & 3 efforts.</p> <p><i>FY 2012 OCO Plans:</i></p>					
Accomplishments/Planned Programs Subtotals	18.953	18.270	20.723	-	20.723

C. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012 Base</u>	<u>FY 2012 OCO</u>	<u>FY 2012 Total</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• PE 1160421BB: CV-22 RDT&E, Defense-wide	12.214	14.406	10.775	0.000	10.775	0.000	0.000	0.000	0.000	Continuing	Continuing
• PE 1160421BB (1): CV-22 AP, Defense-wide	115.382	124.035	118.002	15.000	133.002	121.955	89.158	11.308	6.415	Continuing	Continuing
• PE 0401318F: CV-22 APAF	597.591	530.105	432.030	70.000	502.030	414.100	325.811	133.128	50.781	Continuing	Continuing
	78.866	46.070	84.477	0.000	84.477	64.982	36.685	51.603	53.043	Continuing	Continuing

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force										DATE: February 2011	
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>				R-1 ITEM NOMENCLATURE PE 0401318F: CV-22				PROJECT 654103: CV-22			
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
<ul style="list-style-type: none"> • PE 0604262N: V-22 RDT&E, N BA 05 											
D. Acquisition Strategy											
<p>The V-22 Program Office (NAVAIR 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.</p> <p>NAVAIRSYSCOM awarded a cost plus fixed fee contract with the prime contractor in Dec 2007 for Block 20 development and test. Future Block 20 increments are expected to use cost plus incentive fee (CPIF) arrangements. NAVAIRSYSCOM modified the Block 20 contract in Mar 2010 to add CPIF contract line item numbers (CLINs) for Block 20 increment 3 development and test.</p> <p>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.</p>											
E. Performance Metrics											
<p>Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.</p>											

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force											DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE				PROJECT						
3600: Research, Development, Test & Evaluation, Air Force				PE 0401318F: CV-22				654103: CV-22						
BA 5: Development & Demonstration (SDD)														
Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Development of 2 Production Representative Test Vehicles	SS/CPAF	Bell Boeing:Amarillo, TX	161.859	-		-		-		-	0.000	161.859	0.000	
Block 10 Development	SS/CPAF	Bell Boeing:Amarillo, TX	44.025	-		-		-		-	0.000	44.025	0.000	
Block 10 Development Technical Support	Various	Various:Various,	11.886	-		-		-		-	0.000	11.886	0.000	
Block 20 Development	SS/CPFF	Bell Boeing:Amarillo, TX	37.650	10.938	Dec 2010	15.263	Dec 2011	-		15.263	60.300	124.151	166.727	
Situational Awareness Hazard Avoidance Federated Terminal (SHAFT) Contractual Engineering Task (CET)	C/CPAF	Manufacturing Technology Inc:Fort Walton Beach, FL	5.000	-		-		-		-	0.000	5.000	0.000	
Subtotal			260.420	10.938		15.263		-		15.263	60.300	346.921	166.727	
Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Interim Contractor Support	SS/CPAF	Bell Boeing:Amarillo, TX	26.889	-		-		-		-	0.000	26.889	0.000	
Contractor Logistics Support for Test Aircraft	Various	Various:Various,	7.817	3.958	Dec 2010	1.860	Dec 2011	-		1.860	10.700	24.335	0.000	
Subtotal			34.706	3.958		1.860		-		1.860	10.700	51.224	0.000	
Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Test & Evaluation	SS/CPFF	Bell Boeing:Amarillo, TX	22.831	3.374	Feb 2011	2.600	Feb 2012	-		2.600	10.700	39.505	0.000	
	MIPR	Various:Various,	4.678	-		1.000	Dec 2011	-		1.000	14.500	20.178	0.000	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0401318F: CV-22	PROJECT 654103: CV-22
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Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Test & Evaluation Technical Support													
Subtotal			27.509	3.374		3.600		-		3.600	25.200	59.683	0.000

Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Management Support	MIPR	Various:Various,	2.119	-		-		-		-	0.000	2.119	0.000
Subtotal			2.119	-		-		-		-	0.000	2.119	0.000

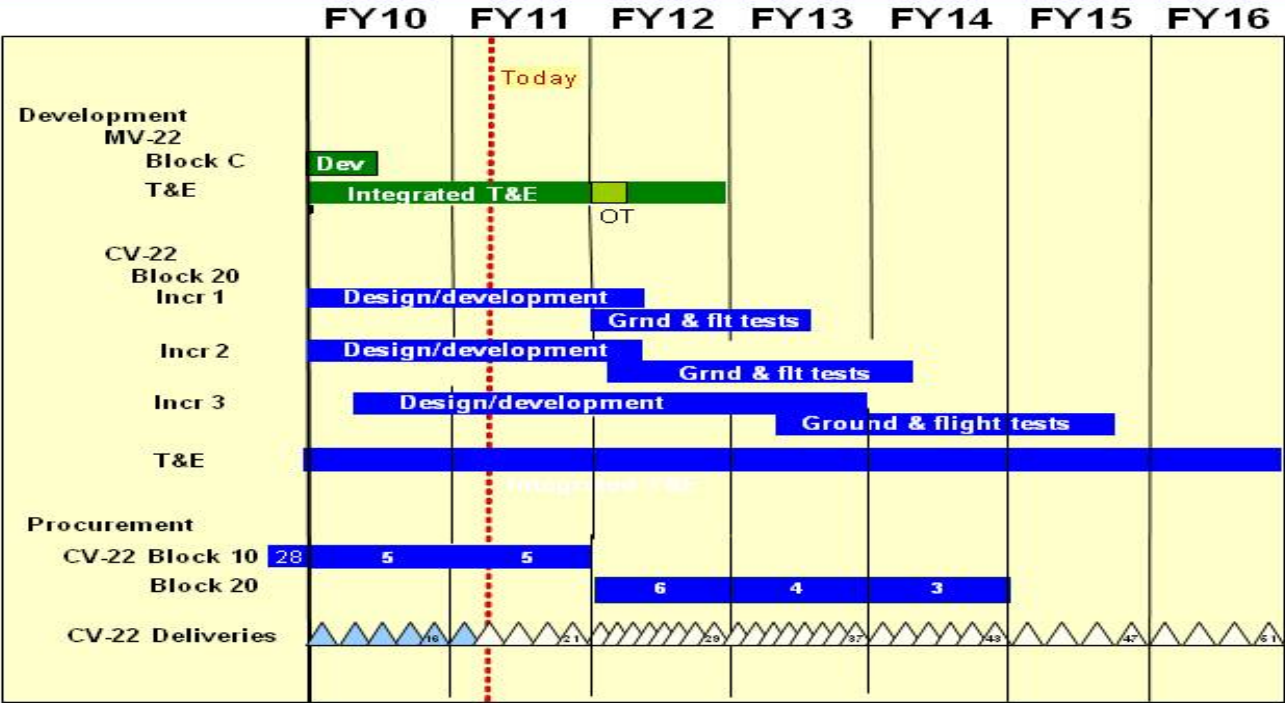
			Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			324.754	18.270		20.723		-		20.723	96.200	459.947	166.727

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)	R-1 ITEM NOMENCLATURE PE 0401318F: CV-22	PROJECT 654103: CV-22

CV-22
Schedule



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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

3600: *Research, Development, Test & Evaluation, Air Force*
BA 5: *Development & Demonstration (SDD)*

R-1 ITEM NOMENCLATURE

PE 0401318F: CV-22

PROJECT

654103: CV-22

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Block 20 Increment 1 Development, Testing and Evaluation	1	2010	2	2013
Line-of-site Comm development and design reviews	1	2010	2	2012
Line-of-site Comm ground and flight tests	1	2012	1	2013
Block 20 Increment 2 Development, Testing and Evaluation	1	2010	2	2014
Situational awareness and avionics upgrades design reviews	1	2010	1	2012
Situational awareness/avionics upgrades ground & flight tests	1	2012	1	2014
Block 20 Increment 3 Development, Testing and Evaluation	2	2010	3	2015
Brake-by-wire System Requirements Review	2	2010	4	2010
Long range comm upgrades development and design reviews	3	2011	4	2013
Long range comm upgrades ground and flight tests	2	2013	3	2015

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE							
3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>				PE 0401845F: SLC3S-A (Senior Leader C3S)							
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	19.892	15.826	12.535	-	12.535	1.991	-	-	-	Continuing	Continuing
655273: SLC3S-A <i>Communications Program</i>	19.892	15.826	12.535	-	12.535	1.991	-	-	-	Continuing	Continuing

A. Mission Description and Budget Item Justification

The Senior Leader Command, Control, and Communications System - Airborne (SLC3S-A) provides 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 SLC3S-A capabilities include 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 SLC3S-A services determine America's victories or setbacks on the battlefield. The SLC3S-A Program will standardize the back-end communications architecture, off-board transmission systems, ground support networks, and Roll-on/Roll-off assets. The SLC3S-A Communications Program (SCP) is the first standardization effort and will address the back-end communications suite. Activities also include upgrades to the VIPSAM back end communications architecture to provide common capabilities and functionality, 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 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 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	19.976	15.826	3.627	-	3.627
Current President's Budget	19.892	15.826	12.535	-	12.535
Total Adjustments	-0.084	-	8.908	-	8.908
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-0.084	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-	-	8.908	-	8.908

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)	R-1 ITEM NOMENCLATURE PE 0401845F: SLC3S-A (Senior Leader C3S)	
<u>Change Summary Explanation</u> FY12 RDT&E funding increased to meet funding required for SLC3S-A development contracts.		

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force									DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0401845F: SLC3S-A (Senior Leader C3S)				PROJECT 655273: SLC3S-A Communications Program			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
655273: SLC3S-A Communications Program	19.892	15.826	12.535	-	12.535	1.991	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

The Senior Leader Command, Control, and Communications System - Airborne (SLC3S-A) provides 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 SLC3S-A capabilities include 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 SLC3S-A services determine America's victories or setbacks on the battlefield. The SLC3S-A Program will standardize the back-end communications architecture, off-board transmission systems, ground support networks, and Roll-on/Roll-off assets. The SLC3S-A Communications Program (SCP) is the first standardization effort and will address the back-end communications suite. Activities also include upgrades to the VIPSAM back end communications architecture to provide common capabilities and functionality, 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 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 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: SLC3S-A Communications Program (SCP)	19.892	15.826	12.535	-	12.535
Description: Develop a standardized command, control, communications (C3) system to provide voice, data, and video communications for airborne platforms for Senior Leaders.					
FY 2010 Accomplishments: Awarded SCP contract. Began the development, testing, certification, data item development, and training of the SCP for Aircraft Variant 1 (C-37) and Aircraft Variant 2 (C-20, C-32, C-40).					
FY 2011 Plans:					

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force				DATE: February 2011	
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>		R-1 ITEM NOMENCLATURE PE 0401845F: <i>SLC3S-A (Senior Leader C3S)</i>		PROJECT 655273: <i>SLC3S-A Communications Program</i>	

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Continue the development, testing, certification, data item development, and training of the SCP for Aircraft Variant 1 (C-37) and Aircraft Variant 2 (C-20,C-32, C-40). FY 2012 Base Plans: Will continue the development, testing, certification, data item development, and training of the SCP for Aircraft Variant 1 (C-37) and Aircraft Variant 2 (C-20,C-32, C-40). FY 2012 OCO Plans:					
Accomplishments/Planned Programs Subtotals	19.892	15.826	12.535	-	12.535

C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• PE 0401845F: <i>SLC3S-A (SCP), APAF (C-20, C-32, C-37, C-40)</i>	0.286	32.812	31.981	0.000	31.981	14.000	17.841	18.194	9.743	Continuing	Continuing

D. Acquisition Strategy
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).

E. Performance Metrics
Please refer to the Performance Base Budget Overview Book for information on how Air 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-3, RDT&E Project Cost Analysis: PB 2012 Air Force											DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0401845F: SLC3S-A (Senior Leader C3S)				PROJECT 655273: SLC3S-A Communications Program						
Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	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	22.495	10.351	Dec 2010	7.567	Jan 2012	-		7.567	0.000	40.413	TBD	
Development of Program Specifications and Acquisition Documentation and Risk Reduction Efforts	Various	Various:Various,	5.158	2.735	Dec 2010	2.100	Jan 2012	-		2.100	2.000	11.993	TBD	
Subtotal			27.653	13.086		9.667		-		9.667	2.000	52.406		
Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Subtotal			-	-		-		-		-	0.000	0.000	0.000	
Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Government Test and Eval	Various	Various:Various,	0.846	0.778	Jan 2011	0.220	Jan 2012	-		0.220	Continuing	Continuing	TBD	
Subtotal			0.846	0.778		0.220		-		0.220				
Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
SCP Program Management	Various	Various:Various,	5.299	1.962	Jan 2011	2.648	Oct 2011	-		2.648	Continuing	Continuing	TBD	
Subtotal			5.299	1.962		2.648		-		2.648				

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force						DATE: February 2011	
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>			R-1 ITEM NOMENCLATURE PE 0401845F: <i>SLC3S-A (Senior Leader C3S)</i>			PROJECT 655273: <i>SLC3S-A Communications Program</i>	

	Total Prior Years Cost	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	33.798	15.826	12.535	-	12.535			

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

3600: Research, Development, Test & Evaluation, Air Force
BA 5: Development & Demonstration (SDD)

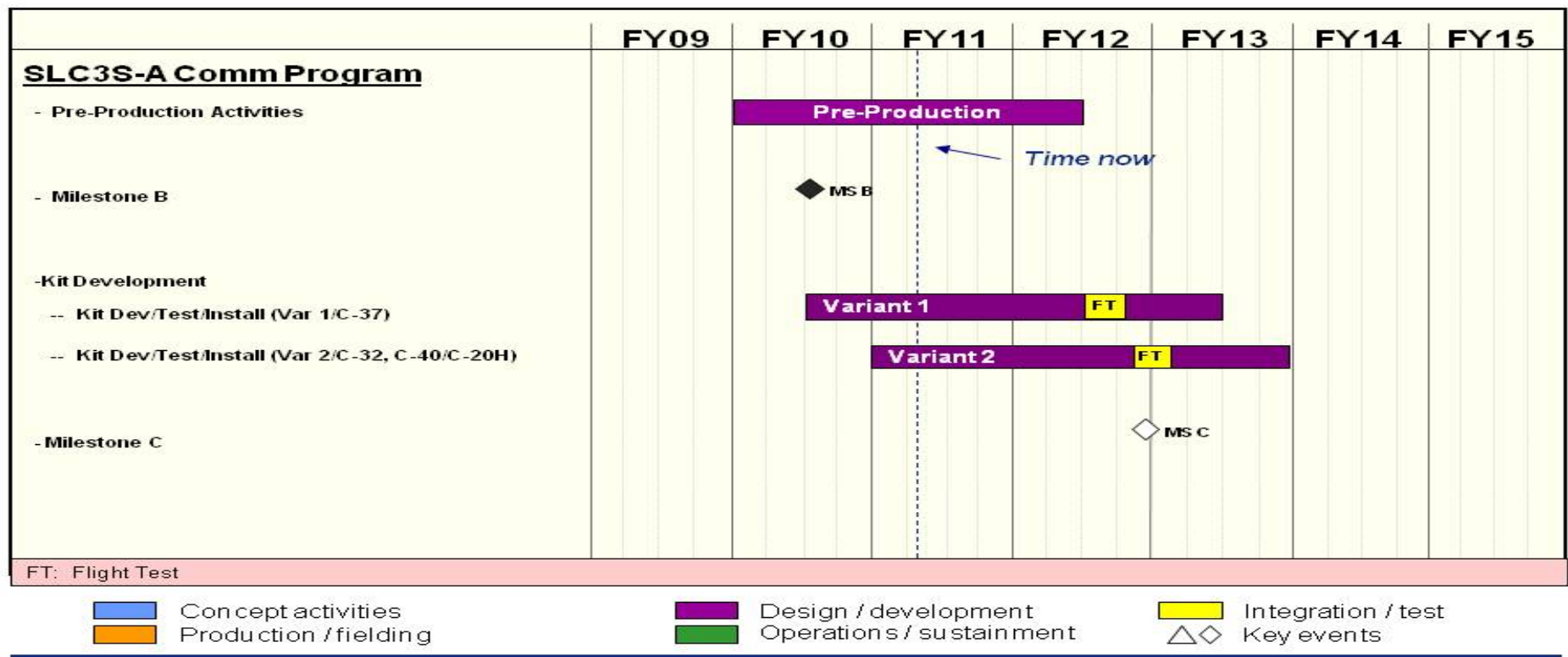
R-1 ITEM NOMENCLATURE

PE 0401845F: SLC3S-A (Senior Leader C3S)

PROJECT

655273: SLC3S-A Communications Program

SLC3S-A Comm Program Development



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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0401845F: <i>SLC3S-A (Senior Leader C3S)</i>	PROJECT 655273: <i>SLC3S-A Communications Program</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
MS-B	3	2010	3	2010
SCP Kit Development/Test/Cert,Aircraft Variant 1 (C-37)	3	2010	2	2013
SCP Kit Development/Test/Cert, Aircraft Variant 2 (C-20,C-32,C-40)	1	2011	4	2013
Pre-production activities	1	2010	2	2012
MS-C	4	2012	4	2012

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE							
3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 6: <i>RDT&E Management Support</i>				PE 0604256F: <i>Threat Simulator Development</i>							
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	25.375	21.245	22.420	-	22.420	23.234	22.379	20.592	19.923	Continuing	Continuing
662907: <i>Electronic Combat Intel Support</i>	2.197	2.215	2.243	-	2.243	2.274	2.204	2.135	2.066	Continuing	Continuing
663321: <i>Electronic Warfare Ground Test Resources</i>	15.593	11.441	12.502	-	12.502	13.700	13.608	12.663	12.251	Continuing	Continuing
667500: <i>Foreign Materiel Acquisition/Analysis</i>	7.585	7.589	7.675	-	7.675	7.260	6.567	5.794	5.606	Continuing	Continuing

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. This PE also provides funding for planning, budgetary management, and technical support of the Air Force for corporate-level implementation of the EW Test Process, improvement and modernization (I&M) activities and application of the test and evaluation (T&E) infrastructure. 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, and related documentation. Additionally, this PE provides funding to support the acquisition and analysis efforts of the Foreign Materiel Program and EW intelligence efforts.

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.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0604256F: <i>Threat Simulator Development</i>
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B. Program Change Summary (\$ in Millions)	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012 Base</u>	<u>FY 2012 OCO</u>	<u>FY 2012 Total</u>
Previous President's Budget	23.331	21.245	22.495	-	22.495
Current President's Budget	25.375	21.245	22.420	-	22.420
Total Adjustments	2.044	-	-0.075	-	-0.075
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	2.044	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-	-	-0.075	-	-0.075

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force									DATE: February 2011		
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)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
662907: Electronic Combat Intel Support	2.197	2.215	2.243	-	2.243	2.274	2.204	2.135	2.066	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

This project 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 blue 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 blue 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).

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.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: FMOT&E	2.197	2.215	2.243	-	2.243
Description: Supports Foreign Materiel Operational Test and Evaluation (FMOT&E)					
FY 2010 Accomplishments: 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 blue system effectiveness.					
FY 2011 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 blue system effectiveness.					
FY 2012 Base Plans:					

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force						DATE: February 2011					
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 6: <i>RDT&E Management Support</i>			R-1 ITEM NOMENCLATURE PE 0604256F: <i>Threat Simulator Development</i>			PROJECT 662907: <i>Electronic Combat Intel Support</i>					

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
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 blue system effectiveness. <i>FY 2012 OCO Plans:</i> Not applicable					
Accomplishments/Planned Programs Subtotals	2.197	2.215	2.243	-	2.243

C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• N/A: <i>Not Applicable</i>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

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-2A, RDT&E Project Justification: PB 2012 Air Force									DATE: February 2011		
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)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
663321: Electronic Warfare Ground Test Resources	15.593	11.441	12.502	-	12.502	13.700	13.608	12.663	12.251	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

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, 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 Air Force Electronic Warfare Evaluation Simulator (AFEWES) 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. AFEWES 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 Installed Test Integration Program (ITIP) develops a multi-spectral synthetic battlespace with virtual and constructive modeling and simulation T&E capabilities at Edwards AFB, CA. 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. Improvement and modernization efforts within this PE are identified in one mission area category: EW. 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.

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.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: I&M	14.447	10.250	11.298	-	11.298
Description: Provides for planning and improvement & modernization (I&M) of test capabilities to conduct and support the AF EW test process, including DE.					

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011				
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 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
FY 2010 Accomplishments: AFEWES test capability I&M continues updates to support high-fidelity RF and IR threat simulators to evaluate effectiveness of DoD and Allied EW systems; DIADS architecture upgrades add new capabilities to simulate evolving threats; ITIP integration of stand-alone EW stimulators continues development of integrated EW test scenarios; AWTEC is providing a suite of state-of-the-art stimulators to replace 90's technology; and the NRTF continues to enhance efficiency of operations and accuracy for measuring RCS of Low Observable platforms and antennas.							
FY 2011 Plans: AFEWES test capability I&M will continue to advance high-fidelity RF and IR threat simulators to evaluate effectiveness of DoD and Allied EW systems; DIADS architecture upgrades will continue to advance new capabilities to simulate evolving threats; AWTEC will continue to provide state-of-the-art stimulators to replace 90's technology; and the NRTF will continue to enhance efficiency of operations and accuracy for measuring RCS of Low Observable platforms and antennas.							
FY 2012 Base Plans: DIADS architecture upgrades will continue to advance new capabilities to simulate evolving threats; AWTEC will continue to provide state-of-the-art stimulators to replace 90's technology; and the NRTF will continue to enhance efficiency of operations and accuracy for measuring RCS of Low Observable platforms and antennas.							
FY 2012 OCO Plans: Not applicable.							
Title: EC Test Process Support Description: Electronic Combat (EC) Test Process Support. Conduct requirements analyses and other studies in support of Air Force investments in EW test infrastructure.			1.146	1.191	1.204	-	1.204
FY 2010 Accomplishments: Continue to provide Systems Engineering / Technical Assistance (SETA) support for Air Force implementation of the EW Test Process, including I&M of the EW test infrastructure.							
FY 2011 Plans:							

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force									DATE: February 2011		
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 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Continue to provide Systems Engineering / Technical Assistance (SETA) support for Air Force implementation of the EW Test Process, including I&M of the EW test infrastructure.											
FY 2012 Base Plans: Continue to provide Systems Engineering / Technical Assistance (SETA) support for Air Force implementation of the EW Test Process, including I&M of the EW test infrastructure.											
FY 2012 OCO Plans: Not applicable.											
Accomplishments/Planned Programs Subtotals							15.593	11.441	12.502	-	12.502
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• RDT&E AF: PE 0604759F, Major T&E Investment.	63.892	61.587	62.206	0.000	62.206	60.038	49.606	46.223	53.760	Continuing	Continuing
• RDT&E AF (1): PE 0605807F, T&E Support.	755.992	759.868	654.475	0.000	654.475	578.997	595.567	615.594	613.825	Continuing	Continuing
• RDT&E AF (2): PE 0605976F, Facility Restoration & Modernization	52.190	46.327	44.547	0.000	44.547	45.723	44.236	40.071	38.191	Continuing	Continuing
• RDT&E AF (3): PE 0605978F, Facilities Sustainment	29.559	27.579	27.953	0.000	27.953	28.049	27.220	26.416	25.600	Continuing	Continuing
D. 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.											
E. Performance Metrics											
Please refer to the Performance Base Budget Overview Book for information on how Air 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-2A, RDT&E Project Justification: PB 2012 Air Force									DATE: February 2011		
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)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
667500: Foreign Materiel Acquisition/Analysis	7.585	7.589	7.675	-	7.675	7.260	6.567	5.794	5.606	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

This project'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.

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.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: FMP	7.585	7.589	7.675	-	7.675
Description: Supports USAF Foreign Materiel Program (FMP) Requirements through the acquisition and analysis of foreign materiel.					
FY 2010 Accomplishments: 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 2011 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 2012 Base Plans:					

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force				DATE: February 2011	
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 6: <i>RDT&E Management Support</i>		R-1 ITEM NOMENCLATURE PE 0604256F: <i>Threat Simulator Development</i>		PROJECT 667500: <i>Foreign Materiel Acquisition/Analysis</i>	

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
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. <i>FY 2012 OCO Plans:</i> Not applicable.					
Accomplishments/Planned Programs Subtotals	7.585	7.589	7.675	-	7.675

C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• N/A: <i>Not Applicable</i>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

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 2012 Air Force **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0604759F: <i>Major T&E Investment</i>
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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	63.892	61.587	62.206	-	62.206	60.038	49.606	46.223	53.760	Continuing	Continuing
664597: <i>Air Force Test Investments</i>	63.892	61.587	62.206	-	62.206	60.038	49.606	46.223	53.760	Continuing	Continuing

A. Mission Description and Budget Item Justification

This PE provides planning, improvements, and modernization for test capabilities at three Air Force test organizations: 46 Test Wing (to include 46 Test Group at Holloman AFB NM, and operating locations at Wright-Patterson AFB OH), Arnold Engineering Development Center (AEDC), and Air Force Flight Test Center (AFFTC). The purpose is to help test organizations improve and develop their test infrastructure and capabilities to keep pace with improvements in weapon system technologies. Test investment activities also fund the Test and Evaluation (T&E) Board of Directors.

The improvement and modernization (I&M) requirements are defined through the AF Test Investment Planning & Programming (TIPP) Process. Also, 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 Reliance Area Capability Summaries (RACS). Further, 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 national asset operated and maintained by the Air Force for DoD test and evaluation, but are available to others requiring their unique capabilities.

The 46TW, 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; and determines target/test item spectral signatures. The 46TG 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.

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.

AFFTC, 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.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 6: <i>RDT&E Management Support</i>		R-1 ITEM NOMENCLATURE PE 0604759F: <i>Major T&E Investment</i>
<p>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. Space provides planning, improvements, and modernization needed for Space 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 are resident 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.</p> <p>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.</p>		

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0604759F: <i>Major T&E Investment</i>
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B. Program Change Summary (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	67.797	61.587	62.413	-	62.413
Current President's Budget	63.892	61.587	62.206	-	62.206
Total Adjustments	-3.905	-	-0.207	-	-0.207
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-2.350	-			
• SBIR/STTR Transfer	-1.272	-			
• Other Adjustments	-0.283	-	-0.207	-	-0.207

Congressional Add Details (\$ in Millions, and Includes General Reductions)

Project: 664597: *Air Force Test Investments*

Congressional Add: *CONGRESSIONAL ADD*

	FY 2010	FY 2011
	7.000	-
Congressional Add Subtotals for Project: 664597	7.000	-
Congressional Add Totals for all Projects	7.000	-

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0604759F: <i>Major T&E Investment</i>	PROJECT 664597: <i>Air Force Test Investments</i>
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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
664597: <i>Air Force Test Investments</i>	63.892	61.587	62.206	-	62.206	60.038	49.606	46.223	53.760	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

This PE provides planning, improvements, and modernization for test capabilities at three Air Force test organizations: 46 Test Wing (to include 46 Test Group at Holloman AFB NM, and operating locations at Wright-Patterson AFB OH), Arnold Engineering Development Center (AEDC), and Air Force Flight Test Center (AFFTC). The purpose is to help test organizations improve and develop their test infrastructure and capabilities to keep pace with improvements in weapon system technologies. Test investment activities also fund the Test and Evaluation (T&E) Board of Directors.

The improvement and modernization (I&M) requirements are defined through the AF Test Investment Planning & Programming (TIPP) Process. Also, 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 Reliance Area Capability Summaries (RACS). Further, 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 national asset operated and maintained by the Air Force for DoD test and evaluation, but are available to others requiring their unique capabilities.

The 46TW, 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; and determines target/test item spectral signatures. The 46TG 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.

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AFFTC, 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.

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0604759F: <i>Major T&E Investment</i>	PROJECT 664597: <i>Air Force Test Investments</i>

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. Space provides planning, improvements, and modernization needed for Space 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 are resident 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.

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: I&M Description: Improvement and modernization of the AF capability to test and evaluate Airframe/Propulsion/Avionics (APA) FY 2010 Accomplishments: Continue to support- AFFTC Real-time & Post-flight System Upgrade (ARPSU) improvements to flight telemetry data processing; AFFTC TSPI System Upgrade (ATSU) enhancements to GPS-based TSPI systems; AFFTC	35.841	43.727	37.558	-	37.558

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011			
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		PROJECT 664597: Air Force Test Investments		
B. Accomplishments/Planned Programs (\$ in Millions)						
		FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Range System Upgrade (ARSU) upgrades to overcome near-term obsolescence; Joint Airborne Instrumentation Integration (JAIL) T&E updates for instrumented airborne platforms; Telemetry Systems Integration & Support (TSIS) improvements to telemetry acquisition systems; VKF Plant Modernization upgrades to supersonic and hypersonic wind tunnels; Tunnel 4T Modernization upgrades to flex nozzle actuators & control systems; Tunnels ABC Modernization to provide superior wind tunnel operations; Advanced Large Military Engine Capability upgrades T3 for testing of advanced high speed air-breathing engines; Ultra High Accuracy Reference System (UHARS) development of a high-accuracy inertial-based TSPI; T&E Board of Directors coordinates Tri-Service investment and Joint T&E Reliance efforts; Airborne Icing Tanker simulates airborne icing conditions; Advanced Small Military (High-Speed) Engine Capability supports high Mach small engine propulsion test requirements.						
FY 2011 Plans: Continue to support - ARSU upgrades to overcome near-term obsolescence; JAIL T&E updates for instrumented airborne platforms; TSIS improvements to telemetry acquisition systems; VKF Plant Modernization upgrades to supersonic and hypersonic wind tunnels; Tunnel 4T Modernization upgrades to flex nozzle actuators & control systems; Tunnels ABC Modernization to provide superior wind tunnel operations; Advanced Large Military Engine Capability upgrades T3 for testing of advanced high speed air-breathing engines; UHARS development of a high-accuracy inertial-based TSPI; T&E Board of Directors coordinates Tri-Service investment and Joint T&E Reliance efforts; Advanced Small Military (High-Speed) Engine Capability supports high Mach small engine propulsion test requirements; Net-Centric Weapons Test Capability (NCWTC) improves capabilities to test NCW in a live, virtual & constructive environment; Net-Centric Avionics Test System(NCATS) supports approaches to address T&E net-centric warfare and net ready KPP issues.						
FY 2012 Base Plans: Continue to support - ARSU upgrades to overcome near-term obsolescence; JAIL T&E updates for instrumented airborne platforms; TSIS improvements to telemetry acquisition systems; VKF Plant Modernization upgrades to supersonic and hypersonic wind tunnels; Tunnel 4T Modernization upgrades to flex nozzle actuators & control systems; Tunnels ABC Modernization to provide superior wind tunnel operations; Advanced Large Military Engine Capability upgrades T3 for testing of advanced high speed air-breathing engines; UHARS development of a high-accuracy inertial-based TSPI; T&E Board of Directors coordinates Tri-Service investment and Joint T&E Reliance efforts; Advanced Small Military (High-Speed) Engine Capability supports high Mach small engine propulsion test requirements; NCWTC improves capabilities to test NCW in a live, virtual & constructive environment; NCATS supports approaches to address T&E net-centric warfare and net ready KPP issues.						
FY 2012 OCO Plans:						

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force				DATE: February 2011		
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		PROJECT 664597: Air Force Test Investments		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Not applicable.						
<p>Title: I&M (1)</p> <p>Description: Improvement and modernization of the AF capability to test and evaluate Armament/Munitions (A/ M)</p> <p>FY 2010 Accomplishments: Continue to support - A/M Digital Modeling & Simulation (DM&S) integration of models into a common suite of reusable tools; Over-Water Impact Scoring System (OWISS) development the capability necessary to test in an overwater environment; Advanced Munitions Test Improvement (AMTI) development of new HITL capabilities for testing advanced seeker/sensor and guidance technologies; Advanced Range Telemetry System (ARTM) for acquiring and upgrading critical TM equipment; Operational Ground Test Facility (OGT) development of capabilities to test munitions in an all-up-round configuration and environment; Advanced Command & Destruct System (ACDS) upgrades of existing command destruct systems; Gulf Range Test & Training Control Center (GRTTCC) integration of range data systems.</p> <p>FY 2011 Plans: Continue to support - OWISS development of capability necessary to test in an overwater environment; AMTI development of new HITL capabilities for testing advanced seeker/sensor guidance technologies; ARTM for acquiring and upgrading critical TM equipment; OGT development of capabilities to test munitions in an all-up-round configuration and environment; ACDS upgrades of existing command destruct systems; GRTTCC integration of range data systems; Joint Gulf Range Area Network Development (JGRAND) advanced mobile fiber optic and microwave communications capabilities improvements.</p> <p>FY 2012 Base Plans: Continue to support - AMTI development of new HITL capabilities for testing advanced seeker/sensor guidance technologies; ARTM for acquiring and upgrading critical TM equipment; ACDS upgrades of existing command destruct systems; GRTTCC integration of range data systems; JGRAND advanced mobile fiber optic and microwave communications capabilities improvements; Combined High Speed/High Resolution EO/IR Imaging provides tracking capability for small, high speed A/M, missiles & airborne platform testing.</p> <p>FY 2012 OCO Plans: Not applicable.</p>		17.423	14.494	23.048	-	23.048
<p>Title: I&M (2)</p>		3.628	3.366	1.600	-	1.600

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011		
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	PROJECT 664597: Air Force Test Investments			
B. Accomplishments/Planned Programs (\$ in Millions)					
	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Description: Improvement and modernization of the AF capability to test and evaluate C4ISR FY 2010 Accomplishments: Continue to support - C4ISR Modeling & Simulation to provide the capability to combine synthetic and real-world data to analyze a C4I system's response to operational loads; Command & Control Test Operations Center (C2TOC) development of a Joint Air Operations Center level test capability to support C2 weapons systems. FY 2011 Plans: Continue to support - C4ISR Modeling & Simulation to provide the capability to combine synthetic and real-world data to analyze a C4I system's response to operational loads; C2TOC development of a Joint Air Operations Center level test capability to support C2 weapons systems. FY 2012 Base Plans: Continue to support - C4ISR Modeling & Simulation to provide the capability to combine synthetic and real-world data to analyze a C4I system's response to operational loads; C2TOC development of a Joint Air Operations Center level test capability to support C2 weapons systems. FY 2012 OCO Plans: Not applicable.					
Title: I&M (3) Description: I&M of the AF capability to test and evaluate Space Systems. Current Space Systems I&M efforts were concluded in FY08 with additional efforts planned to begin in FY12. FY 2010 Accomplishments: FY 2011 Plans: FY 2012 Base Plans: FY 2012 OCO Plans: Not applicable.	-	-	-	-	-
Accomplishments/Planned Programs Subtotals	56.892	61.587	62.206	-	62.206
	FY 2010	FY 2011			
Congressional Add: CONGRESSIONAL ADD	7.000	-			

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force								DATE: February 2011			
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				PROJECT 664597: Air Force Test Investments			
								FY 2010	FY 2011		
FY 2010 Accomplishments: Continue to support - Holloman High-Speed Test Track / Maglev to develop a magnetically levitated rocket sled test capability at Holloman AFB, NM where the ultimate goal is to develop a Mach 10 ground test capability providing a realistic flight type environment for testing hypersonic propulsion systems, missile seekers/sensors, and warheads; Range Operations Control Center Upgrade project implementation of new technologies to improve range control for a planned increase in flight operations and ground missions to include improved command/control network, flight safety and display systems, Eglin AFB, FL.											
FY 2011 Plans:											
Congressional Adds Subtotals								7.000	-		
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• RDT&E AF: PE 0604256F, Threat Simulator Development	25.375	21.245	22.420	0.000	22.420	23.234	22.379	20.592	19.923	Continuing	Continuing
• RDT&E AF (1): PE 0605807F, Test and Evaluation Support	755.992	759.868	654.475	0.000	654.475	578.997	595.567	615.594	613.825	Continuing	Continuing
• RDT&E AF (2): PE 0605976F, Facility Restoration & Modernization	52.190	46.327	44.547	0.000	44.547	45.723	44.236	40.071	38.191	Continuing	Continuing
• RDT&E AF (3): PE 0605978F, Facilities Sustainment	29.559	27.579	27.953	0.000	27.953	28.049	27.220	26.416	25.600	Continuing	Continuing
D. 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.											
E. Performance Metrics											
Please refer to the Performance Base Budget Overview Book for information on how Air 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 2012 Air Force	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605101F: <i>RAND Project Air Force</i>
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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	34.457	26.752	27.579	-	27.579	29.179	30.860	32.569	34.380	Continuing	Continuing
661110: <i>Project Air Force</i>	34.457	26.752	27.579	-	27.579	29.179	30.860	32.569	34.380	Continuing	Continuing

A. Mission Description and Budget Item Justification

(U) 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. (U) 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.

(U) 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. (U) Looking ahead, 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. (U) 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. (U) 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. (U) This program is in budget activity 6- Management and Support, because it funds RAND Project AIR FORCE (PAF), the only Air Force Federally Funded Research and Development Center for studies and analyses.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605101F: <i>RAND Project Air Force</i>
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B. Program Change Summary (\$ in Millions)	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012 Base</u>	<u>FY 2012 OCO</u>	<u>FY 2012 Total</u>
Previous President's Budget	29.101	26.752	38.486	-	38.486
Current President's Budget	34.457	26.752	27.579	-	27.579
Total Adjustments	5.356	-	-10.907	-	-10.907
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	5.356	-	-10.907	-	-10.907

Change Summary Explanation

In FY12: Decrease of \$10.907 in FY12 is a result of decrease in the PE funding to support the core work that is accomplished each FY.

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605101F: <i>RAND Project Air Force</i>	PROJECT 661110: <i>Project Air Force</i>
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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
661110: <i>Project Air Force</i>	34.457	26.752	27.579	-	27.579	29.179	30.860	32.569	34.380	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

(U) This 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. (U) 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.

(U) 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. (U) Looking ahead, 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. (U) 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. (U) 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. (U) This program is in budget activity 6- Management and Support, because it funds RAND Project AIR FORCE (PAF), the only Air Force Federally Funded Research and Development Center for studies and analyses.

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011			
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	PROJECT 661110: Project Air Force				
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: Strategy & Doctrine Description: Provides for continuing analytical research across a broad spectrum of aerospace issues and concerns--strategy and doctrine. FY 2010 Accomplishments: Provides analytical research across a broad spectrum of aerospace issues and concerns--strategy and doctrine. FY 2011 Plans: Provides for continuing analytical research across a broad spectrum of aerospace issues and concerns--strategy and doctrine. FY 2012 Base Plans: Provides for continuing analytical research across a broad spectrum of aerospace issues and concerns--strategy and doctrine. FY 2012 OCO Plans:		7.225	6.594	6.797	-	6.797
Title: Force Development Description: Provides analytical research across a broad spectrum of aerospace issues and concerns--force development employment. FY 2010 Accomplishments: Provides analytical research across a broad spectrum of aerospace issues and concerns--force development employment. FY 2011 Plans: Provides for continuing analytical research across a broad spectrum of aerospace issues and concerns--force development employment. FY 2012 Base Plans: Provides for continuing analytical research across a broad spectrum of aerospace issues and concerns--force development employment. FY 2012 OCO Plans:		6.425	5.794	5.973	-	5.973
Title: Manpower, Personnel & Training		6.425	5.794	5.973	-	5.973

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011			
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	PROJECT 661110: Project Air Force				
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Description: Provides analytical research across a broad spectrum of aerospace issues and concerns--manpower, personnel and training. FY 2010 Accomplishments: Provides analytical research across a broad spectrum of aerospace issues and concerns--manpower, personnel and training. FY 2011 Plans: Provides for continuing analytical research across a broad spectrum of aerospace issues and concerns--manpower, personnel and training. FY 2012 Base Plans: Provides for continuing analytical research across a broad spectrum of aerospace issues and concerns--manpower, personnel and training. FY 2012 OCO Plans:						
Title: Resource Management Description: Provides analytical research across a broad spectrum of aerospace issues and concerns--resource management. FY 2010 Accomplishments: Provides continuing analytical research across a broad spectrum of aerospace issues and concerns--resource management. FY 2011 Plans: Provides for continuing analytical research across a broad spectrum of aerospace issues and concerns--resource management. FY 2012 Base Plans: Provides for continuing analytical research across a broad spectrum of aerospace issues and concerns--resource management. FY 2012 OCO Plans:		7.425	6.994	7.211	-	7.211
Title: Intergrative Research/Direct Support		6.957	1.576	1.625	-	1.625

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force				DATE: February 2011	
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 6: <i>RDT&E Management Support</i>		R-1 ITEM NOMENCLATURE PE 0605101F: <i>RAND Project Air Force</i>		PROJECT 661110: <i>Project Air Force</i>	

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
<p>Description: Provides for continuing analytical research across a broad spectrum of aerospace issues and concerns--intergrative research/direct support.</p> <p>FY 2010 Accomplishments: Provides analytical research across a broad spectrum of aerospace issues and concerns--intergrative research/direct support</p> <p>FY 2011 Plans: Provides for continuing analytical research across a broad spectrum of aerospace issues and concerns--intergrative research/direct support</p> <p>FY 2012 Base Plans: Provides for continuing analytical research across a broad spectrum of aerospace issues and concerns--intergrative research/direct support</p> <p>FY 2012 OCO Plans:</p>					
Accomplishments/Planned Programs Subtotals	34.457	26.752	27.579	-	27.579

C. Other Program Funding Summary (\$ in Millions)											
			FY 2012	FY 2012	FY 2012					Cost To	
Line Item	FY 2010	FY 2011	Base	OCO	Total	FY 2013	FY 2014	FY 2015	FY 2016	Complete	Total Cost
• N/A:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

D. Acquisition Strategy
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.

E. Performance Metrics
Please refer to the Performance Base Budget Overview Book for information on how Air 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 2012 Air Force	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE							
3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 6: <i>RDT&E Management Support</i>				PE 0605502F: <i>Small Business Innovative Research</i>							
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	365.871	-	-	-	-	-	-	-	-	Continuing	Continuing
663005: <i>Small Business Innovation Research</i>	365.871	-	-	-	-	-	-	-	-	Continuing	Continuing

A. Mission Description and Budget Item Justification

No mission description provided.

B. Program Change Summary (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	365.871	-	-	-	-
Current President's Budget	365.871	-	-	-	-
Total Adjustments	-	-	-	-	-
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-	-	-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force								DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 6: <i>RDT&E Management Support</i>				R-1 ITEM NOMENCLATURE PE 0605502F: <i>Small Business Innovative Research</i>				PROJECT 663005: <i>Small Business Innovation Research</i>			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
663005: <i>Small Business Innovation Research</i>	365.871	-	-	-	-	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		
A. Mission Description and Budget Item Justification Mission Description not provided.											
B. Accomplishments/Planned Programs (\$ in Millions)							FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: Small Business Innovation Research Description: Small Business Innovation Research FY 2010 Accomplishments: Small Business Innovation Research FY 2011 Plans: FY 2012 Base Plans: FY 2012 OCO Plans:							365.871	-	-	-	-
Accomplishments/Planned Programs Subtotals							365.871	-	-	-	-
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• N/A:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
D. Acquisition Strategy 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 2012 Air Force	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE							
3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 6: <i>RDT&E Management Support</i>				PE 0605712F: <i>Initial Operational Test & Evaluation</i>							
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	25.368	20.665	17.767	-	17.767	16.167	14.790	13.311	12.879	Continuing	Continuing
660191: <i>Initial Operational Test & Eval</i>	25.368	20.665	17.767	-	17.767	16.167	14.790	13.311	12.879	Continuing	Continuing

A. Mission Description and Budget Item Justification

Initial Operational Test and Evaluation (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 Congressionally mandated 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 systems designated for use in combat, the law requires IOT&E be completed under realistic field conditions before proceeding beyond LRIP. IOT&E will be planned to completely and unambiguously answer all critical operational issues (COI) as thoroughly as possible. This PE funds the OT participation in Integrated Developmental Test/Operational Test (IDT/OT), 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. Air Force Operational Test and Evaluation Center (AFOTEC) obtains general support services from contracts awarded after employing full and open competition contracting strategies. This is a level of effort program element.

Budget Activity Justification: This program is in Budget Activity 6, RDT&E Management Support because it funds weapon system IOT&E tests conducted to evaluate a system's operational effectiveness and suitability and to identify any operational deficiencies or need for modifications in support of the acquisition process.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE
3600: <i>Research, Development, Test & Evaluation, Air Force</i>	PE 0605712F: <i>Initial Operational Test & Evaluation</i>
BA 6: <i>RDT&E Management Support</i>	

B. Program Change Summary (\$ in Millions)	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012 Base</u>	<u>FY 2012 OCO</u>	<u>FY 2012 Total</u>
Previous President's Budget	25.833	20.665	17.826	-	17.826
Current President's Budget	25.368	20.665	17.767	-	17.767
Total Adjustments	-0.465	-	-0.059	-	-0.059
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.357	-			
• Other Adjustments	-0.108	-	-0.059	-	-0.059

Change Summary Explanation

No significant changes

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force									DATE: February 2011		
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				PROJECT 660191: Initial Operational Test & Eval			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
660191: Initial Operational Test & Eval	25.368	20.665	17.767	-	17.767	16.167	14.790	13.311	12.879	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

Initial Operational Test and Evaluation (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 Congressionally mandated 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 systems designated for use in combat, the law requires IOT&E be completed under realistic field conditions before proceeding beyond LRIP. IOT&E will be planned to completely and unambiguously answer all critical operational issues (COI) as thoroughly as possible. This PE funds the OT participation in Integrated Developmental Test/Operational Test (IDT/OT), 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. Air Force Operational Test and Evaluation Center (AFOTEC) obtains general support services from contracts awarded after employing full and open competition contracting strategies. This is a level of effort program element.

Budget Activity Justification: This program is in Budget Activity 6, RDT&E Management Support because it funds weapon system IOT&E tests conducted to evaluate a system's operational effectiveness and suitability and to identify any operational deficiencies or need for modifications in support of the acquisition process.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: OT&E	16.801	15.344	10.657	-	10.657
Description: Plan, execute, and report IOT&E activities of Air Systems.					
FY 2010 Accomplishments:					
- ALR-69A Radar Warning Receiver (ALR-69A): Plan for IOT&E					
- B-2 Defensive Management System (DMS): Early Influence					

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011					
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		PROJECT 660191: Initial Operational Test & Eval				
B. Accomplishments/Planned Programs (\$ in Millions)				FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
<div><div>- B-2 Radar Modernization Program (RMP): Conduct FOT&E</div><div>- B-52 COmbat NEtwork Communications Technology (CONNECT): Plan for IOT&E</div><div>- C-130 Avionics Modernization Program (AMP): Early Influence</div><div>- Common Vertical Lift Support Platform (CVLSP): Early Influence</div><div>- Diminishing Manufacturing Sources Replacement of Avionics Global Operations and Navigation (DRAGON): Plan for OA-1</div><div>- E-XX National Airborne Operations Center (NAOC): Plan for EOA</div><div>- F-15 Mark XIIA Mode 5 (F-15 Mode 5): Plan for OA</div><div>- F-15E Radar Modernization Program (F-15E RMP): Plan for IOT&E</div><div>- F-22A: Plan for FOT&E Inc 3.1</div><div>- HC/MC-130 Recapitalization (HC/MC-130 RECAP): Conduct IDT/OT</div><div>- Joint Cargo Aircraft (JCA): Conduct MOT&E</div><div>- Large Aircraft Infrared Countermeasures (LAIRCM) Phase II: Plan for IOT&E</div><div>- Modular Aircrew Helmet (MACH): Plan for OA</div><div>- Miniature Air Launched Decoy-Jammer (MALD-J): Conduct OA</div><div>- MQ-9: Plan for OA</div><div>- QF-16: Plan for OA</div></div> <div><div>FY 2011 Plans:</div><div>- ALR-69A Radar Warning Receiver (ALR-69A): Conduct IOT&E</div><div>- AWACS Block 40/45 (AWACS Block 40/45): Plan for IOT&E</div><div>- B-2 Defensive Management System (DMS): Early Influence</div><div>- B-52 COmbat NEtwork Communications Technology (CONNECT): Conduct IOT&E</div><div>- C-130 Avionics Modernization Program (AMP): Plan for IOT&E</div><div>- Common Vertical Lift Support Platform (CVLSP): Early Influence</div><div>- Diminishing Manufacturing Sources Replacement of Avionics Global Operations and Navigation (DRAGON): Plan for OA-1</div><div>- E-XX National Airborne Operations Center (NAOC): Plan for EOA</div><div>- F-15 Mark XIIA Mode 5 (F-15 Mode 5): Conduct IOT&E</div><div>- F-15E Radar Modernization Program (F-15E RMP): Conduct OA</div><div>- F-22A: Conduct FOT&E Incr 3.1</div><div>- HC/MC-130 Recapitalization (HC/MC-130 RECAP): Conduct IDT/OT</div><div>- Large Aircraft Infrared Countermeasures (LAIRCM) Phase II: Conduct IOT&E</div></div>								

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011			
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	PROJECT 660191: Initial Operational Test & Eval				
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
<div>- Modular Aircrew Helmet (MACH): Conduct OA</div> <div>- Miniature Air Launched Decoy (MALD): Plan for OA</div> <div>- Miniature Air Launched Decoy-Jammer (MALD-J): Conduct IOT&E</div> <div>- MQ-9: Conduct OA</div> <div>- QF-16: Plan for OA</div> <div>FY 2012 Base Plans:</div> <div>- Advanced Pilot Training System (T-X): Conduct EOA</div> <div>- ALR-69A Radar Warning Receiver (ALR-69A): Publish Final Report</div> <div>- AWACS Block 40/45 (AWACS Block 40/45): Conduct IOT&E</div> <div>- B-2 Defensive Management System (DMS): Early Influence</div> <div>- B-52 COMbat NETwork Communications Technology (CONECT): Publish Final Report</div> <div>- C-130 Avionics Modernization Program (AMP): Conduct IOT&E</div> <div>- Common Vertical Lift Support Platform (CVLSP): Early Influence</div> <div>- Diminishing Manufacturing Sources Replacement of Avionics Global Operations and Navigation (DRAGON): Conduct OA -1</div> <div>- E-XX National Airborne Operations Center (NAOC): Conduct EOA</div> <div>- F-15 Mark XIIA Mode 5 (F-15 Mode 5): Publish Final Report</div> <div>- F-15E Radar Modernization Program (F-15E RMP): Conduct IOT&E</div> <div>- F-22A: Conduct IDT/OT Incr 3.2</div> <div>- HC/MC-130 Recapitalization (HC/MC-130 RECAP): Conduct IOT&E</div> <div>- Large Aircraft Infrared Countermeasures (LAIRCM) Phase II: Publish Final Report</div> <div>- Modular Aircrew Helmet (MACH): Conduct OA</div> <div>- Miniature Air Launched Decoy-Jammer (MALD-J): Complete IOT&E</div> <div>- MQ-9: Plan for IOT&E</div> <div>- QF-16: Conduct OA</div> <div>- Synthetic Aperture Radar/Ground Movement Terrain Radar Electro-Optical Infra-red Battle Management Command and Control (SAR/GMT EO/IR BMC2): Plan for IOT&E</div> <div>FY 2012 OCO Plans:</div> <div>Not applicable.</div>						
Title: OT&E (1)		2.177	1.142	0.861	-	0.861

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011			
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	PROJECT 660191: Initial Operational Test & Eval				
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
<p>Description: Plan, execute, and report IOT&E activities for Space Systems:</p> <p>FY 2010 Accomplishments:</p> <ul style="list-style-type: none">- Advanced EHF Satellite Communications (Advanced EHF): Conduct OUE-1- Enhanced Polar System (EPS): Plan for OA-1- Global Positioning System (GPS): Conduct multiple OAs- Joint Space Operations Center Mission System (JMS): Plan for MS-B EOA- Mobile User Objective System (MUOS): Conduct OA-1- Space Based Infrared System (SBIRS): Plan for OUE- Space Based Space Surveillance (SBSS): Plan for IOT&E- Space Fence: Plan for EOA <p>FY 2011 Plans:</p> <ul style="list-style-type: none">- Advanced EHF Satellite Communications (Advanced EHF): Conduct OUE-2- Enhanced Polar System (EPS): Conduct OA-1- Global Positioning System (GPS): Conduct MOT&E- Joint Space Operations Center Mission System (JMS): Conduct MS-B EOA- Mobile User Objective System (MUOS): Conduct OA-2- Space Based Infrared System (SBIRS): Plan for OUE- Spaced Based Space Surveillance (SBSS): Conduct IOT&E- Space Fence: Plan for EOA <p>FY 2012 Base Plans:</p> <ul style="list-style-type: none">- Advanced EHF Satellite Communications (Advanced EHF): Conduct OUE-3- Enhanced Polar System (EPS): Conduct OA-1- Global Positioning System (GPS): Conduct EOA- Joint Space Operations Center Mission System (JMS): Plan for Rel 1 OUE- Mobile User Objective System (MUOS): Conduct MOT&E-1- Space Based Infrared System (SBIRS): Conduct OUE- Space Fence: Conduct EOA <p>FY 2012 OCO Plans:</p> <p>Not applicable.</p>						
Title: OT&E (2)		1.717	1.001	2.242	-	2.242

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011		
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		PROJECT 660191: Initial Operational Test & Eval	
B. Accomplishments/Planned Programs (\$ in Millions)					
	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Description: Plan, execute, and report IOT&E activities for Weapon Systems:					
FY 2010 Accomplishments: - AIM-9X Block II: Conduct OT-3C - Joint Air-to-Surface Standoff Missile – Anti-Surface Warfare (JASSM ASuW): Early Influence - Joint Air-to-Surface Standoff Missile Extended Range (JASSM-ER): Conduct OA - Small Diameter Bomb Increment II (SDB II): Plan for OA					
FY 2011 Plans: - AIM-9X Block II: Conduct OA - Joint Air-to-Surface Standoff Missile – Anti-Surface Warfare (JASSM ASuW): Early Influence - Joint Air-to-Surface Standoff Missile Extended Range (JASSM-ER): Conduct IOT&E - Small Diameter Bomb Increment II (SDB II): Conduct OA					
FY 2012 Base Plans: - AIM-9X Block II: Conduct OT-3D - B-61 Life Extension Program (B-61 LEP): Plan for EOA - Joint Air-to-Surface Standoff Missile – Anti-Surface Warfare (JASSM ASuW): Early Influence - Joint Air-to-Surface Standoff Missile Extended Range (JASSM-ER): Complete IOT&E - Small Diameter Bomb Increment II (SDB II): Complete OA					
FY 2012 OCO Plans: Not applicable.					
Title: OT&E (3)					
	3.042	2.935	3.866	-	3.866
Description: Plan, execute, and report IOT&E activities for Command, Control, Communications, Computer, and Intelligence (C4I) Programs					
FY 2010 Accomplishments: - Three Dimensional Expeditionary Long Range Radar (3DELRR): Plan for EOA - Air Operations Center as a Weapon System (AOC): Early Influence - B-1 Fully Integrated Data Link (B-1 FIDL): Conduct OA - B-2 Extremely High Frequency Satellite Communications and Computer Upgrade Program (B-2 EHF SATCOM): Conduct IDT/OT					

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011			
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	PROJECT 660191: Initial Operational Test & Eval				
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
<div>- Battle Control System – Fixed (BCS-F): Plan IOT&E</div> <div>- Command and Control Air Operation Suite (C2AOS): Early Influence</div> <div>- Command and Control Information Services (C2IS): Early Influence</div> <div>- Expeditionary Combat Support System (ECSS): Conduct EOA</div> <div>- Global Hawk 4 Multiple Platform-Radar Technology Insertion Program (GH 4 MP-RTIP): Conduct IDT/OT</div> <div>- Integrated Broadcast Service (IBS): Plan for OUE</div> <div>- Joint Precision Approach & Landing System (JPALS): Early Influence</div> <div>- Key Management Infrastructure (KMI): Plan for MOT&E</div> <div>FY 2011 Plans:</div> <div>- Three Dimensional Expeditionary Long Range Radar (3DELRR): Plan for EOA</div> <div>- Air Operations Center as a Weapon System (AOC): Plan for OA</div> <div>- Airborne Signals Intelligence Payload 2C (ASIP 2C): Conduct OA</div> <div>- B-1 Fully Integrated Data Link (B-1 FIDL): Conduct OA</div> <div>- B-2 Extremely High Frequency Satellite Communications and Computer Upgrade Program (B-2 EHF SATCOM): Conduct IOT&E Incr 1</div> <div>- Battle Control System – Fixed (BCS-F): Plan for IOT&E</div> <div>- Command and Control Air Operation Suite (C2AOS): Early Influence</div> <div>- Command and Control Information Services (C2IS): Early Influence</div> <div>- Expeditionary Combat Support System (ECSS): Conduct OA</div> <div>- Family of Advanced Beyond Line Of Sight Terminals (FAB T): Conduct OA</div> <div>- Global Hawk 4 Multiple Platform-Radar Technology Insertion Program (GH 4 MP-RTIP): Conduct OA</div> <div>- Integrated Broadcast Service (IBS): Plan for OUE</div> <div>- Joint Precision Approach & Landing System (JPALS): Early Influence</div> <div>- Key Management Infrastructure (KMI): Conduct MOT&E</div> <div>FY 2012 Base Plans:</div> <div>- Three Dimensional Expeditionary Long Range Radar (3DELRR): Plan for EOA</div> <div>- Air Force Integrated Personnel and Pay System (AF-IPPS): Conduct EOA</div> <div>- Air Operations Center as a Weapon System (AOC): Conduct OA</div> <div>- Airborne Signals Intelligence Payload 2C (ASIP 2C): Plan for IOT&E</div> <div>- B-1 Fully Integrated Data Link (B-1 FIDL): Publish Final Report</div>						

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011		
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		PROJECT 660191: Initial Operational Test & Eval	
B. Accomplishments/Planned Programs (\$ in Millions)					
	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
<div>- B-2 Extremely High Frequency Satellite Communications and Computer Upgrade Program (B-2 EHF SATCOM): Complete IOT&E Incr 1</div> <div>- Battle Control System – Fixed (BCS-F): Conduct IOT&E</div> <div>- Command and Control Air Operation Suite (C2AOS): Conduct OA</div> <div>- Command and Control Information Services (C2IS): Conduct OA</div> <div>- Expeditionary Combat Support System (ECSS): Conduct IOT&E</div> <div>- Family of Advanced Beyond Line Of Sight Terminals (FAB T): Conduct IOT&E</div> <div>- Global Hawk 4 Multiple Platform-Radar Technology Insertion Program (GH 4 MP-RTIP): Conduct IOT&E</div> <div>- Integrated Broadcast Service (IBS): Conduct OUE</div> <div>- Joint Precision Approach & Landing System (JPALS): Early Influence</div> <div>- Wide Area Airborne Surveillance System (WAAS): Plan for IOT&E</div> <div>FY 2012 OCO Plans:</div> <div>Not applicable.</div>					
<div>Title: OT&E (4)</div> <div>Description: Plan, execute, and report IOT&E activities for Combat Support Programs</div> <div>FY 2010 Accomplishments:</div> <div>- Combat Survivor Evader Locator (CSEL): Conduct MOT&E</div> <div>- Joint Mission Planning System (JMPS): Plan for IOT&E</div> <div>FY 2011 Plans:</div> <div>- Joint Counter Radio-Controlled Improvised Explosive Device EW (JCREW): Plan for MOT&E</div> <div>- Joint Mission Planning System (JMPS): Conduct E-8 IOT&E</div> <div>FY 2012 Base Plans:</div> <div>- Joint Counter Radio-Controlled Improvised Explosive Device EW (JCREW): Conduct MOT&E</div> <div>- Joint Mission Planning System (JMPS): Conduct Global Hawk IOT&E</div> <div>FY 2012 OCO Plans:</div> <div>Not applicable.</div>					
Accomplishments/Planned Programs Subtotals					
	25.368	20.665	17.767	-	17.767

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605712F: <i>Initial Operational Test & Evaluation</i>	PROJECT 660191: <i>Initial Operational Test & Eval</i>	

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

<u>Line Item</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u> <u>Base</u>	<u>FY 2012</u> <u>OCO</u>	<u>FY 2012</u> <u>Total</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• O&M AF PE 0207426: <i>AFOTEC</i> <i>O&M</i>	33.432	37.351	37.542	0.000	37.542	38.276	40.085	40.892	41.801	Continuing	Continuing

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 2012 Air Force **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE							
3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 6: <i>RDT&E Management Support</i>				PE 0605807F: <i>Test and Evaluation Support</i>							
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	755.992	759.868	654.475	-	654.475	578.997	595.567	615.594	613.825	Continuing	Continuing
6606TG: <i>46 Test Group</i>	29.299	32.095	31.129	-	31.129	32.182	33.067	32.864	32.872	Continuing	Continuing
6606TS: <i>Test and Evaluation Support</i>	726.693	727.773	623.346	-	623.346	546.815	562.500	582.730	580.953	Continuing	Continuing

Note

FY2010 funding totals include \$3.291 appropriated for supplemental fuel funding.

The program funding includes reductions for manpower efficiencies that are not intended to impact program content. The efficiencies total \$109.336 in FY12.

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, hypersonic and subsonic testing, 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, 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 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	746.488	759.868	773.537	-	773.537
Current President's Budget	755.992	759.868	654.475	-	654.475
Total Adjustments	9.504	-	-119.062	-	-119.062
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-3.137	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	9.350	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	3.291	-	-119.062	-	-119.062

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force								DATE: February 2011			
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: 46 Test Group			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
6606TG: 46 Test Group	29.299	32.095	31.129	-	31.129	32.182	33.067	32.864	32.872	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		
A. Mission Description and Budget Item Justification											
Project infrastructure support is provided for the unique capabilities of the 46th Test Group (TG) facilities: Central Inertial Guidance 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/781st Test Squadron), the 586th Flight Test Squadron Detachment 1 (Det 1), 46 TG Operating Location (46 TG OL-AA) at Kirtland AFB, and 46 TG Operation Location (46 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 environments, realistic live-fire simulations, test item and target fragment recovery, and 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. 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 586th Flight Test Squadron executes flight test and test support for advanced avionics and weapons development of joint, international and commercial test programs. The 46 TG OL-AC includes the Landing Gear Test Facility (LGTF) and the Aerospace Vehicle Survivability Facility (AVSF). LGTF's capabilities include variable and fixed inertia dynamometers, compression/tension load applicators, 4 drop towers, a burst pit and a dynamic load simulator. The AVSF's capabilities include developing/refining new projectile launch techniques, ballistic flammability studies, ballistic testing of full-size production aircraft or components. The 46th TG support services contracts are 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. Accomplishments/Planned Programs (\$ in Millions)							FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: 46th Test Group							29.299	32.095	31.129	-	31.129
Description: Provide infrastructure at the 46th Test Group (TG) to support testing of DoD, other Government Agencies, foreign military sales, and commercial weapon systems.											
FY 2010 Accomplishments: Total consists of utilities, contractor services, civilian pay, and aircraft flying costs. Contractor Services (in-house contract support activities).											
FY 2011 Plans:											

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force							DATE: February 2011				
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 6: <i>RDT&E Management Support</i>			R-1 ITEM NOMENCLATURE PE 0605807F: <i>Test and Evaluation Support</i>			PROJECT 6606TG: <i>46 Test Group</i>					
B. Accomplishments/Planned Programs (\$ in Millions)							FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Total consists of utilities, contractor services, and civilian pay. Increase in FY 2011 due to civilian pay with contractor to civilian conversion.											
FY 2012 Base Plans: Total consists of utilities, contractor services, and civilian pay. Decrease in FY 2012 due to manpower efficiencies and cilivian pay raise reduction.											
FY 2012 OCO Plans:											
Accomplishments/Planned Programs Subtotals							29.299	32.095	31.129	-	31.129
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• PE 0604256F: <i>Threat Simulator Development</i>	25.375	21.245	22.420	0.000	22.420	23.234	22.379	20.592	19.923	Continuing	Continuing
• PE 0604759F: <i>Major Test and Evaluation Investment</i>	63.892	61.587	62.206	0.000	62.206	60.038	49.606	46.223	53.760	Continuing	Continuing
• PE 0605976F: <i>Facility Restoration and Modernization - T&E</i>	52.190	46.327	44.547	0.000	44.547	45.723	44.236	40.071	38.191	Continuing	Continuing
• PE 0605978F: <i>Facility Sustainment - T&E Support</i>	29.559	27.579	27.953	0.000	27.953	28.049	27.220	26.416	25.600	Continuing	Continuing
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-2A, RDT&E Project Justification: PB 2012 Air Force								DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 6: <i>RDT&E Management Support</i>				R-1 ITEM NOMENCLATURE PE 0605807F: <i>Test and Evaluation Support</i>				PROJECT 6606TS: <i>Test and Evaluation Support</i>			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
6606TS: <i>Test and Evaluation Support</i>	726.693	727.773	623.346	-	623.346	546.815	562.500	582.730	580.953	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

This project provides resources to operate the Air Force 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. Three major Air Force test centers are supported by this project: (1) Arnold Engineering and Development Center (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) Air Force Flight Test Center (AFFTC), 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 AFFTC mission includes the USAF Test Pilot School. (3) Air Armament Center (AAC) 46th Test Wing (TW) 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. AAC 46TW 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. AAC 46TW provides a scientific test process that supports the development, production, sustainment, and enhancement of munitions systems that support tri-service digital weapons development. AAC 46TW technology is compatible with weapon systems requiring test such as the next generation Advanced Medium Air-to-Air Missile (AMRAAM), Laser Joint Direct Attack Munition (JDAM), next generation Small Diameter Bomb (SDB), Extended Range Joint Air-to-Surface Standoff Missile (JASSM-ER), Joint Tactical Information Distribution System (JTIDS), ALR-69A Radar Warning Receiver, Full Scale Aerial Target, Distributed Common Ground System (DCGS), Miniature Air Launched Decoy (MALD) and Jammer (MALD-J), Combat Talon, etc. T&E support services contracts are awarded on the basis of full and open competition.

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011			
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		
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, and test and evaluation.						
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: AEDC Description: Provide infrastructure to support testing of DoD, other Government Agencies, FMS and commercial weapon systems at Arnold Engineering and Development Center (AEDC). FY 2010 Accomplishments: Total consists of utilities, contractor services, and civilian pay. FY 2011 Plans: Total consists of utilities, contractor services, and civilian pay. Decrease in FY 2011 due to contractor services related to contractor to civilian conversion. FY 2012 Base Plans: Total consists of utilities, contractor services, and civilian pay. Decrease in FY 2012 due to manpower efficiencies and civilian pay raise reduction. FY 2012 OCO Plans:		174.065	173.421	152.049	-	152.049
Title: AFFTC Description: Continue to provide institutional test infrastructure support at the Air Force Flight Test Center (AFFTC) and continue to operate the USAF Test Pilot School. FY 2010 Accomplishments: Total consists of utilities, contractor services, civilian pay, and aircraft flying costs. FY 2011 Plans: Total consists of utilities, contractor services, civilian pay, and aircraft flying costs. Increase in FY 2011 due to civilian pay with contractor to civilian conversion. FY 2012 Base Plans: Total consists of utilities, contractor services, civilian pay, and aircraft flying costs. Decrease in FY12 due to manpower efficiencies and civilian pay raise reduction. FY 2012 OCO Plans:		373.343	374.087	315.203	-	315.203
Title: 46th Test Wing		179.285	180.265	156.094	-	156.094

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force										DATE: February 2011	
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 6: <i>RDT&E Management Support</i>				R-1 ITEM NOMENCLATURE PE 0605807F: <i>Test and Evaluation Support</i>				PROJECT 6606TS: <i>Test and Evaluation Support</i>			
B. Accomplishments/Planned Programs (\$ in Millions)											
						FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	
Description: Continue institutional test infrastructure support at 46th Test Wing (TW) for non-nuclear air armaments. FY 2010 Accomplishments: Total consists of utilities, contractor services, civilian pay, and aircraft flying costs. FY 2011 Plans: Total consists of utilities, contractor services, civilian pay, and aircraft flying costs. FY 2012 Base Plans: Total consists of utilities, contractor services, civilian pay, and aircraft flying costs. Decrease in FY 2012 due to manpower efficiencies and civilian pay raise reduction. FY 2012 OCO Plans:											
Accomplishments/Planned Programs Subtotals						726.693	727.773	623.346	-	623.346	
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• PE 0604256F: <i>Threat Simulator Development</i>	25.338	21.245	22.420	0.000	22.420	23.234	22.379	20.592	19.923	Continuing	Continuing
• PE 0604759F: <i>Major Test and Evaluation Investment</i>	63.892	61.587	62.206	0.000	62.206	60.038	49.606	46.223	53.760	Continuing	Continuing
• PE 0605976F: <i>Facility Restoration and Modernization-T&E</i>	52.190	46.327	44.547	0.000	44.547	45.723	44.236	40.071	38.191	Continuing	Continuing
• PE 0605978F: <i>Facility Sustainment - T&E Support</i>	29.559	27.579	27.953	0.000	27.953	28.049	27.220	26.416	25.600	Continuing	Continuing
D. Acquisition Strategy Not applicable.											

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605807F: <i>Test and Evaluation Support</i>	PROJECT 6606TS: <i>Test and Evaluation Support</i>

E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air 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 2012 Air Force	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE							
3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 6: <i>RDT&E Management Support</i>				PE 0605860F: <i>Rocket Systems Launch Program (RSLP)</i>							
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	32.479	23.551	158.096	-	158.096	16.170	16.459	16.699	16.892	Continuing	Continuing
661023: <i>Rocket System Launch Program (RSLP)</i>	32.479	23.551	158.096	-	158.096	16.170	16.459	16.699	16.892	Continuing	Continuing

Note

The program funding includes overhead reduction efficiencies that are not intended to impact program content. The efficiencies reductions total \$406k in FY12.

In FY12, Deep Space Climate Observatory (DSCOVR) launch service is a "New Start" effort.

A. Mission Description and Budget Item Justification

Rocket Systems Launch Program (RSLP) is tasked to provide responsive space and Research, Development, Test and Evaluation (RDT&E) launch vehicle support to DoD and other government agencies using 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, and 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), Operationally Responsive Space (ORS), 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 and development efforts for launch to enhance the reliability of the Minotaur fleet vehicles (e.g., Minotaur IV third stage gas generator diffuser modification). In FY12 RSLP is expanding launch services activities to include new providers. An updated acquisition strategy and new contract are in work.

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.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605860F: <i>Rocket Systems Launch Program (RSLP)</i>
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B. Program Change Summary (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	14.637	23.551	23.723	-	23.723
Current President's Budget	32.479	23.551	158.096	-	158.096
Total Adjustments	17.842	-	134.373	-	134.373
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-0.061	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	17.910	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-0.007	-	134.373	-	134.373

Change Summary Explanation

FY10: \$17.9M ATR for Minotaur IV Recovery.

FY12: \$135M for Deep Space Climate Observatory (DSCOVR) launch. This is a new start in FY12.

The program funding includes overhead reduction efficiencies that are not intended to impact program content. The efficiencies reductions total \$0.406M in FY12.

The program funding includes reductions for economic adjustments totaling \$0.527M.

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE				PROJECT			
3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 6: <i>RDT&E Management Support</i>				PE 0605860F: <i>Rocket Systems Launch Program (RSLP)</i>				661023: <i>Rocket System Launch Program (RSLP)</i>			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
661023: <i>Rocket System Launch Program (RSLP)</i>	32.479	23.551	158.096	-	158.096	16.170	16.459	16.699	16.892	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

Note

FY10: \$17.9M ATR for Minotaur IV Recovery.

FY12: \$135M for Deep Space Climate Observatory (DSOVR) launch services. This is a new start in FY12.

A. Mission Description and Budget Item Justification

Rocket Systems Launch Program (RSLP) is tasked to provide responsive space and Research, Development, Test and Evaluation (RDT&E) launch vehicle support to DoD and other government agencies using 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, and 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), Operationally Responsive Space (ORS), 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 and development efforts for launch to enhance the reliability of the Minotaur fleet vehicles (e.g., Minotaur IV third stage gas generator diffuser modification). In FY12 RSLP is expanding launch services activities to include new providers. An updated acquisition strategy and new contract are in work.

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.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: STORAGE/REFURBISHMENT/DEMIL	13.683	18.331	17.914	-	17.914
Description: Storage, refurbishment, inventory control, and demil of deactivated Minuteman, Peacekeeper and other missile flight test assets					
FY 2010 Accomplishments: Continue storage, refurbishment, inventory control, and demil of deactivated Minuteman, Peacekeeper, and other missile flight test assets and perform research and development support operations as required; Continue					

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011					
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 (RSLP)		PROJECT 661023: Rocket System Launch Program (RSLP)				
B. Accomplishments/Planned Programs (\$ in Millions)				FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
program office support and related support activities such as, but not limited to mission support, speacial studies, SETA, FFRDC, etc FY 2011 Plans: Continue storage, refurbishment, inventory control, and demil of deactivated Minuteman,Peacekeeper and other missile flight test assets and perform research and development support operations as required; Continue program office support and related support activities such as, but not limited to mission support, special studies, SETA, FFRDC, etc. Initiate new inventory control/demil procedures. FY 2012 Base Plans: Continue storage, refurbishment, inventory control, and demil of deactivated Minuteman, Peacekeeper and other missile flight test assets and perform research and development support operations as required; Continue program office support and related support activities such as, but not lilimited to mission support, special studies, SETA, FFRDC, etc. Continue new inventory control/demil efforts. FY 2012 OCO Plans:								
Title: AGING SURVEILLANCE Description: Perform aging surveillance-related activities on stored motors FY 2010 Accomplishments: 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, SETA, FFRDC, etc FY 2011 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, SETA, FFRDC, etc FY 2012 Base 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, SETA, FFRDC, etc FY 2012 OCO Plans:				9.843	5.220	5.633	-	5.633

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE							
3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 6: <i>RDT&E Management Support</i>				PE 0605864F: <i>Space Test Program</i>							
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	46.524	47.623	47.926	-	47.926	49.569	50.220	50.860	51.768	Continuing	Continuing
662617: <i>Free-Flyer Spacecraft Missions</i>	46.524	47.623	47.926	-	47.926	49.569	50.220	50.860	51.768	Continuing	Continuing

Note

The program funding includes reductions for (Knowledge Based Services)efficiencies that are not intended to impact program content. The efficiencies reductions total \$291k in FY12.

A. Mission Description and Budget Item Justification

(U) 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 and manned spaceflight vehicles

(U) The Deputy Secretary of Defense issued a Space Test Program Management & Funding Policy in Jul 2002, reaffirming STP as the primary provider of spaceflight for the entire DoD space research community. The policy states in part that "the STP funding level must be sufficient to provide spaceflight for DoD Space Experiments Review Board (SERB) approved experiments in a timely manner. As a goal, the Air Force funding level should provide for a Small-Launch-Vehicle-Class mission every 2 years and a Medium-Launch-Vehicle-Class mission every 4 years. This is in addition to funding required to support secondary payload and spacecraft missions on other organizations' spacecraft and launch vehicles." 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. Air Force Space Command issued a policy in May 2004 that establishes STP as the sole gateway for all agencies requesting launch services as a piggyback payload or secondary satellite on a Combatant Command mission. The SERB approved 73 experiments in 2010 as candidates for launch services.

(U) In FY10, STP provided launch services to 7 SERB approved experiments including three long duration experiments on the ISS. In FY11, STP successfully launched the S26 mission which provided launch services to 16 experiments, to include 11 SERB approved experiments. It plans to launch an additional 7 experiments to the ISS and 3 on the Shuttle. It will also provide operations support for free flyer experiments and long duration external experiments on the ISS. In FY12 STP has a continually evolving mission portfolio, whereby space experiments and technology payloads are selected for spaceflight from the most recent list approved by the SERB. STP is authorized to initiate new missions from the prioritized, SERB-approved list. STP may also support non-SERB customers, both DoD and other U.S.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605864F: <i>Space Test Program</i>
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Government, on a cost-reimbursable basis. Selection of the most appropriate spaceflight mode for a payload is dependent on optimizing the combination of SERB list priority, timing and readiness of experiments, launch opportunity, and availability of funding. STP support for these payloads includes some or all of the following: mission planning and related support activities; acquisition of a dedicated satellite, launch vehicle, and/or associated integration hardware; integration onto a host satellite, launch vehicle, NASA shuttle, the International Space Station (ISS), ISS resupply, other manned space missions, and commercial launch services, readiness reviews, launch support, and approximately one year of on-orbit operations.

(U) STP supports the National Space Policy by providing unique opportunities for collaboration with NASA, the commercial sector, and international communities.

(U) STP is in Budget Activity 6, RDT&E Management Support, because it supports RDT&E satellite launches.

B. Program Change Summary (\$ in Millions)	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012 Base</u>	<u>FY 2012 OCO</u>	<u>FY 2012 Total</u>
Previous President's Budget	46.721	47.623	48.377	-	48.377
Current President's Budget	46.524	47.623	47.926	-	47.926
Total Adjustments	-0.197	-	-0.451	-	-0.451
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-0.197	-	-0.451	-	-0.451

Change Summary Explanation

The program funding includes overhead reduction efficiencies that are not intended to impact program content. The efficiencies reductions total \$0.291M in FY12. The program funding includes reductions for economic adjustments totaling \$0.016M.

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force									DATE: February 2011		
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				PROJECT 662617: Free-Flyer Spacecraft Missions			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
662617: Free-Flyer Spacecraft Missions	46.524	47.623	47.926	-	47.926	49.569	50.220	50.860	51.768	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

(U) The 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 and manned spaceflight vehicles

(U) The Deputy Secretary of Defense issued a Space Test Program Management & Funding Policy in Jul 2002, reaffirming STP as the primary provider of spaceflight for the entire DoD space research community. The policy states in part that "the STP funding level must be sufficient to provide spaceflight for DoD Space Experiments Review Board (SERB) approved experiments in a timely manner. As a goal, the Air Force funding level should provide for a Small-Launch-Vehicle-Class mission every 2 years and a Medium-Launch-Vehicle-Class mission every 4 years. This is in addition to funding required to support secondary payload and spacecraft missions on other organizations' spacecraft and launch vehicles." 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. Air Force Space Command issued a policy in May 2004 that establishes STP as the sole gateway for all agencies requesting launch services as a piggyback payload or secondary satellite on a Combatant Command mission. The SERB approved 73 experiments in 2010 as candidates for launch services.

(U) In FY10, STP provided launch services to 7 SERB approved experiments including three long duration experiments on the ISS. In FY11, STP successfully launched the S26 mission which provided launch services to 16 experiments, to include 11 SERB approved experiments. It plans to launch an additional 7 experiments to the ISS and 3 on the Shuttle. It will also provide operations support for free flyer experiments and long duration external experiments on the ISS. In FY12 STP has a continually evolving mission portfolio, whereby space experiments and technology payloads are selected for spaceflight from the most recent list approved by the SERB. STP is authorized to initiate new missions from the prioritized, SERB-approved list. STP may also support non-SERB customers, both DoD and other U.S. Government, on a cost-reimbursable basis. Selection of the most appropriate spaceflight mode for a payload is dependent on optimizing the combination of SERB list priority, timing and readiness of experiments, launch opportunity, and availability of funding. STP support for these payloads includes some or all of the following: mission planning and related support activities; acquisition of a dedicated satellite, launch vehicle, and/or associated integration hardware; integration onto a host

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011		
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	PROJECT 662617: Free-Flyer Spacecraft Missions	satellite, launch vehicle, NASA shuttle, the International Space Station (ISS), ISS resupply, other manned space missions, and commercial launch services, readiness reviews, launch support, and approximately one year of on-orbit operations.		
(U) STP supports the National Space Policy by providing unique opportunities for collaboration with NASA, the commercial sector, and international communities.					
(U) STP is in Budget Activity 6, RDT&E Management Support, because it supports RDT&E satellite launches.					
B. Accomplishments/Planned Programs (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: PROGRAM SUPPORT 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 2010 Accomplishments: Provide support for secondary payloads on first ESPA mission FY 2011 Plans: Provide support for secondary payloads on ESPA missions FY 2012 Base Plans: Provide support for secondary payloads on ESPA missions FY 2012 OCO Plans:	1.304	1.470	1.373	-	1.373
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 2010 Accomplishments: Fund spacecraft acquisition, integration of secondary payload on operational mission, secondary payload integration on small launch vehicle FY 2011 Plans: Fund spacecraft acquisition, integration of secondary payload on operational mission, secondary payload integration on small launch vehicle FY 2012 Base Plans:	25.484	24.923	12.688	-	12.688

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011			
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	PROJECT 662617: Free-Flyer Spacecraft Missions				
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Fund spacecraft acquisition, integration of secondary payload on operational mission, secondary payload integration on small launch vehicle FY 2012 OCO Plans:						
Title: LAUNCH VEHICLE PROCUREMENT Description: Initiate and continue purchase of launch vehicles and launch vehicle support for piggyback/secondary, Small Launch Vehicle, Medium Launch Vehicle, NASA Shuttle, the ISS, manned and ISS resupply, and commercial spaceflight missions FY 2010 Accomplishments: Fund spacecraft acquisition, integration of payload as piggyback on spacecraft FY 2011 Plans: Fund initiation of small launch vehicle acquisition FY 2012 Base Plans: Fund initiation of small launch vehicle acquisition FY 2012 OCO Plans:		16.942	14.685	28.169	-	28.169
Title: ON ORBIT SATELLITE OPERATIONS Description: Initiate, develop, and continue first year operations and operations planning for piggyback/secondary, Small Launch Vehicle, Medium Launch Vehicle, NASA Shuttle, the ISS, manned and ISS resupply, and commercial spacecraft missions FY 2010 Accomplishments: Fund on-orbit operations, ground operations planning and development FY 2011 Plans: Fund on-orbit operations, ground operations planning and development FY 2012 Base Plans: Fund on-orbit operations, ground operations planning and development FY 2012 OCO Plans:		1.294	5.045	4.196	-	4.196
Title: LAUNCH STUDIES		1.500	1.500	1.500	-	1.500

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force				DATE: February 2011	
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 6: <i>RDT&E Management Support</i>		R-1 ITEM NOMENCLATURE PE 0605864F: <i>Space Test Program</i>		PROJECT 662617: <i>Free-Flyer Spacecraft Missions</i>	

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Description: Conduct studies to explore future launch opportunities, risk reduction activities, and mission planning FY 2010 Accomplishments: Fund studies for future missions FY 2011 Plans: Fund studies for new small launch vehicle mission FY 2012 Base Plans: Fund studies for new small launch vehicle mission FY 2012 OCO Plans:					
Accomplishments/Planned Programs Subtotals	46.524	47.623	47.926	-	47.926

C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• Related Procurement:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

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 2012 Air Force **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY

3600: *Research, Development, Test & Evaluation, Air Force*
BA 6: *RDT&E Management Support*

R-1 ITEM NOMENCLATURE

PE 0605976F: *Facility Restoration and Modernization - T&E*

COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	52.190	46.327	44.547	-	44.547	45.723	44.236	40.071	38.191	Continuing	Continuing
6606MC: <i>Facility Restoration and Modernization - T&E</i>	52.190	46.327	44.547	-	44.547	45.723	44.236	40.071	38.191	Continuing	Continuing

A. Mission Description and Budget Item Justification

The program funding includes reductions for efficiencies that are not intended to impact program content. The efficiencies reductions total \$0.148M in FY12.

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: 46th Test Group (TG) at Holloman AFB, NM, the 46th Test Wing (TW) at Eglin AFB, FL, the Arnold Engineering and Development Center (AEDC) at Arnold AFB, TN and the Air Force Flight Test Center (AFFTC) at Edwards AFB.

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 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	54.809	46.327	47.073	-	47.073
Current President's Budget	52.190	46.327	44.547	-	44.547
Total Adjustments	-2.619	-	-2.526	-	-2.526
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-2.400	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-0.219	-	-2.526	-	-2.526

Congressional Add Details (\$ in Millions, and Includes General Reductions)

Project: 6606MC: *Facility Restoration and Modernization - T&E*

FY 2010	FY 2011

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force		DATE: February 2011	
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 6: <i>RDT&E Management Support</i>		R-1 ITEM NOMENCLATURE PE 0605976F: <i>Facility Restoration and Modernization - T&E</i>	
Congressional Add Details (\$ in Millions, and Includes General Reductions)		FY 2010	FY 2011
Congressional Add: <i>Inter-Base Facility Energy Independence (ANG Project)</i>		2.296	-
Congressional Add Subtotals for Project: 6606MC		2.296	-
Congressional Add Totals for all Projects		2.296	-
Change Summary Explanation			
FY12: Reduced funding of \$2.378M for Life extension of A/B Exhaust Plants.			

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force									DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 6: RDT&E Management Support				R-1 ITEM NOMENCLATURE PE 0605976F: Facility Restoration and Modernization - T&E				PROJECT 6606MC: Facility Restoration and Modernization - T&E			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
6606MC: Facility Restoration and Modernization - T&E	52.190	46.327	44.547	-	44.547	45.723	44.236	40.071	38.191	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

The program funding includes reductions for efficiencies that are not intended to impact program content. The efficiencies reductions total \$0.148M in FY12.

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: 46th Test Group (TG) at Holloman AFB, NM, the 46th Test Wing (TW) at Eglin AFB, FL, the Arnold Engineering and Development Center (AEDC) at Arnold AFB, TN and the Air Force Flight Test Center (AFFTC) at Edwards AFB.

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. Accomplishments/Planned Programs (\$ in Millions)

	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: Facility restoration and modernization at the 46 TG	1.176	0.462	0.802	-	0.802
Description: Facility restoration and modernization at the 46 TG.					
FY 2010 Accomplishments: The 46 TG had various documented test facility restoration/modernization requirements. These requirements include but are not limited to the following categories: road repair, HVAC repairs and replacements, roof repairs and replacements, test track repairs, minor construction and infrastructure repairs to include underground power lines.					
FY 2011 Plans: The 46 TG has various documented test facility restoration/modernization requirements. These requirements include but are not limited to the following categories: road repair, HVAC repairs and replacements, roof repairs					

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011				
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 6: RDT&E Management Support		R-1 ITEM NOMENCLATURE PE 0605976F: Facility Restoration and Modernization - T&E		PROJECT 6606MC: Facility Restoration and Modernization - T&E			
B. Accomplishments/Planned Programs (\$ in Millions)			FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
and replacements, test track repairs, minor construction and infrastructure repairs to include underground power lines. FY 2012 Base Plans: The 46 TG has various documented test facility restoration/modernization requirements. These requirements include but are not limited to the following categories: road repair, HVAC repairs and replacements, roof repairs and replacements, test track repairs, minor construction and infrastructure repairs to include underground power lines. FY 2012 OCO Plans: Not applicable.							
Title: Facility restoration and modernization at the 46 TW Description: Facility restoration and modernization at the 46 TW. FY 2010 Accomplishments: The 46 TW has documented over 200 test facility restoration/modernization requirements. These include, but are not limited to, the following categories: range roads, fiber-optic communications grid, roofing, windows, doors, fire protection, erosion control, lightening protection, environmental clean-up, corrosion control, and HVAC. The projects to accomplish also include minor construction/reconstruction of Eglin Test and Training Range test sites and facilities; evaluation and implementation of storm mitigation efforts to protect critical test sites; fiber optic cable installation and interconnectivity to enhance communications, data transfer, and instrumentation across the range and test facilities. FY 2011 Plans: The 46TW has identified and documented over 320 test facility and range restoration requirements. Most of these requirements are needed to sustain the integrity of the test facility structure or to enhance accessibility to the test ranges. Some examples of these requirements include, but are not limited to the following specific test structures or categories; replace several munitions storage magazines, install emergency back-up power for Radar/Optical tracking testing at the 300' Copeland Tower on Santa Rosa Island, replace air make-up unit #2 on McKinley Climatic Lab, pave range access roads to accommodate external customer testing, replace roofs on several mission critical buildings, install lightning protection to several buildings within the munitions storage areas, install fire suppression systems in specific test facilities, environmental clean-up and disposal and corrosion control of critical structures. In addition, there are over 200 projects identified as minor construction			2.140	2.437	2.316	-	2.316

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 6: RDT&E Management Support		R-1 ITEM NOMENCLATURE PE 0605976F: Facility Restoration and Modernization - T&E		PROJECT 6606MC: Facility Restoration and Modernization - T&E		
B. Accomplishments/Planned Programs (\$ in Millions)						
		FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
projects, such as replacement of windows, doors, HVAC units, fiber optics, and storm mitigation which will all preserve the Eglin Test and Training Range sites and infrastructure. FY 2012 Base Plans: The 46 TW has documented over 200 test facility restoration/modernization requirements. These include, but are not limited to, the following categories: range roads, fiber-optic communications grid, roofing, windows, doors, fire protection, erosion control, lightening protection, environmental clean-up, corrosion control, and HVAC. The projects to accomplish also include minor construction/reconstruction of Eglin Test and Training Range test sites and facilities; evaluation and implementation of storm mitigation efforts to protect critical test sites; fiber optic cable installation and interconnectivity to enhance communications, data transfer, and instrumentation across the range and test facilities. FY 2012 OCO Plans: Not applicable.						
Title: Facility restoration and modernization at AEDC Description: Facility restoration and modernization at AEDC. FY 2010 Accomplishments: AEDC projects continue revitalizing of the Engine Test Facilities, Propulsion Wind Tunnels, Von Karman Test Facilities, and Space and Missile chambers located at Arnold AFB, TN, the National Full-Scale Aerodynamic Complex (NFAC) located at NASA Ames Research Center, CA, and Tunnel 9 located at White Oak, Maryland. Projects to restore and modernize the supporting plant facilities and to perform project specific planning and design. Also includes large-scale projects that directly support engine development, the Joint Strike Fighter program, hypersonic programs, the Missile Defense Agency, and spacecraft test and evaluation. FY10 included approximately \$5M for one time R&M projects to support engine testing and wind tunnel analysis. FY 2011 Plans: AEDC projects continue revitalizing of the Engine Test Facilities, Propulsion Wind Tunnels, Von Karman Test Facilities, and Space and Missile chambers located at Arnold AFB, TN, the National Full-Scale Aerodynamic Complex (NFAC) located at NASA Ames Research Center, CA, and Tunnel 9 located at White Oak, Maryland. Projects to restore and modernize the supporting plant facilities and to perform project specific planning and		43.213	39.732	37.063	-	37.063

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force				DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 6: RDT&E Management Support		R-1 ITEM NOMENCLATURE PE 0605976F: Facility Restoration and Modernization - T&E		PROJECT 6606MC: Facility Restoration and Modernization - T&E		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
design. Also includes large-scale projects that directly support engine development, the Joint Strike Fighter program, hypersonic programs, the Missile Defense Agency, and spacecraft test and evaluation. FY 2012 Base Plans: AEDC projects continue revitalizing of the Engine Test Facilities, Propulsion Wind Tunnels, Von Karman Test Facilities, and Space and Missile chambers located at Arnold AFB, TN, the National Full-Scale Aerodynamic Complex (NFAC) located at NASA Ames Research Center, CA, and Tunnel 9 located at White Oak, Maryland. Projects to restore and modernize the supporting plant facilities and to perform project specific planning and design. Also includes large-scale projects that directly support engine development, the Joint Strike Fighter program, hypersonic programs, the Missile Defense Agency, and spacecraft test and evaluation. FY 2012 OCO Plans: Not applicable.						
Title: Facility restoration and modernization at AFFTC Description: Facility restoration and modernization at AFFTC. FY 2010 Accomplishments: AFFTC had test facility restoration/modernization projects for Electronic Warfare, Range, and other T&E facilities include, but are 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. FY 2011 Plans: AFFTC will continue test facility restoration/modernization 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. FY 2012 Base Plans: AFFTC will continue test facility restoration/modernization 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. FY 2012 OCO Plans: Not applicable.		3.365	3.696	4.366	-	4.366
Accomplishments/Planned Programs Subtotals		49.894	46.327	44.547	-	44.547

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0605976F: <i>Facility Restoration and Modernization - T&E</i>	PROJECT 6606MC: <i>Facility Restoration and Modernization - T&E</i>
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	FY 2010	FY 2011
Congressional Add: Inter-Base Facility Energy Independence (ANG Project)	2.296	-
FY 2010 Accomplishments: Inter-Base Facility Energy Independence (ANG Project).		
FY 2011 Plans:		
Congressional Adds Subtotals	2.296	-

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

Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• RDT&E AF: <i>PE 0604256F, Threat Simulator Development.</i>	25.375	21.245	22.420	0.000	22.420	23.234	22.379	20.592	19.923	Continuing	Continuing
• RDT&E AF (1): <i>PE 0604759F, Major T&E Investment.</i>	63.892	61.587	62.206	0.000	62.206	60.038	49.606	46.223	53.760	Continuing	Continuing
• RDT&E AF (2): <i>PE 0605807F, Test and Evaluation Support.</i>	755.992	759.868	654.475	0.000	654.475	578.997	595.567	615.594	613.825	Continuing	Continuing
• RDT&E AF (3): <i>PE 0605978F, Facility Sustainment - T&E support.</i>	29.559	27.579	27.953	0.000	27.953	28.049	27.220	26.416	25.600	Continuing	Continuing

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 2012 Air Force **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY

3600: *Research, Development, Test & Evaluation, Air Force*
BA 6: *RDT&E Management Support*

R-1 ITEM NOMENCLATURE

PE 0605978F: *Facility Sustainment - T&E Support*

COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	29.559	27.579	27.953	-	27.953	28.049	27.220	26.416	25.600	Continuing	Continuing
6606MR: <i>Facility Sustainment - T&E Support</i>	29.559	27.579	27.953	-	27.953	28.049	27.220	26.416	25.600	Continuing	Continuing

A. Mission Description and Budget Item Justification

The program funding includes reductions for efficiencies that are not intended to impact program content. The efficiencies reductions total \$0.093M in FY12.

Provides resources for sustainment activities required for an inventory of Air Force Materiel Command (AFMC) T&E facilities. Facility sustainment includes regularly scheduled adjustments and inspections, preventive 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 throughout the life cycle of facilities. This work includes roof replacement, refinishing of wall surfaces, repairing and replacement of heating and cooling systems, replacing tile and carpeting, and similar types of work. Other tasks associated with facilities operations (such as custodial services, grass cutting, landscaping, waste disposal, and the provision of central utilities) are not included. These sustainment funds support the following Air Force test facilities: 46th Test Group (TG) at Holloman AFB, NM, the 46th Test Wing (TW) at Eglin AFB, FL, the Arnold Engineering and Development Center (AEDC) at Arnold AFB, TN and the Air Force Flight Test Center (AFFTC) at Edwards AFB.

Budget Activity Justification: This program element is 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).

B. Program Change Summary (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	29.683	27.579	28.046	-	28.046
Current President's Budget	29.559	27.579	27.953	-	27.953
Total Adjustments	-0.124	-	-0.093	-	-0.093
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-0.124	-	-0.093	-	-0.093

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force									DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 6: RDT&E Management Support				R-1 ITEM NOMENCLATURE PE 0605978F: Facility Sustainment - T&E Support				PROJECT 6606MR: Facility Sustainment - T&E Support			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
6606MR: Facility Sustainment - T&E Support	29.559	27.579	27.953	-	27.953	28.049	27.220	26.416	25.600	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

The program funding includes reductions for efficiencies that are not intended to impact program content. The efficiencies reductions total \$0.093M in FY12.

Provides resources for sustainment activities required for an inventory of Air Force Materiel Command (AFMC) T&E facilities. Facility sustainment includes regularly scheduled adjustments and inspections, preventive 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 throughout the life cycle of facilities. This work includes roof replacement, refinishing of wall surfaces, repairing and replacement of heating and cooling systems, replacing tile and carpeting, and similar types of work. Other tasks associated with facilities operations (such as custodial services, grass cutting, landscaping, waste disposal, and the provision of central utilities) are not included. These sustainment funds support the following Air Force test facilities: 46th Test Group (TG) at Holloman AFB, NM, the 46th Test Wing (TW) at Eglin AFB, FL, the Arnold Engineering and Development Center (AEDC) at Arnold AFB, TN and the Air Force Flight Test Center (AFFTC) at Edwards AFB.

Budget Activity Justification: This program element is 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).

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: Facility Sustainment at the 46 TG	0.318	0.302	0.313	-	0.313
Description: Facility sustainment at the 46 TG.					
FY 2010 Accomplishments: Sustainment of test unique infrastructure located at the 46th TG located at Holloman AFB, NM.					
FY 2011 Plans: Sustainment of test unique infrastructure located at the 46th TG located at Holloman AFB, NM.					
FY 2012 Base Plans: Sustainment of test unique infrastructure located at the 46th TG located at Holloman AFB, NM.					
FY 2012 OCO Plans:					

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 6: RDT&E Management Support	R-1 ITEM NOMENCLATURE PE 0605978F: Facility Sustainment - T&E Support	PROJECT 6606MR: Facility Sustainment - T&E Support				
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Not applicable.						
Title: Facility Sustainment at the 46 TW Description: Facility sustainment at the 46 TW. FY 2010 Accomplishments: Continue sustainment of test unique infrastructure at the 46th TW located at Eglin AFB, FL. FY-10 funding increase due to increased infrastructure requirements. FY 2011 Plans: Continue sustainment of test unique infrastructure at the 46th TW located at Eglin AFB, FL. FY-11 funding decrease drives the reduced level of effort. FY 2012 Base Plans: Continue sustainment of test unique infrastructure at the 46th TW located at Eglin AFB, FL. FY-12 funding increase due to increased infrastructure requirements. FY 2012 OCO Plans: Not applicable.		0.414	0.368	0.372	-	0.372
Title: Facility Sustainment at AEDC Description: Facility sustainment at AEDC. FY 2010 Accomplishments: Continue sustainment of test unique infrastructure at the AEDC located at Arnold AFB, TN and the National Full-scale Aerodynamic Complex (NFAC) located at NASA's Ames Research Center, CA. FY 2011 Plans: Continue sustainment of test unique infrastructure at the AEDC located at Arnold AFB, TN and the National Full-scale Aerodynamic Complex (NFAC) located at NASA's Ames Research Center, CA. FY 2012 Base Plans: Continue sustainment of test unique infrastructure at the AEDC located at Arnold AFB, TN and the National Full-scale Aerodynamic Complex (NFAC) located at NASA's Ames Research Center, CA. FY 2012 OCO Plans:		27.785	25.811	26.220	-	26.220

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force									DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 6: RDT&E Management Support				R-1 ITEM NOMENCLATURE PE 0605978F: Facility Sustainment - T&E Support				PROJECT 6606MR: Facility Sustainment - T&E Support				
B. Accomplishments/Planned Programs (\$ in Millions)								FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Not applicable.												
Title: Facility Sustainment at AFFTC Description: Facility sustainment at AFFTC. FY 2010 Accomplishments: Continue sustainment of test unique infrastructure in AFFTC Electronic Warfare, Range, and other T&E facilities located at Edwards AFB, CA. FY 2011 Plans: continue sustainment of test unique infrastructure in AFFTC Electronic Warfare, Range, and other T&E facilities located at Edwards AFB, CA. FY 2012 Base Plans: Continue sustainment of test unique infrastructure in AFFTC Electronic Warfare, Range, and other T&E facilities located at Edwards AFB, CA. FY 2012 OCO Plans: Not applicable.								1.042	1.098	1.048	-	1.048
Accomplishments/Planned Programs Subtotals								29.559	27.579	27.953	-	27.953
C. Other Program Funding Summary (\$ in Millions)												
Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost	
• RDT&E AF: PE 0604256F, Threat Simulator Development	25.375	21.245	22.420	0.000	22.420	23.234	22.379	20.592	19.923	Continuing	Continuing	
• RDT&E AF (1): PE 0604759F, Major T&E Investment	63.892	61.587	62.206	0.000	62.206	60.038	49.606	46.223	53.760	Continuing	Continuing	
• RDT&E AF (2): PE 0605807F, Test and Evaluation Support	755.992	759.868	651.184	3.291	654.475	578.997	595.567	615.594	613.825	Continuing	Continuing	
	52.190	46.327	44.547	0.000	44.547	45.723	45.723	40.071	38.191	Continuing	Continuing	

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force										DATE: February 2011	
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 6: <i>RDT&E Management Support</i>			R-1 ITEM NOMENCLATURE PE 0605978F: <i>Facility Sustainment - T&E Support</i>				PROJECT 6606MR: <i>Facility Sustainment - T&E Support</i>				
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• RDT&E AF (3): <i>PE 0605976F, Facility Restoration and Modernization - T&E</i>											
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 2012 Air Force **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE							
3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 6: <i>RDT&E Management Support</i>				PE 0606323F: <i>Multi-Service Systems Engineering</i>							
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	-	18.901	13.953	-	13.953	13.938	13.935	-	-	Continuing	Continuing
668101: <i>MSSE and JIAMD Capability Initiative</i>	-	18.901	13.953	-	13.953	13.938	13.935	-	-	Continuing	Continuing

A. Mission Description and Budget Item Justification

The Multi-Service System Engineering Team (MSSET) is established 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 "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.

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 are considered 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 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.
- 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, 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.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0606323F: <i>Multi-Service Systems Engineering</i>
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B. Program Change Summary (\$ in Millions)	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012 Base</u>	<u>FY 2012 OCO</u>	<u>FY 2012 Total</u>
Previous President's Budget	-	18.901	-	-	-
Current President's Budget	-	18.901	13.953	-	13.953
Total Adjustments	-	-	13.953	-	13.953
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-	-	13.953	-	13.953

Change Summary Explanation

In FY 2012: Per Cost Assessment & Program Evaluation (Office of Secretary of Defense) direction, the program element is funded in fiscal year 2012-2014 to support multi-service system engineering efforts.

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force									DATE: February 2011		
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				PROJECT 668101: MSSE and JIAMD Capability Initiative			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
668101: MSSE and JIAMD Capability Initiative	-	18.901	13.953	-	13.953	13.938	13.935	-	-	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

The Multi-Service System Engineering Team (MSSET) is established 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 "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.

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 are considered 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 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.
- 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, 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.

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011			
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	PROJECT 668101: MSSE and JIAMD Capability Initiative				
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: JTMC System Engineering Description: Engineering Activity (Multi-Service Systems Engineering) FY 2010 Accomplishments: FY 2011 Plans: Finalizes system architecture for JTMC demo, process engineering change documents with programs of record, acquire final Tactical Component Network licensing. FY 2012 Base Plans: FY 2012 OCO Plans:		-	1.200	-	-	-
Title: JTMC Demo Description: Joint Track Manager Capability Demonstration FY 2010 Accomplishments: FY 2011 Plans: Conduct bridge demonstration between Navy's Cooperative Engagement Capability (CEC) and Army Integrated Air Missile Defense Integrated Fire Control Network (AIAMD IFCN) programs of record and develop test plans in support of demonstration. FY 2012 Base Plans: FY 2012 OCO Plans:		-	9.500	-	-	-
Title: Joint Operational Requirements Description: Joint Operational Requirements FY 2010 Accomplishments: FY 2011 Plans: Support JROC-approved SIAP/JTM Capability Development Document (CDD) requirements to JIAMD community. FY 2012 Base Plans:		-	1.801	-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011			
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	PROJECT 668101: MSSE and JIAMD Capability Initiative				
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
FY 2012 OCO Plans: Title: TCN Description: TCN license payment FY 2010 Accomplishments: FY 2011 Plans: Complete final payment on TCN software license. FY 2012 Base Plans: FY 2012 OCO Plans:		-	6.400	-	-	-
Title: Requirements Development Description: MSSE Requirements Development FY 2010 Accomplishments: FY 2011 Plans: FY 2012 Base Plans: Develop, recommend, and document as necessary overarching JIAMD technical/performance requirements. FY 2012 OCO Plans:		-	-	1.000	-	1.000
Title: Architecture Development Description: MSSE Architecture Development FY 2010 Accomplishments: FY 2011 Plans: FY 2012 Base 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 2012 OCO Plans:		-	-	5.000	-	5.000

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force							DATE: February 2011					
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			PROJECT 668101: MSSE and JIAMD Capability Initiative					
B. Accomplishments/Planned Programs (\$ in Millions)							FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	
Title: Engineering							-	-	7.953	-	7.953	
Description: MSSE Systems Engineering												
FY 2010 Accomplishments:												
FY 2011 Plans:												
FY 2012 Base Plans: Perform Joint IAMD FOS engineering, related analyses, and develop recommendations for incrementally implementing Joint IAMD capabilities. Develop Joint IAMD FOS engineering and Capability Validation Plans and strategies.												
FY 2012 OCO Plans:												
Accomplishments/Planned Programs Subtotals							-	18.901	13.953	-	13.953	
C. Other Program Funding Summary (\$ in Millions)												
	Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
•	N/A:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
D. Acquisition Strategy												
The Multi-Service System Engineering PE will fund service Programs of Record (PoRs) to achieve incremental capability enhancements in accordance with the Joint Integrated Air and Missile Defense (JAIMD) Joint Enterprise Acquisition Plan (JEAP). The JIAMD JEAP establishes the way forward to close existing gaps between PoRs identified in the IAMD Initial Capability Document (ICD), and provides the Joint warfighter enhanced capability that allows weapons to be utilized at their full kinetic capability. This will be accomplished incrementally by establishing specification standards, agreed to interface specification, and system engineering change proposals to PoRs that will enable interoperability between disparate networks in a Family of Systems (FoS). This tasking will be accomplished in a collaborative fashion with the Services, Missile Defense Agency (MDA), the JPEO, Joint Staff and OSD.												
E. Performance Metrics												
Please refer to the Performance Base Budget Overview Book for information on how Air 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 2012 Air Force **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY

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

BA 6: *RDT&E Management Support*

R-1 ITEM NOMENCLATURE

PE 0702806F: *ACQUISITION AND COMMAND SUPPORT*

COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	18.176	24.968	31.966	-	31.966	28.384	26.320	25.201	25.807	Continuing	Continuing
66ACSI: ACS/	18.176	24.968	31.966	-	31.966	28.384	26.320	25.201	25.807	Continuing	Continuing

A. Mission Description and Budget Item Justification

Supporting Congressional and SECDEF mandates, program funding 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 larger, more relevant technical workforce with the expertise to uniformly implement OSD and Air Force engineering guidance and policies. Leveraging the Defense Acquisition Performance Assessment, restores stability in Air Force acquisition systems 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. The PEO/EIS formerly known as 554th Electronic Systems Wing, designs, tests, and evaluates combat support system architectures, operating environments, and computer platforms.

Efforts include:

- o Increasing technical and analytical support through training development; independent cost estimating and assessment to help analyze cost/risk growth and create defensible risk analyses for cost, schedule, and technical risks; information technology infrastructure development; and economic, statistical, and engineering analyses of acquisition programs
- o Initiating performance measures for capability-based planning constructs, aligning relevant science and technology areas with operational requirements to include systems integration modeling and architecture analysis
- o Increasing activities to recruit, develop, and manage the technical workforce, enhancing business and engineering processes to develop leaders to manage the acquisition and engineering transformation and interface with the academic community
- o Transforming acquisition review processes to re-establish clean lines of responsibility, authority, and accountability at appropriate levels
- o Exploring methods to operate a materiel solution development process that is responsive to COCOM capability needs, aligned with the OSD Joint Task Assignment Process
- o Creating an acquisition business systems environment, supporting acquisition transformation and enabling Acquisition Excellence, consisting of a foundation of centrally managed and integrated tools applying data standards and enabling repeatable processes across the Air Force Acquisition Enterprise. This environment will support (1) reengineering legacy capabilities into target architectures, environments, and future service-oriented capabilities and (2) implementation of new capability to support Air Force Acquisition processes at the enterprise level. Implementation will result in streamlined processes, standard tools enabling standard work, leveraging of modern technology to provide robust enterprise solutions, and the reduction of manual effort and redundant data entry across the enterprise. Initiative includes providing capability to: (1) conduct program resources management, (2) conduct program management and oversight, (3) plan and achieve on-time acquisition milestone readiness, (4) adopt commercial enterprise concept of Product Lifecycle Management for the production of traceable requirements, (5) standardize risk management, and (6) manage scientific and technical information.

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.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0702806F: <i>ACQUISITION AND COMMAND SUPPORT</i>
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B. Program Change Summary (\$ in Millions)	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012 Base</u>	<u>FY 2012 OCO</u>	<u>FY 2012 Total</u>
Previous President's Budget	18.865	24.968	24.575	-	24.575
Current President's Budget	18.176	24.968	31.966	-	31.966
Total Adjustments	-0.689	-	7.391	-	7.391
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-0.689	-	7.391	-	7.391

Change Summary Explanation

FY12: Increase to improve Acquisition IT systems

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force								DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 6: RDT&E Management Support				R-1 ITEM NOMENCLATURE PE 0702806F: ACQUISITION AND COMMAND SUPPORT				PROJECT 66ACSI: ACSI/			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
66ACSI: ACSI/	18.176	24.968	31.966	-	31.966	28.384	26.320	25.201	25.807	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		
Note The program funding includes an increases for overhead reductions of \$4.822M efficiencies that are intended to reduce out year costs through improvement in program infrastructure or reduction in unit costs. The program funding also includes reductions for service support contractor efficiencies that are not intended to impact program content. The efficiencies reductions total \$2.187 in FY12.											
A. Mission Description and Budget Item Justification Supporting Congressional and SECDEF mandates, program funding 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 larger, more relevant technical workforce with the expertise to uniformly implement OSD and Air Force engineering guidance and policies. Leveraging the Defense Acquisition Performance Assessment, restores stability in Air Force acquisition systems 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. The PEO/EIS formerly known as 554th Electronic Systems Wing, designs, tests, and evaluates combat support system architectures, operating environments, and computer platforms. Efforts include: o Increasing technical and analytical support through training development; independent cost estimating and assessment to help analyze cost/risk growth and create defensible risk analyses for cost, schedule, and technical risks; information technology infrastructure development; and economic, statistical, and engineering analyses of acquisition programs o Initiating performance measures for capability-based planning constructs, aligning relevant science and technology areas with operational requirements to include systems integration modeling and architecture analysis o Increasing activities to recruit, develop, and manage the technical workforce, enhancing business and engineering processes to develop leaders to manage the acquisition and engineering transformation and interface with the academic community o Transforming acquisition review processes to re-establish clean lines of responsibility, authority, and accountability at appropriate levels o Exploring methods to operate a materiel solution development process that is responsive to COCOM capability needs, aligned with the OSD Joint Task Assignment Process o Creating an acquisition business systems environment, supporting acquisition transformation and enabling Acquisition Excellence, consisting of a foundation of centrally managed and integrated tools applying data standards and enabling repeatable processes across the Air Force Acquisition Enterprise. This environment will support (1) reengineering legacy capabilities into target architectures, environments, and future service-oriented capabilities and (2) implementation of new capability to support Air Force Acquisition processes at the enterprise level. Implementation will result in streamlined processes, standard tools enabling standard work, leveraging of modern technology to provide robust enterprise solutions, and the reduction of manual effort and redundant data entry across the enterprise. Initiative includes providing capability to: (1) conduct program resources management, (2) conduct program management and oversight, (3) plan and achieve on-time acquisition											

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011				
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 6: RDT&E Management Support		R-1 ITEM NOMENCLATURE PE 0702806F: ACQUISITION AND COMMAND SUPPORT		PROJECT 66ACSI: ACSI/			
milestone readiness, (4) adopt commercial enterprise concept of Product Lifecycle Management for the production of traceable requirements, (5) standardize risk management, and (6) manage scientific and technical information.							
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 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: Acquisition Mandates Description: Supporting Congressional and SECDEF mandates. Program funding provides the framework for Air Force business and acquisition. FY 2010 Accomplishments: Continued acquisition/engineering process research/cost estimating. FY 2011 Plans: Continue acquisition/engineering process research/cost estimating. FY 2012 Base Plans: Continue acquisition/engineering process research/cost estimating FY 2012 OCO Plans:			4.785	5.250	5.300	-	5.300
Title: Performance Measurements Description: Initiating performance measures for capability-based planning constructs FY 2010 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 2011 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 2012 Base Plans:			3.357	4.399	5.869	-	5.869

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 6: RDT&E Management Support	R-1 ITEM NOMENCLATURE PE 0702806F: ACQUISITION AND COMMAND SUPPORT	PROJECT 66ACSI: ACSI/				
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
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 2012 OCO Plans:						
Title: Technical and Analytical Support Description: Increasing technical and analytical support through information technology infrastructure development; economic, statistical, and engineering analyses of acquisition programs. FY 2010 Accomplishments: Continued development of information technology (IT) development. FY 2011 Plans: Continue development of information technology (IT) development. FY 2012 Base Plans: Continue development of information technology (IT) development. FY 2012 OCO Plans:		4.672	9.400	11.898	-	11.898
Title: Recruiting and Development Description: Increasing activities to recruit, develop, and manage the technical workforce FY 2010 Accomplishments: Continued activities to recruit, develop, and manage the technical workforce, enhancing business and engineering processes to develop leaders to manage the acquisition and engineering transformation and interface with the academic community. FY 2011 Plans: Continue activities to recruit, develop, and manage the technical workforce, enhancing business and engineering processes to develop leaders to manage the acquisition and engineering transformation and interface with the academic community. FY 2012 Base Plans:		5.362	5.919	8.899	-	8.899

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force				DATE: February 2011	
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 6: <i>RDT&E Management Support</i>		R-1 ITEM NOMENCLATURE PE 0702806F: <i>ACQUISITION AND COMMAND SUPPORT</i>		PROJECT 66ACSI: <i>ACSI</i>	

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Continue activities to recruit, develop, and manage the technical workforce, enhancing business and engineering processes to develop leaders to manage the acquisition and engineering transformation and interface with the academic community. <i>FY 2012 OCO Plans:</i>					
Accomplishments/Planned Programs Subtotals	18.176	24.968	31.966	-	31.966

C. Other Program Funding Summary (\$ in Millions)										
Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete
• N/A: <i>Not Applicable</i>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing

D. Acquisition Strategy
Contracts will be awarded through 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.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE							
3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 6: <i>RDT&E Management Support</i>				PE 0804731F: <i>GENERAL SKILL TRAINING</i>							
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	1.399	1.544	1.510	-	1.510	1.292	1.356	1.375	1.400	Continuing	Continuing
665297: <i>Technical Training Information Systems</i>	1.399	1.544	1.510	-	1.510	1.292	1.356	1.375	1.400	Continuing	Continuing

A. Mission Description and Budget Item Justification

The DoD Cyber Crime Center (DC3) is a service organization that provides on demand state-of-the-art electronic forensic services and cyber investigative and operational support to the Department of Defense (DoD). DC3 also provides leadership as a DoD center of excellence in processing and analyzing digital evidence. It provides professional special investigative services for the protection of DoD people, investigations, operations, material and critical infrastructures worldwide. The DC3's objective is to support and address the proliferation of cyber crimes within or directed at the DoD. Within DC3, the DoD Cyber Crime Institute (DCCI) develops the foundation for accepted standards and practices based on valid research, science, and law with innovative ideas and methods. It serves as a resource for sound research to produce unique tools and procedures for the DoD law enforcement, counter terrorism, counterintelligence, force protection, information assurance, information operations and war fighting communities. It strives to develop national electronic forensics standards, cyber investigative tools and techniques, effective plans, policies and procedures and implement a knowledge management system. It provides the DoD community with analytical services and produces relevant intelligence reports, criminal intelligence reports and cyber investigation trend analyses. It focuses on new issues facing the DoD critical infrastructure protection efforts and those facing the cyber investigative discipline. DC3 must continue to expand its capabilities and continue to develop effective plans, policies, and procedures for addressing cybercrime and electronic forensic needs in DoD both now and in the future. The primary goal is to ensure the DoD has the ability to successfully perform its mission of electronic media processing and analysis in the future.

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 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	1.450	1.544	1.581	-	1.581
Current President's Budget	1.399	1.544	1.510	-	1.510
Total Adjustments	-0.051	-	-0.071	-	-0.071
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.051	-			
• Other Adjustments	-	-	-0.071	-	-0.071

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force									DATE: February 2011		
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				PROJECT 665297: Technical Training Information Systems			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
665297: Technical Training Information Systems	1.399	1.544	1.510	-	1.510	1.292	1.356	1.375	1.400	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

The DoD Cyber Crime Center (DC3) is a service organization that provides on demand state-of-the-art electronic forensic services and cyber investigative and operational support to the Department of Defense (DoD). DC3 also provides leadership as a DoD center of excellence in processing and analyzing digital evidence. It provides professional special investigative services for the protection of DoD people, investigations, operations, material and critical infrastructures worldwide. The DC3's objective is to support and address the proliferation of cyber crimes within or directed at the DoD. Within DC3, the DoD Cyber Crime Institute (DCCI) develops the foundation for accepted standards and practices based on valid research, science, and law with innovative ideas and methods. It serves as a resource for sound research to produce unique tools and procedures for the DoD law enforcement, counter terrorism, counterintelligence, force protection, information assurance, information operations and war fighting communities. It strives to develop national electronic forensics standards, cyber investigative tools and techniques, effective plans, policies and procedures and implement a knowledge management system. It provides the DoD community with analytical services and produces relevant intelligence reports, criminal intelligence reports and cyber investigation trend analyses. It focuses on new issues facing the DoD critical infrastructure protection efforts and those facing the cyber investigative discipline. DC3 must continue to expand its capabilities and continue to develop effective plans, policies, and procedures for addressing cybercrime and electronic forensic needs in DoD both now and in the future. The primary goal is to ensure the DoD has the ability to successfully perform its mission of electronic media processing and analysis in the future. Without funding, critical projects will be terminated. The DoD's ability to process digital evidence in a future environment of increasing case loads that have a large amount of data that is also hidden by sophisticated techniques will be greatly degraded.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: Cyber Crime	1.399	1.544	1.510	-	1.510
Description: Develop plans/policies/procedures for cybercrime issues					
FY 2010 Accomplishments: Begin conducting electronic forensics and cyber investigations (Digital evidence processing, special investigation services, etc).					
FY 2011 Plans: Continue conducting electronic forensics and cyber investigations (Digital evidence processing, special investigation services, etc).					
FY 2012 Base Plans:					

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force						DATE: February 2011						
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 6: <i>RDT&E Management Support</i>				R-1 ITEM NOMENCLATURE PE 0804731F: <i>GENERAL SKILL TRAINING</i>				PROJECT 665297: <i>Technical Training Information Systems</i>				
B. Accomplishments/Planned Programs (\$ in Millions)												
						FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total		
Begin conducting electronic forensics and cyber investigations (Digital evidence processing, special investigation services, etc).												
<i>FY 2012 OCO Plans:</i>												
Accomplishments/Planned Programs Subtotals						1.399	1.544	1.510	-	1.510		
C. Other Program Funding Summary (\$ in Millions)												
	<u>Line Item</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012 Base</u>	<u>FY 2012 OCO</u>	<u>FY 2012 Total</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
•	N/A:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
D. Acquisition Strategy												
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 2012 Air Force	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0909999F: <i>Financing for Cancelled Account Adjustments</i>
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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	0.100	-	-	-	-	-	-	-	-	Continuing	Continuing
190JFR: AC-130U CLAIM	0.100	-	-	-	-	-	-	-	-	Continuing	Continuing

A. Mission Description and Budget Item Justification

AC-130U CLAIM.

<u>B. Program Change Summary (\$ in Millions)</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012 Base</u>	<u>FY 2012 OCO</u>	<u>FY 2012 Total</u>
Previous President's Budget	0.100	-	-	-	-
Current President's Budget	0.100	-	-	-	-
Total Adjustments	-	-	-	-	-
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-	-	-	-	-

Change Summary Explanation

FY 2009: AC-130U CLAIM.

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force									DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 6: <i>RDT&E Management Support</i>				R-1 ITEM NOMENCLATURE PE 0909999F: <i>Financing for Cancelled Account Adjustments</i>				PROJECT 190JFR: <i>AC-130U CLAIM</i>			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
190JFR: <i>AC-130U CLAIM</i>	0.100	-	-	-	-	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		
A. Mission Description and Budget Item Justification AC-130U CLAIM.											
B. Accomplishments/Planned Programs (\$ in Millions)							FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: AC-130U CLAIM							0.100	-	-	-	-
Description: AC-130U CLAIM											
FY 2010 Accomplishments:											
FY 2011 Plans:											
FY 2012 Base Plans:											
FY 2012 OCO Plans:											
Accomplishments/Planned Programs Subtotals							0.100	-	-	-	-
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• N/A:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
D. Acquisition Strategy 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 2012 Air Force **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE							
3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 6: <i>RDT&E Management Support</i>				PE 1001004F: <i>International Activities</i>							
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	3.611	3.764	3.798	-	3.798	3.844	3.902	3.957	4.040	Continuing	Continuing
664645: <i>International Cooperative Research & Development</i>	3.611	3.764	3.798	-	3.798	3.844	3.902	3.957	4.040	Continuing	Continuing

A. Mission Description and Budget Item Justification

The mission of this program is to gain access to our Allies' best defense technologies, eliminate costly duplication of Resesarch and Development (R&D) efforts, accelerate availabilty of defense systems, and to deploy and sustain common or interoperable USAF and allied equipment through International Cooperative Research and Development (ICR&D).

The USAF is party to multiple international cooperative agreements to solve common US and allied military scientific and technological problems, develop materiel solutions to harmonize coalition requirements and build interoperability with our coalition partners. This program element funds the USAF to discover, develop, process, negotiate, implement, and manage these international cooperative agreements and projects in compliance with statutory reporting provisions and exacting legal statutes, fiscal constraints, technology transfer controls, intellectual property rights, third party transfer provisions, quid-pro-quo criteria, industrial base factors, and political-military interests. Included in this budget are international technology assessment teams; space cooperation; specialized working groups; Research Technology Project development; Air Senior National Representative activities; support for cooperative opportunity assessments; developing; processing; negotiating and managing international agreements; oversight of ICR&D projects; program reviews; overseas R&D liaison offices; bilateral and multilateral staff talks; USAF displays at 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, funding provides for general R&D management support for all aspects of ICR&D activities in the USAF.

B. Program Change Summary (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	3.748	3.764	3.811	-	3.811
Current President's Budget	3.611	3.764	3.798	-	3.798
Total Adjustments	-0.137	-	-0.013	-	-0.013
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.137	-			
• Other Adjustments	-	-	-0.013	-	-0.013

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force									DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 6: RDT&E Management Support				R-1 ITEM NOMENCLATURE PE 1001004F: International Activities				PROJECT 664645: International Cooperative Research & Development			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
664645: International Cooperative Research & Development	3.611	3.764	3.798	-	3.798	3.844	3.902	3.957	4.040	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

The mission of this program is to gain access to our Allies' best defense technologies, eliminate costly duplication of Resesarch and Development (R&D) efforts, accelerate availability of defense systems, and to deploy and sustain common or interoperable USAF and allied equipment through International Cooperative Research and Development (ICR&D).

The USAF is party to multiple international cooperative agreements to solve common US and allied military scientific and technological problems, develop materiel solutions to harmonize coalition requirements and build interoperability with our coalition partners. This program element funds the USAF to discover, develop, process, negotiate, implement, and manage these international cooperative agreements and projects in compliance with statutory reporting provisions and exacting legal statutes, fiscal constraints, technology transfer controls, intellectual property rights, third party transfer provisions, quid-pro-quo criteria, industrial base factors, and political-military interests. Included in this budget are international technology assessment teams; space cooperation; specialized working groups; Research Technology Project development; Air Senior National Representative activities; support for cooperative opportunity assessments; developing; processing; negotiating and managing international agreements; oversight of ICR&D projects; program reviews; overseas R&D liaison offices; bilateral and multilateral staff talks; USAF displays at 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, funding provides for general R&D management support for all aspects of ICR&D activities in the USAF.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: Engineer and Scientist Exchange Program/Administrative and Professional Exchange Program (ESEP/APEP)	0.300	0.300	0.300	-	0.300
Description: Funds the USAF execution and management oversight of ESEP and APEP agreements. Funds eight to ten field level military and civilian personnel from AFMC Facilities, Product Centers, Test Centers, Logistic Centers, and the Academy for tours at selected European and Asian government laboratories or other installations.					
FY 2010 Accomplishments:					

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force				DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 6: RDT&E Management Support		R-1 ITEM NOMENCLATURE PE 1001004F: International Activities		PROJECT 664645: International Cooperative Research & Development		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Continuation of execution and management oversight of ESEP and APEP agreements. Funds eight to ten field level military and civilian personnel from AFMC Facilities, Product Centers, Test Centers, Logistic Centers, and the Academy for tours at selected European and Asian government laboratories or other installations. FY 2011 Plans: Continuation of execution and management oversight of ESEP and APEP agreements. Funds eight to ten field level military and civilian personnel from AFMC Facilities, Product Centers, Test Centers, Logistic Centers, and the Academy for tours at selected European and Asian government laboratories or other installations. FY 2012 Base Plans: Continuation of execution and management oversight of ESEP and APEP agreements. Funds eight to ten field level military and civilian personnel from AFMC Facilities, Product Centers, Test Centers, Logistic Centers, and the Academy for tours at selected European and Asian government laboratories or other installations. FY 2012 OCO Plans:						
Title: International Cooperative Research and Development (ICR&D) Description: Funds USAF overseas R&D liaison offices. Funds management support and oversight of International Affairs Armaments Cooperation Division (SAF/IAPQ). Funds USAF participation in NATO forums to promote NATO harmonization of requirements, standardization, and new cooperative R&D programs. Funds USAF support and participation in OSD bi-lateral acquisition forums. Funds technical assessments and international agreements negotiation start-up costs associated with promising cooperative R&D programs. Funds USAF efforts to expand existing relationships, technology development activities and interoperability issues with: Australia, Canada, Denmark, France, Germany, India, Israel, Italy, Japan, NATO, Netherlands, Norway, South Korea, Singapore, Spain, Sweden, and UK. Funds USAF participation in initiating ICR&D relationships and activities with: Brazil, Poland, Chile, Czech Republic, India, South Africa and Turkey. FY 2010 Accomplishments: Continuation of management and support of overseas R&D liaison offices. Funds management support and oversight of International Affairs Armaments Cooperation Division (SAF/IAPQ). Funds USAF participation in NATO forums to promote NATO harmonization of requirements, standardization, and new cooperative R&D programs. Funds USAF support and participation in OSD bi-lateral acquisition forums. Funds technical assessments and international agreements negotiation start-up costs associated with promising cooperative R&D programs. Funds USAF efforts to expand existing relationships, technology development activities and		2.011	2.314	2.251	-	2.251

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 6: RDT&E Management Support		R-1 ITEM NOMENCLATURE PE 1001004F: International Activities		PROJECT 664645: International Cooperative Research & Development		
B. Accomplishments/Planned Programs (\$ in Millions)						
		FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
interoperability issues with: Australia, Canada, Denmark, France, Germany, India, Israel, Italy, Japan, NATO, Netherlands, Norway, South Korea, Singapore, Spain, Sweden, and UK. Funds USAF participation in initiating ICR&D relationships and activities with: Brazil, Poland, Chile, Czech Republic, India, South Africa and Turkey. FY 2011 Plans: Continuation of management and support of overseas R&D liaison offices. Funds management support and oversight of International Affairs Armaments Cooperation Division (SAF/IAPQ). Funds USAF participation in NATO forums to promote NATO harmonization of requirements, standardization, and new cooperative R&D programs. Funds USAF support and participation in OSD bi-lateral acquisition forums. Funds technical assessments and international agreements negotiation start-up costs associated with promising cooperative R&D programs. Funds USAF efforts to expand existing relationships, technology development activities and interoperability issues with: Australia, Canada, Denmark, France, Germany, India, Israel, Italy, Japan, NATO, Netherlands, Norway, South Korea, Singapore, Spain, Sweden, and UK. Funds USAF participation in initiating ICR&D relationships and activities with: Brazil, Poland, Chile, Czech Republic, India, South Africa and Turkey. FY 2012 Base Plans: Continuation of management and support of overseas R&D liaison offices. Funds management support and oversight of International Affairs Armaments Cooperation Division (SAF/IAPQ). Funds USAF participation in NATO forums to promote NATO harmonization of requirements, standardization, and new cooperative R&D programs. Funds USAF support and participation in OSD bi-lateral acquisition forums. Funds technical assessments and international agreements negotiation start-up costs associated with promising cooperative R&D programs. Funds USAF efforts to expand existing relationships, technology development activities and interoperability issues with: Australia, Canada, Denmark, France, Germany, India, Israel, Italy, Japan, NATO, Netherlands, Norway, South Korea, Singapore, Spain, Sweden, and UK. Funds USAF participation in initiating ICR&D relationships and activities with: Brazil, Poland, Chile, Czech Republic, India, South Africa and Turkey. FY 2012 OCO Plans:						
Title: Armaments Cooperation Description: Funds the USAF’s ability to develop and negotiate the increasing number proposals for ICRD&A bi-lateral and multi-lateral Agreements with key allies. Work will continue on agreements developed, but not signed, during FY10 in the areas of: materials and composites, human effectiveness, robotics, nanotechnology, coalition information sharing, biometrics, virtual munitions design, hypersonics, alternative energy, IED defeat,		0.750	0.750	0.800	-	0.800

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 6: RDT&E Management Support		R-1 ITEM NOMENCLATURE PE 1001004F: International Activities		PROJECT 664645: International Cooperative Research & Development		
B. Accomplishments/Planned Programs (\$ in Millions)						
		FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
WMD defeat, distributed mission operations, lasers, unmanned air systems, reconnaissance and surveillance, command and control, capabilities, interoperability and system level programs.						
FY 2010 Accomplishments: Continuation of funding for the USAF's ability to develop and negotiate the increasing number proposals for ICRD&A bi-lateral and multi-lateral Agreements with key allies. Work will continue on agreements developed, but not signed, during FY10 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, reconnaissance and surveillance, command and control, capabilities, interoperability and system level programs.						
FY 2011 Plans: Continuation of funding for the USAF's ability to develop and negotiate the increasing number proposals for ICRD&A bi-lateral and multi-lateral Agreements with key allies. Work will continue on agreements developed, but not signed, during FY10 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, reconnaissance and surveillance, command and control, capabilities, interoperability and system level programs.						
FY 2012 Base Plans: Continuation of funding for the USAF's ability to develop and negotiate the increasing number proposals for ICRD&A bi-lateral and multi-lateral Agreements with key allies. Work will continue on agreements developed, but not signed, during FY10 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, reconnaissance and surveillance, command and control, capabilities, interoperability and system level programs.						
FY 2012 OCO Plans:						
Title: Air Force Material Command (AFMC)		0.250	0.200	0.200	-	0.200
Description: Funds support and oversight of International Armaments Cooperation R&D efforts within the Air Force Research Laboratories (AFRL). Funds AFRL support of technical assessments and discussions to identify, create, and develop promising cooperative R&D programs.						

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011					
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 6: RDT&E Management Support		R-1 ITEM NOMENCLATURE PE 1001004F: International Activities		PROJECT 664645: International Cooperative Research & Development				
B. Accomplishments/Planned Programs (\$ in Millions)				FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
FY 2010 Accomplishments: Continuation of funds support and oversight of International Armaments Cooperation R&D efforts within the Air Force Research Laboratories (AFRL). Funds AFRL support of technical assessments and discussions to identify, create, and develop promising cooperative R&D programs.								
FY 2011 Plans: Continuation of funds support and oversight of International Armaments Cooperation R&D efforts within the Air Force Research Laboratories (AFRL). Funds AFRL support of technical assessments and discussions to identify, create, and develop promising cooperative R&D programs.								
FY 2012 Base Plans: Continuation of funds support and oversight of International Armaments Cooperation R&D efforts within the Air Force Research Laboratories (AFRL). Funds AFRL support of technical assessments and discussions to identify, create, and develop promising cooperative R&D programs.								
FY 2012 OCO Plans:								
Title: International Space Cooperation				0.300	0.150	0.187	-	0.187
Description: Funds research and development activities to provide a foundation upon which to develop operational strategies, concepts of operations, tactics techniques and procedures, and technologies and prototype systems with our allies, which in turn provides foundation for long-term, full spectrum operational cooperation. 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, as well as joint development and acquisition of space systems.								
FY 2010 Accomplishments: Continuation of funds to support research and development activities to provide a foundation upon which to develop operational strategies, concepts of operations, tactics techniques and procedures, and technologies and prototype systems with our allies, which in turn provides foundation for long-term, full spectrum operational cooperation. 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, as well as joint development and acquisition of space systems.								
FY 2011 Plans:								

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 6: RDT&E Management Support	R-1 ITEM NOMENCLATURE PE 1001004F: International Activities	PROJECT 664645: International Cooperative Research & Development				
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Continuation of funds to support research and development activities to provide a foundation upon which to develop operational strategies, concepts of operations, tactics techniques and procedures, and technologies and prototype systems with our allies, which in turn provides foundation for long-term, full spectrum operational cooperation. 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, as well as joint development and acquisition of space systems. FY 2012 Base Plans: Continuation of funds to support research and development activities to provide a foundation upon which to develop operational strategies, concepts of operations, tactics techniques and procedures, and technologies and prototype systems with our allies, which in turn provides foundation for long-term, full spectrum operational cooperation. 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, as well as joint development and acquisition of space systems. FY 2012 OCO Plans:						
Title: Cyberspace Cooperation Description: Funds establishing cooperative relationships with allies in cyberspace missions to ensure interoperability, sharing of information on threats, and developing new capabilities to defeat threats to our critical information systems. Supports integration of air, space, and cyberspace capabilities to create global effects. Cyberspace requires significant research and development efforts and responsiveness to avoid technological surprise. FY 2010 Accomplishments: FY 2011 Plans: Funds establishing cooperative relationships with allies in cyberspace missions to ensure interoperability, sharing of information on threats, and developing new capabilities to defeat threats to our critical information systems. Supports integration of air, space, and cyberspace capabilities to create global effects. Cyberspace requires significant research and development efforts and responsiveness to avoid technological surprise. FY 2012 Base Plans: Continuation of funds establishing 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		-	0.050	0.060	-	0.060

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force				DATE: February 2011	
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 6: <i>RDT&E Management Support</i>		R-1 ITEM NOMENCLATURE PE 1001004F: <i>International Activities</i>		PROJECT 664645: <i>International Cooperative Research & Development</i>	

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
information systems. Supports integration of air, space, and cyberspace capabilities to create global effects. Cyberspace requires significant research and development efforts and responsiveness to avoid technological surprise. <i>FY 2012 OCO Plans:</i>					
Accomplishments/Planned Programs Subtotals	3.611	3.764	3.798	-	3.798

C. Other Program Funding Summary (\$ in Millions)												
	<u>Line Item</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012 Base</u>	<u>FY 2012 OCO</u>	<u>FY 2012 Total</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• N/A:		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

D. Acquisition Strategy
<p>This program element is the only source of USAF funds to identify and initiate opportunities for international armaments cooperation to (a) deploy 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. We obtain these benefits only after international cooperative opportunities are identified, explored, assessed, developed and international agreements are negotiated and concluded. This PE provides funds to execute up-front armaments cooperation responsibilities, realize cooperative opportunities, assess allied technologies and generate sound, cost-effective cooperative programs between the USAF and our international partners. Once these initiatives and programs are started as international efforts they are transferred to the appropriate technology or systems program office and are then funded by the program office.</p>

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