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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force											DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 7: Operational Systems Development					R-1 ITEM NOMENCLATURE PE 0305206F: Airborne Reconnaissance Systems							
COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	-	115.471	96.735	37.828	-	37.828	55.591	60.256	48.795	49.672	Continuing	Continuing
674818: Imaging and Targeting Support	-	57.403	28.968	3.335	-	3.335	20.891	24.497	13.746	13.993	Continuing	Continuing
674819: Common Data Link (CDL)	-	36.001	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	36.001
675092: JTC/SIL MUSE	-	3.235	3.464	2.472	-	2.472	3.983	4.044	3.445	3.507	Continuing	Continuing
675291: Gorgon Stare	-	16.047	16.359	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
675292: Hyperspectral Sensors	-	2.760	2.844	1.221	-	1.221	3.590	3.555	2.802	2.852	Continuing	Continuing
675382: Wide Area Motion Imagery (WAMI)	-	0.025	0.000	0.000	-	0.000	27.127	28.160	28.802	29.320	Continuing	Continuing
676031: Dismount Detection RADAR	-	0.000	45.100	30.800	-	30.800	0.000	0.000	0.000	0.000	Continuing	Continuing
# FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012												
## The FY 2014 OCO Request will be submitted at a later date												
Note FY 2012 funding totals include \$10.0M appropriated for Overseas Contingency Operations.												
A. Mission Description and Budget Item Justification The Airborne Reconnaissance Systems program coordinates the development of advanced airborne reconnaissance system technologies (sensors, data links, targeting networks and products, and quick reaction capabilities) in support of multiple airborne reconnaissance platforms, both manned and unmanned. Its objective is to develop, demonstrate, and rapidly transition advanced, interoperable, multi-platform solutions to reduce the find, fix, target, and track kill chain timeline. In addition, it provides for modeling/simulation, training and systems engineering. This program also coordinates the development of common collection, processing, and dissemination solutions for near-real time intelligence, surveillance, and reconnaissance (ISR). Funds in any project can also cover activities to include studies and analysis to support both current program planning and execution and future program planning. This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.												

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APPROPRIATION/BUDGET ACTIVITY		R-1 ITEM NOMENCLATURE			
3600: Research, Development, Test & Evaluation, Air Force		PE 0305206F: Airborne Reconnaissance Systems			
BA 7: Operational Systems Development					
B. Program Change Summary (\$ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	103.877	96.735	71.994	-	71.994
Current President's Budget	115.471	96.735	37.828	-	37.828
Total Adjustments	11.594	0.000	-34.166	-	-34.166
• Congressional General Reductions	-	0.000			
• Congressional Directed Reductions	-	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	-	0.000			
• Congressional Directed Transfers	-	0.000			
• Reprogrammings	1.594	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	10.000	0.000	-34.166	-	-34.166
Congressional Add Details (\$ in Millions, and Includes General Reductions)				FY 2012	FY 2013
Project: 674818: Imaging and Targeting Support					
Congressional Add: ISR Innovations				10.000	0.000
Congressional Add Subtotals for Project: 674818				10.000	0.000
Congressional Add Totals for all Projects				10.000	0.000
Change Summary Explanation					
Increase of \$10M in FY 2012 due to Congressional Add.					
Increase of \$1.594M in FY 2012 due to higher AF priorities.					
Reduction of \$34.166M in FY 2014 due to higher Department priorities.					

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force										DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 7: Operational Systems Development					R-1 ITEM NOMENCLATURE PE 0305206F: Airborne Reconnaissance Systems				PROJECT 674818: Imaging and Targeting Support			
COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
674818: Imaging and Targeting Support	-	57.403	28.968	3.335	-	3.335	20.891	24.497	13.746	13.993	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		

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

^{##} The FY 2014 OCO Request will be submitted at a later date

Note
FY 2012 funding totals include \$10.0M appropriated for Overseas Contingency Operations.

A. Mission Description and Budget Item Justification

The purpose of the Imaging and Targeting Support (I&TS) program is to develop and demonstrate next-generation, persistent, wide area surveillance, aircraft avoidance, and common imagery reconnaissance sensor capabilities (radar and electro-optical systems), including onboard processing, for multiple airborne platforms, and sensor products to aid in rapid targeting (geolocation models, sensor-based exploitation tools, sensor networking capabilities).

Developmental efforts pursued are improved sensor capabilities (such as hyperspectral imagery [HSI], measurement and signature intelligence [MASINT], polarimetric imaging, ground moving target indication, foliage penetration, and additional radar, electro-optical, and other modalities), increased geolocation accuracy, increased dismount detection capability, advanced sensor data correlation, automated target detection, network centric warfare, and other Intelligence, Surveillance, and Reconnaissance (ISR) and associated Tasking Processing Exploitation and Dissemination (TPED) capabilities, to reduce both target search and kill chain timelines; as well as supporting traditional intelligence activities. This project will also increase interoperability among developed systems by developing common standards and tools.

The funds in this project, less OCO and Congressional adds, are distributed in priority order for the goal of building a comprehensive geospatial intelligence (GEOINT) capability for the USAF. On an annual basis, developmental technologies are reviewed against warfighter capabilities and requirements. Projects advancing the technological maturity of promising sensors and processing capabilities are reviewed and prioritized into a recommended list for senior executive direction to implement in the coming year.

Traditional focus areas include, but are not limited to: development and demonstration of common radar and electro-optical sensors (Synthetic Aperture Radar [SAR], Low Frequency SAR, and antenna, Electro-Optical [EO], Infrared [IR], HSI, Low Light, Laser Radar [LADAR], Light Detection And Ranging [LIDAR]) and their operational modes (High Resolution Imagery, Moving Target Indication, Dismount Detection, Persistent Surveillance, Wide Area Motion Imagery, Spectral Identification) for multiple airborne platforms, including medium and high altitude platforms. Development and demonstration of advanced tactical sensor and associated TPED processing algorithms and tools (automatic registration, automatic and assisted target detection, network centric warfare). Development of integrated multi-sensor capabilities to detect and identify obscured targets (OT). Development and implementation of imagery standards (Common Ground/Dismount Moving Target Indicator

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(GMTI/DMTI), National Imagery Transmission Format (NITF)). Monitoring and enhancement of Imagery Intelligence (IMINT) product quality (radar and EO/IR imagery, GMTI data, and spectral information) and timeliness throughout the image chain (from sensor to user). These efforts focus on reducing the find, fix and track elements of the time critical targeting kill-chain timeline while improving operator and decision-maker efficiency and effectiveness.				
FY 2012 included funds for the design and development of a Dismount Detection Radar (DDR). Beginning in FY 2013, DDR funding will be discussed in project 676031.				
FY 2012 - FY14 includes funds for the maturation of Wide Area Motion Imagery (WAMI) technologies paired with near vertical direction finding (NVDF) technologies to increase geolocation accuracy. This effort matures various wide area motion imagery critical technology elements in support of Combatant Commands' requirements for end-to-end persistent surveillance. This includes emphasis on the development of airborne sensor suites, processing, data links, and associated ground support elements for near real-time surveillance of city-sized areas. Products will be provided for large-scale intelligence data users as well as for situational awareness. Beginning in FY 2015, WAMI and NVDF technology developments will be discussed in project 675382.				
Activities also include studies and analysis to support both current program planning and execution and future program planning.				
This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.				
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2012	FY 2013	FY 2014
Title: I&TS		11.637	18.956	2.175
Description: Develop/demonstrate and advance technical maturity of promising sensors and processing capabilities (ex: radar improvement, next-generation HSI, LADAR/LIDAR, and OT mitigation technologies).				
FY 2012 Accomplishments: Continued development of advanced LADAR sensor on-board processing and unmanned aerial vehicle (UAV) integration. Continued development of long wave infrared (LWIR) HSI sensor and detection algorithms, updated sensor library, and completed High Altitude Long Range (HALRGC) draft report. Continued development of advanced SAR technology in support of OT mitigation. Continued development of DB-110 demo and ISR Sensor Testbed.				
FY 2013 Plans: Continue development of advanced HSI focal plane array material, sensors, and detection algorithms, multiband EO/IR sensors, other GEOINT sensor modalities, high volume on-board data storage, hypertemporal EO technologies. Update the sensor library, and complete HALRGC and LIDAR analyses and final reports. Develop and modernize advanced SAR sensors, both				

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B. Accomplishments/Planned Programs (\$ in Millions)		FY 2012	FY 2013
for demonstration in the combatant command (COCOM) area of responsibility and for future high-altitude applications. Mature common module spectrometer (HSI) technology. Complete DB-110 demonstration. Complete development of ISR Testbed. FY 2014 Plans: Will continue development of advanced HSI and radar sensors, and detection algorithms, multiband, multispectral EO/IR sensors, other GEOINT sensor modalities, high volume on-board data storage, near real time on-board processing, hypertemporal EO, and advanced SAR/LADAR technology. Will continue SAR and HSI sensor developments in support of high-altitude platforms. Complete sensor library.			
Title: DDR Description: Design, develop, integrate, test, field, and sustain a more persistent GMTI/DMTI capability in theater for employment on MQ-9 Reaper. FY 2012 Accomplishments: Awarded contract to begin design/development of the DDR radar array, and began modifying hardware and software to Open System Architecture (OSA). Began third party advanced modes development. FY 2013 Plans: Effort moved to project 676031. N/A.		15.134	0.000
Title: WAMI Description: This effort matures the development of various wide area airborne critical technology elements in support of Combatant Command requirements for end-to-end persistent surveillance. This includes the development of airborne sensor suites, processing, data links, and associated ground support elements for near real-time surveillance of city-sized areas. FY 2012 Accomplishments: Integrated and tested a dial-a-rate gigabit data link. Began test of next generation airborne processing methods. Continued development and testing of wide area electro-optic and infrared sensors. Operated and supported a persistent surveillance laboratory (PSL) for advanced persistent ISR technologies. FY 2013 Plans:		14.080	5.737
			0.000

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B. Accomplishments/Planned Programs (\$ in Millions)		FY 2012	FY 2013
Continue development of network communications and information dissemination. Integrate next generation airborne processing with wide area sensors. Continue studies, development, and testing of single and multi-INT wide area sensors. Continue to operate and support a PSL for advanced persistent ISR technologies.			
Title: Studies and Analysis Description: This effort involves supporting studies and analyses that identify and prioritize future acquisition initiatives. FY 2012 Accomplishments: Conducted studies and analysis in support of changing strategic investments. FY 2013 Plans: N/A FY 2014 Plans: N/A		1.594	0.000
Title: Program Management Activity Description: Provides support to the projects listed above. FY 2012 Accomplishments: Provided support to the I&TS, WAMI, and DDR projects. FY 2013 Plans: Provide support to the I&TS and WAMI projects. FY 2014 Plans: Will provide support to the I&TS project.		4.958	4.275
Accomplishments/Planned Programs Subtotals		47.403	28.968
		FY 2012	FY 2013
Congressional Add: ISR Innovations FY 2012 Accomplishments: This innovation included developing a sensor testbed to relieve the testing burden on the MQ-9 platforms. FY 2013 Plans: Continuing integration and flight testing of Sensor Testbed.		10.000	0.000
Congressional Adds Subtotals		10.000	0.000

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C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• RDTE:BA07: PE 0305202F:: <i>Dragon U-2 (JMIP)</i>	0.000	23.644	18.700		18.700	11.300	12.100	8.600	8.755	Continuing	Continuing
Remarks A portion of the funding within the U-2 RDTE line will be used to advance ASARS refurbishment and modernization and Common Module Spectrometer (HSI) technology maturation.											
D. Acquisition Strategy Acquisition strategy is to maximize commercial and national development efforts and investment through multiple contracting methods; including the use of Engineering Change Proposals (ECP) to modify existing contracts and new contracts that were awarded both competitively or on a sole source basis.											
E. Performance Metrics Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.											

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force												DATE: April 2013			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 7: Operational Systems Development						R-1 ITEM NOMENCLATURE PE 0305206F: Airborne Reconnaissance Systems				PROJECT 674818: Imaging and Targeting Support					
Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
SPIRITT	C/CPFF	BAE Systems:Greenlawn, NY	-	2.143	Sep 2012	0.000		0.000		-		0.000	0.000	2.143	26.299
MB-SAR	C/CPFF	Northrop Grumman:Columbia, MD	-	2.000	Feb 2012	2.400	Feb 2013	0.000		-		0.000	Continuing	Continuing	19.150
3-D LADAR NRT Processing	C/CPFF	Northrop Grumman:Columbia, MD	-	1.500	Mar 2012	0.000		0.000		-		0.000	0.000	1.500	1.500
3-D LADAR Design Study	C/CPFF	Georgia Tech Research Institute:Dayton, OH	-	1.517	Mar 2012	0.000		0.000		-		0.000	0.000	1.517	1.517
HALRGC Analysis	C/CPFF	BAH:Norfolk, VA	-	0.517	Aug 2012	0.060	Dec 2012	0.000		-		0.000	0.000	0.577	1.692
Georgia Tech Research Institute	SS/CPFF	GTRI:Atlanta, GA	-	0.050	Feb 2012	0.050	Dec 2012	0.000		-		0.000	0.000	0.100	1.570
GOTCHA Motion Imagery SAR	C/CPFF	Various:Various,	-	0.000		2.400	Mar 2013	0.200	Jan 2014	-		0.200	0.000	2.600	5.000
Statistical Compression Solutions Investigation	C/CPFF	SAIC:Dayton, OH	-	0.031	Mar 2012	0.000		0.000		-		0.000	Continuing	Continuing	
MTS-C	C/CPFF	PRA:San Diego, CA	-	1.332	Aug 2012	0.000		0.000		-		0.000	Continuing	Continuing	TBD
C-B4 Mission Tailorable Multi-Spectral Sensor Platform	C/CPFF	Goodrich ISR Systems:Westford, MA	-	0.000		1.600	Apr 2013	0.000		-		0.000	Continuing	Continuing	4.450
Gemini RF & Hypertemporal EO	SS/CPFF	LANL:Los Alamos, NM	-	0.000		1.100	Mar 2013	0.900	Jan 2014	-		0.900	0.000	2.000	2.000
Gallium Doped Silicon FPA Initiative	C/CPFF	DRS Sensors & Targeting Systems:Cypress, CA	-	0.000		1.200	Dec 2012	0.000		-		0.000	0.000	1.200	1.200
ASARS	SS/TBD	Raytheon:El Segundo, CA	-	0.000		4.000	May 2013	0.000		-		0.000	Continuing	Continuing	
Common Module Spectrometer	SS/CPFF	Raytheon:El Segundo, CA	-	0.800	Aug 2013	3.200	Jun 2013	0.000		-		0.000	Continuing	Continuing	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force												DATE: April 2013			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 7: Operational Systems Development						R-1 ITEM NOMENCLATURE PE 0305206F: Airborne Reconnaissance Systems				PROJECT 674818: Imaging and Targeting Support					
Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Other Tech Efforts (prioritized by GCWG)	Various	Various:Various,	-	0.000		2.946	Sep 2013	1.075	Aug 2014	-		1.075	Continuing	Continuing	TBD
Dismount Detection Radar-Development	C/CPIF	Raytheon:El Segundo, CA	-	4.258	Jul 2012	0.000		0.000		-		0.000	Continuing	Continuing	TBD
Dismount Detection Radar-Development & T-PED Effort	Various	Various:Various,	-	8.435	Sep 2012	0.000		0.000		-		0.000	Continuing	Continuing	TBD
Dismount Detection Radar-GMTI/DMTI Study	MIPR	Various:Various,	-	0.405	Apr 2012	0.000		0.000		-		0.000	Continuing	Continuing	TBD
Dismount Detection Radar - Maritime	Various	Various:Various,	-	1.600	Aug 2013	0.000		0.000		-		0.000	Continuing	Continuing	
Wide Area Motion Imagery (WAMI)	Various	Various:Various,	-	12.851	Feb 2012	5.029	Feb 2013	0.000		-		0.000	Continuing	Continuing	TBD
I&TS	Various	Various:Various,	-	0.146	Nov 2012	0.000		0.000		-		0.000	Continuing	Continuing	TBD
ISR TESTBED	Various	Various:Various,	-	10.000	Feb 2013	0.000		0.000		-		0.000	0.000	10.000	10.000
MIT/LL	Various	Various:Various,	-	1.594	Mar 2013	0.000		0.000		-		0.000	Continuing	Continuing	
Subtotal			0.000	49.179		23.985		2.175		0.000		2.175			
Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
WAMI	Various	Various:Various,	-	1.230	Jun 2012	0.708	Jun 2013	0.000		-		0.000	Continuing	Continuing	TBD
DDR - MITRE	PO	MITRE:Boston, MA	-	1.546	Oct 2011	0.000		0.000		-		0.000	Continuing	Continuing	TBD
Subtotal			0.000	2.776		0.708		0.000		0.000		0.000			

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force													DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>							R-1 ITEM NOMENCLATURE PE 0305206F: <i>Airborne Reconnaissance Systems</i>				PROJECT 674818: <i>Imaging and Targeting Support</i>				

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	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		0.000		0.000		0.000	0.000	0.000	0.000

Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Activity (PMA)	Various	Various:Dayton, OH	-	2.192	Oct 2011	4.275	Oct 2012	1.160	Oct 2012	-		1.160	Continuing	Continuing	TBD
DDR PMA (A&AS)	PO	Various:Various,	-	3.256	Jan 2012	0.000		0.000		-		0.000	Continuing	Continuing	
Subtotal			0.000	5.448		4.275		1.160		0.000		1.160			

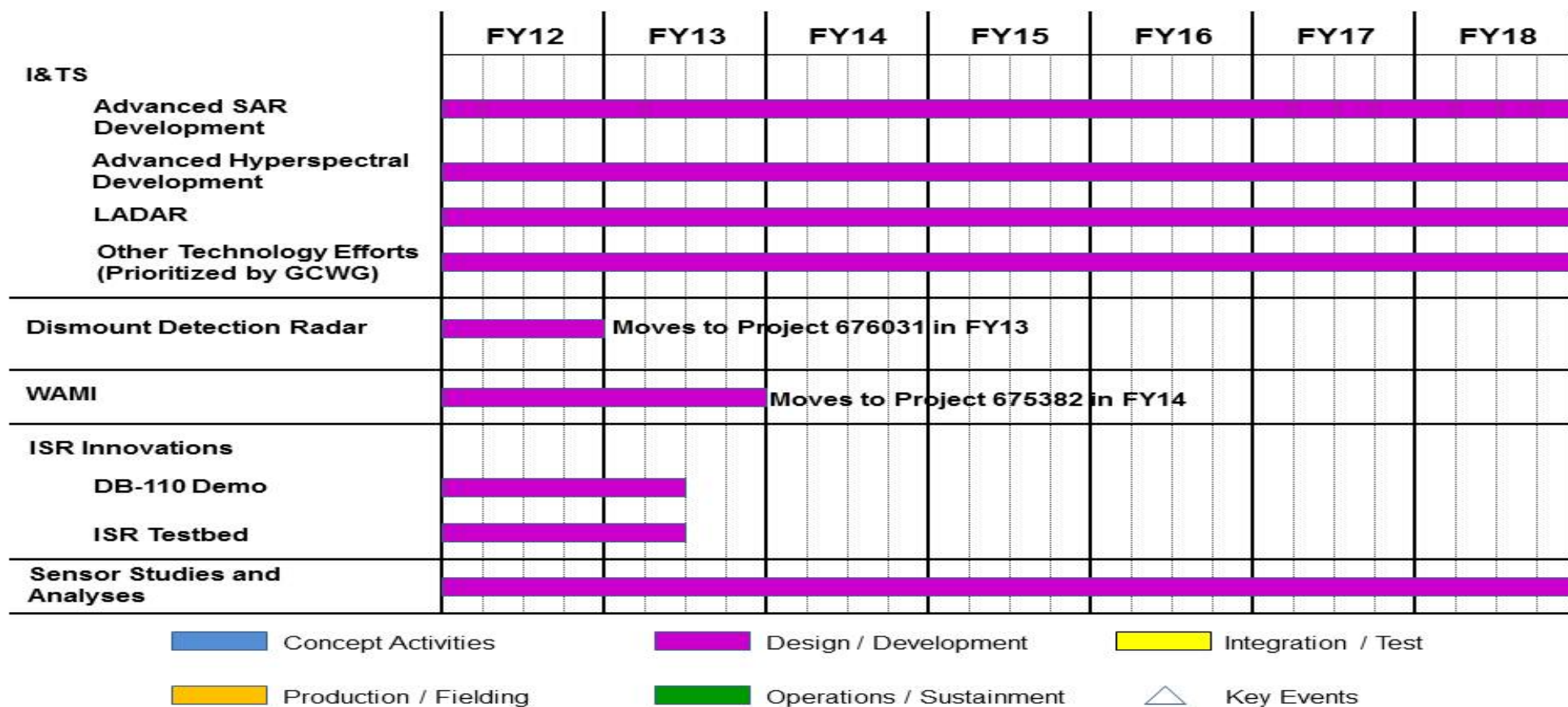
			All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			0.000	57.403		28.968		3.335		0.000		3.335			

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 7: Operational Systems Development	R-1 ITEM NOMENCLATURE PE 0305206F: Airborne Reconnaissance Systems	PROJECT 674818: Imaging and Targeting Support

Imaging & Targeting Support



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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305206F: <i>Airborne Reconnaissance Systems</i>	PROJECT 674818: <i>Imaging and Targeting Support</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Advanced SAR Development	1	2012	4	2018
Advanced Hyperspectral Development	1	2012	4	2018
LADAR	1	2012	4	2018
Sensor Studies & Analysis	1	2012	4	2018
Other Technology Efforts (Prioritized by GCWG)	1	2012	4	2018
Dismount Detection Radar (DDR)	1	2012	4	2012
DB-110 Demo	1	2012	2	2013
ISR Testbed	1	2012	2	2013
WAMI	1	2012	4	2013

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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
674819: Common Data Link (CDL)	-	36.001	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	36.001
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		
# FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012												
## The FY 2014 OCO Request will be submitted at a later date												
Note In Fiscal Year 2013, Project 674819, Common Data Link, efforts transferred to Program Element 0305236F, Project 674819, Common Data Link, in order to provide greater visibility into this Congressionally mandated capability and prepare for expanded applications as new operational concepts come into existence.												
A. Mission Description and Budget Item Justification In Fiscal Year 2012, Common Data Link (CDL) provided the DoD standard for interoperable, multi-service, multi-agency, wideband datalinks for manned/unmanned platforms performing Intelligence, Surveillance, and Reconnaissance (ISR) missions. As the CDL Executive Agent (EA), the Air Force is responsible for cross-service application of CDL RDT&E funds facilitating compliance to Congressional and DoD mandates. Military Intelligence Program (MIP) funds are used to maintain, distribute, and upgrade the CDL specifications while ensuring design configuration, commonality, and interoperability among ISR platforms. Additionally, funds are used for the management of resources allocated for development and migration of CDL technologies. Updates to the CDL specification and developmental systems impact 10,000+ DoD airborne and ground ISR systems. The CDL program enables compliance with OSD and Congressional mandates to minimize spectrum usage, use of cryptographic equipment, and direct support to current operations. The CDL specifications permit current and future ISR assets to operate worldwide by providing sensor data directly via point-to-point broadcast to ground sites, airborne platforms and dismounted users. CDL is a vital link in DoD's emerging communication architectures. CDL provides the capability to relay data via air-to-air or compatible satellite links when the asset and ground site are not in line-of-sight. CDL provides the largest bandwidth datalink in DoD, accommodating numerous sensors collecting Signals Intelligence (SIGINT), Imagery Intelligence (IMINT), and video data. Research and development activities include achieving higher data rates for CDL, operations in other spectral bands, and support of large area surveillance missions, while supporting continuous improvements and implementation of line-of-sight platform and CDL terminal Command and Control, plus increased Intelligence, Surveillance, and Reconnaissance (C2ISR) capabilities. CDL terminal designs provide for future technology insertion and reduce non-recurring engineering and life-cycle costs to the user. Activities also included studies and analysis to support current and future program planning and execution. This program is in Budget Activity 7, Operational System Development, because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.												

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305206F: <i>Airborne Reconnaissance Systems</i>	PROJECT 674819: <i>Common Data Link (CDL)</i>	
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2012	FY 2013
Title: CDL evolutionary terminal development Description: CDL evolutionary terminal development per CDL IPT direction to the CDL Executive Agent (CDL EA) FY 2012 Accomplishments: Continued the development and testing of High Data Rate terminal and additional Size, Weight and Power (SWaP) improvements.		8.675	0.000
Title: CDL specification maintenance, development and distribution Description: CDL specification maintenance, development, and distribution per CDL IPT direction to CDL EA. FY 2012 Accomplishments: Continued to research and/or develop upgrades to support specification employment profiles including High Data Rate. Enhanced spectrally efficient CDL waveform specification. Continued to maintain configuration control of the CDL architecture, standards, specifications, and modules.		2.858	0.000
Title: CDL advanced technology insertion and studies Description: CDL advanced technology insertion, demonstrations, and studies per CDL WIPT direction to CDL EA. FY 2012 Accomplishments: Continued technology developments with efforts in: High Data Rate CDL terminal advancements, adapting/testing phased array and portable antennas, multispectral flexibility, increased spectrum efficiency, and integration of improved transmission components. Also, continued the development of enhanced, CDL-based ISR communications capabilities and prototyping. Supported emerging communication backbone architecture development across space, air, and terrestrial layers included agile high capacity data transport.		20.153	0.000
Title: Program Management Administration (PMA) Description: Program supports management with engineering and technical expertise towards development and implementation efforts. FY 2012 Accomplishments: Supported the acquisition program with engineering and technical support.		4.315	0.000
Accomplishments/Planned Programs Subtotals		36.001	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force										DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>					R-1 ITEM NOMENCLATURE PE 0305206F: <i>Airborne Reconnaissance Systems</i>			PROJECT 674819: <i>Common Data Link (CDL)</i>			
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• None: N/A	0.000	0.000	0.000		0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Remarks											
D. Acquisition Strategy The CDL Executive Agent, supported by the Airborne Network Division (AFLCMC/HNA) and in concert with other program offices and laboratories, provides for development of interoperable wideband ISR data links as mandated by Assistant Secretary of Defense (Networks and Information Integration) (ASD(NII)) policy. Once CDL technology development matures, platforms are responsible for program CDL procurement, NSA/JITC certifications, integration, and installation. Acquisition strategy varies by contract. When possible, contracts are awarded under full and open competition.											
E. Performance Metrics Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.											

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force												DATE: April 2013			
APPROPRIATION/BUDGET ACTIVITY						R-1 ITEM NOMENCLATURE				PROJECT					
3600: Research, Development, Test & Evaluation, Air Force BA 7: Operational Systems Development						PE 0305206F: Airborne Reconnaissance Systems				674819: Common Data Link (CDL)					
Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Mini CDL, AF High Data Rate, Interleaved Diplexer, Multi Spectral, Army VHR, MIDS JTRS, Multi Use PAA	C/CPFF	L-3 Communications:Salt Lake City, UT	-	12.041	Apr 2012	0.000		0.000		-		0.000	0.000	12.041	12.041
Team Portable, Advanced Waveform Verification, Phased Array (AESAs) Demo, Spectrum Diversity, TDLA, Marine ISR Comm, Joint Spec Support	C/CPFF	Cubic:San Diego, CA	-	6.165	Mar 2012	0.000		0.000		-		0.000	0.000	6.165	6.165
Marine AH-1/UH-1 Full Motion Video	C/CPFF	Bell Helicopter Textron Inc.:Hurst, TX	-	3.795	May 2012	0.000		0.000		-		0.000	0.000	3.795	3.795
Under Threshold Combined	Various	Various:Various,	-	3.877	Jan 2012	0.000		0.000		-		0.000	0.000	3.877	TBD
Subtotal			0.000	25.878		0.000		0.000		0.000		0.000	0.000	25.878	
Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Service Tech Supp & Spec Development	MIPR	Various:Various,	-	4.408	Oct 2011	0.000		0.000		-		0.000	0.000	4.408	TBD
Subtotal			0.000	4.408		0.000		0.000		0.000		0.000	0.000	4.408	
Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Joint Interoperability Test Center	MIPR	JITC:Fort Huachuca, AZ	-	1.400	Dec 2011	0.000		0.000		-		0.000	0.000	1.400	TBD

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force												DATE: April 2013			
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>						R-1 ITEM NOMENCLATURE PE 0305206F: <i>Airborne Reconnaissance Systems</i>						PROJECT 674819: <i>Common Data Link (CDL)</i>			
Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			0.000	1.400		0.000		0.000		0.000		0.000	0.000	1.400	
Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
PMA - MITRE Engineering Support	SS/T&M	MITRE Corp., Bedford, MA	-	0.496	Oct 2011	0.000		0.000		-		0.000	0.000	0.496	TBD
PMA - PASS Financial and PM Support	C/T&M	PE Systems: Littleton, MA	-	1.154	Feb 2012	0.000		0.000		-		0.000	0.000	1.154	TBD
PMA - Under Threshold Program Mgmt/Tech Support	Various	Various: Various,	-	2.665	Dec 2011	0.000		0.000		-		0.000	0.000	2.665	TBD
Subtotal			0.000	4.315		0.000		0.000		0.000		0.000	0.000	4.315	
			All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			0.000	36.001		0.000		0.000		0.000		0.000	0.000	36.001	
Remarks In FY 2013, Project 674819, Common Data Link, efforts transferred to Program 0305236F, Common Data Link, Project 674819, in order to provide greater visibility into this Congressionally mandated capability and prepare for expanded applications as new operational concepts come into existence.															

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force

DATE: April 2013

APPROPRIATION/BUDGET ACTIVITY

3600: Research, Development, Test & Evaluation, Air Force
BA 7: Operational Systems Development

R-1 ITEM NOMENCLATURE

PE 0305206F: Airborne Reconnaissance Systems

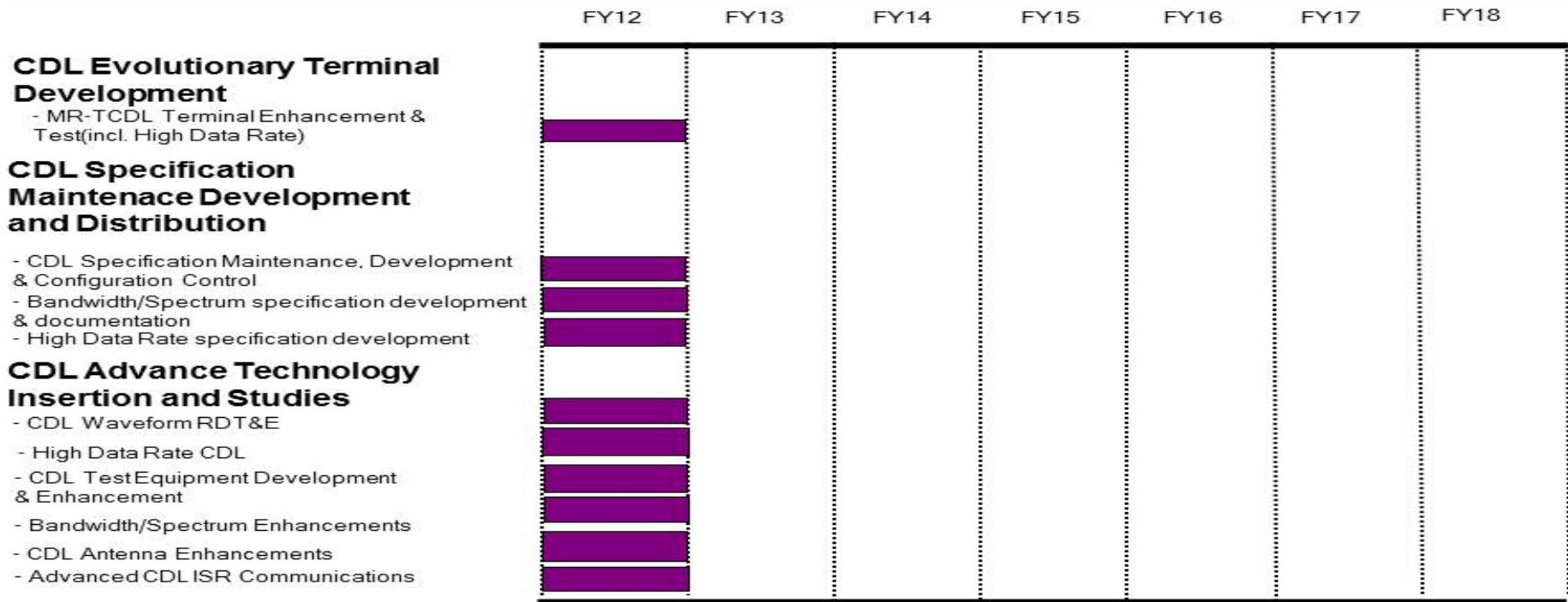
PROJECT

674819: Common Data Link (CDL)



U.S. AIR FORCE

CDL Schedule



Integrity - Service - Excellence

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305206F: <i>Airborne Reconnaissance Systems</i>	PROJECT 674819: <i>Common Data Link (CDL)</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Evolutionary Terminal Dev - MR-TCDL Test & Enhancement (incl. High Data Rate)	1	2012	4	2012
Specification Maintenance - CDL Specification Maintenance, Development, & Control	1	2012	4	2012
Spec Maint - Bandwidth/Spectrum spec development/documentation	1	2012	4	2012
Spec Maint - High Data Rate Spec development	1	2012	4	2012
Adv Tech - CDL Waveform RDT&E	1	2012	4	2012
Adv Tech - High Data Rate CDL	1	2012	4	2012
Adv Tech - CDL Test Equipment Development/Enhancement	1	2012	4	2012
Adv Tech - Bandwidth/Spectrum Enhancements	1	2012	4	2012
Adv Tech - CDL Antenna Enhancements	1	2012	4	2012
Adv Tech - Advanced CDL ISR Communications	1	2012	4	2012

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force										DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 7: Operational Systems Development					R-1 ITEM NOMENCLATURE PE 0305206F: Airborne Reconnaissance Systems				PROJECT 675092: JTC/SIL MUSE			
COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
675092: JTC/SIL MUSE	-	3.235	3.464	2.472	-	2.472	3.983	4.044	3.445	3.507	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		

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

^{##} The FY 2014 OCO Request will be submitted at a later date

A. Mission Description and Budget Item Justification

The Joint Technology Center/Systems Integration Laboratory (JTC/SIL) is a center of technical excellence to support Unmanned Aircraft Systems (UAS) programs within the services. The mission includes Service-specific and Joint Command, Control, Communications, Computers and Intelligence, Surveillance, and Reconnaissance (C4ISR) programs throughout DoD. The JTC/SIL provides a Government testbed for interoperability, rapid prototyping, technology insertion and transition, systems engineering, modeling/simulation, training and C4ISR optimization. The cornerstone of JTC/SIL's diverse tool set is the Multiple Unified Simulation Environment (MUSE), which is the DoD simulation/training system of choice for many UAS and ISR systems. The MUSE is also known as the Air Force Synthetic Environment for Reconnaissance and Surveillance (AFSERS) in its Air Force application. The MUSE/AFSERS simulates Air Vehicles, Sensors, Datalinks, Takeoff and Landing Systems, and to some degree, surrogate UAS ground stations, when actual UAS ground stations are unavailable.

The Services and combatant commanders have a requirement for the capability to train with a system that provides a real-time simulation environment containing multiple intelligence systems that can be integrated with larger force-on-force simulations. The MUSE creates a realistic operational environment which supports the ability to assess military utility, architecture and concept of employment development, and Tactics, Techniques, and Procedures (TTP) refinement; conduct emerging concepts experimentation; and optimize C4ISR within warfighting exercises and experiments. It is the preferred simulation system used by the combatant commanders and Joint Services to support command and battle staff C4ISR training.

The MUSE/AFSERS also creates a realistic operational environment that supports: an embedded training capability for multiple Program Managers; tools to minimize acquisition and life cycle cost and schedule impacts; the ability to conduct emerging concepts experimentation, future systems exploration, systems integration, and technology insertion; applications for Joint and Service-specific warfighting exercises; and C4ISR optimization.

MUSE/AFSERS is currently in use within all services and most unified commands simulating Predator, Reaper, Global Hawk (RQ-4), Gray Eagle, Hunter, and RQ-7 Shadow, national and commercial satellite collectors, P-3, JSTARS, and the U-2. During warfighting exercises, the JTC/SIL integrates imagery simulations with associated C4ISR systems to support execution of critical imagery processes. For those assets normally not available for training, the JTC/SIL provides surrogate systems and interfaces. Distributed training environments, virtually linking participants from various locations worldwide, are routinely supported within the MUSE architecture. The MUSE/AFSERS is also used as a mission rehearsal tool for current, on-going military combat operations.

The JTC/SIL is supporting the OSD UAS Task Force Staff and the Standards and Interoperability IPT, as well as the joint team working the Ground Segment Interface (GSI). The JTC/SIL is the primary custodian of this interface and in that role performs various supporting tasks including development of tools for helping the definition

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force			DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 7: Operational Systems Development		R-1 ITEM NOMENCLATURE PE 0305206F: Airborne Reconnaissance Systems		PROJECT 675092: JTC/SIL MUSE	
and execution of open architecture for joint service ground control systems, developing and maintaining standardization agreement (STANAG) 45 joint interoperability tasks to be defined on an annual basis.					
Activities also include studies and analysis supporting current and future program planning and project execution.					
This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.					
B. Accomplishments/Planned Programs (\$ in Millions)			FY 2012	FY 2013	FY 2014
Title: AFSERS Development Description: DoD's simulation/training system of choice for ISR systems, sensors, and platforms. Includes AFSERS, Common Ground Station Interface, and infrastructure support. FY 2012 Accomplishments: Continued AFSERS development, focusing on the modeling of MQ-9, modeling of new sensor capabilities, and on integration into operational networks. FY 2013 Plans: Continue AFSERS development for MQ-9, including improvements to simulations of existing and emerging platforms and sensors as well as improvements in integrating AFSERS into other networks. FY 2014 Plans: Will continue AFSERS development for MQ-9, and provide improvements to both simulate existing and emerging platforms and sensors and better integrate AFSERS into other networks.			0.829	1.057	0.770
Title: OSD Interoperability Support Description: JTC/SIL support to OSD interoperability requirements. Air Force portion of joint funding requirement. FY 2012 Accomplishments: Continued Air Force support to OSD interoperability efforts. FY 2013 Plans: Continue Air Force support to OSD interoperability efforts. FY 2014 Plans: Will continue Air Force support to OSD interoperability efforts.			2.000	2.000	1.300
Title: Program Management Activity			0.406	0.407	0.402

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force										DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>					R-1 ITEM NOMENCLATURE PE 0305206F: <i>Airborne Reconnaissance Systems</i>					PROJECT 675092: <i>JTC/SIL MUSE</i>		
B. Accomplishments/Planned Programs (\$ in Millions)										FY 2012	FY 2013	FY 2014
Description: Providing management services and support for AFSERS development.												
FY 2012 Accomplishments: Provided management services and support for AFSERS development.												
FY 2013 Plans: Provide management services and support for AFSERS development.												
FY 2014 Plans: Will provide management services and support for AFSERS development.												
Accomplishments/Planned Programs Subtotals										3.235	3.464	2.472
C. Other Program Funding Summary (\$ in Millions)												
Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost	
• RDTE: BA07: PE 0305204A: <i>Tactical Unmanned Aerial Vehicles</i>	4.316	4.326	3.285		3.285	4.775	4.584	4.200	4.824	Continuing	Continuing	
• RDTE: BA07: PE 0603261N: <i>Tactical Airborne Reconnaissance</i>	3.573	2.000	2.000		2.000	2.000	0.000	0.000	0.000	Continuing	Continuing	
Remarks												
D. Acquisition Strategy All contracts are awarded after full and open competition.												
E. Performance Metrics Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.												

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force												DATE: April 2013			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 7: Operational Systems Development						R-1 ITEM NOMENCLATURE PE 0305206F: Airborne Reconnaissance Systems						PROJECT 675092: JTC/SIL MUSE			
Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
AFSERS Development	MIPR	Redstone Arsenal:Huntsville, AL	-	0.829	Jan 2012	1.057	Jan 2013	0.770	Jan 2014	-		0.770	Continuing	Continuing	TBD
Subtotal			0.000	0.829		1.057		0.770		0.000		0.770			
Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
OSD Interoperability Support	Allot	Redstone Arsenal:Huntsville, AL	-	2.000	Jan 2012	2.000	Jan 2013	1.300	Jan 2014	-		1.300	Continuing	Continuing	TBD
Subtotal			0.000	2.000		2.000		1.300		0.000		1.300			
Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	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		0.000		0.000		0.000	0.000	0.000	0.000
Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
PMA	Allot	Redstone Arsenal:Huntsville, AL	-	0.406	Jan 2012	0.407	Jan 2013	0.402	Jan 2014	-		0.402	Continuing	Continuing	TBD
Subtotal			0.000	0.406		0.407		0.402		0.000		0.402			

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force										DATE: April 2013			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 7: Operational Systems Development					R-1 ITEM NOMENCLATURE PE 0305206F: Airborne Reconnaissance Systems				PROJECT 675092: JTC/SIL MUSE				
	All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	3.235		3.464		2.472		0.000		2.472			

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force

DATE: April 2013

APPROPRIATION/BUDGET ACTIVITY

3600: *Research, Development, Test & Evaluation, Air Force*
BA 7: *Operational Systems Development*

R-1 ITEM NOMENCLATURE

PE 0305206F: *Airborne Reconnaissance Systems*

PROJECT

675092: *JTC/SIL MUSE*



U.S. AIR FORCE

Joint Technology Center / Systems Integration Laboratory (JTC/SIL) Schedule

	FY12	FY13	FY14	FY15	FY16	FY17	FY18
AFSERS Development							
OSD Interoperability Support							

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

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 7: Operational Systems Development	R-1 ITEM NOMENCLATURE PE 0305206F: Airborne Reconnaissance Systems	PROJECT 675092: JTC/SIL MUSE	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
AFSERS Development	1	2012	4	2018
Interoperability Support	1	2012	4	2015

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force										DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 7: Operational Systems Development					R-1 ITEM NOMENCLATURE PE 0305206F: Airborne Reconnaissance Systems				PROJECT 675291: Gorgon Stare			
COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
675291: Gorgon Stare	-	16.047	16.359	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		
# FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012												
## The FY 2014 OCO Request will be submitted at a later date												
Note												
In the 4th Quarter of FY 2013, 675291, Gorgon Stare Quick Reaction Capability was completed with delivery of the last three of six Gorgon Stare Increment 2 pod sets.												
A. Mission Description and Budget Item Justification												
Gorgon Stare Quick Reaction Capability (QRC) supports the Combatant Commander (COCOM) urgent operational need for wide area airborne surveillance capability and is managed in the Air Force through the 645th Aeronautical Systems Group (AESG, a.k.a. BIG SAFARI Systems Program Office or SPO), Intelligence, Surveillance, and Reconnaissance and Special Operations Forces (ISR&SOF) Directorate, Air Force Life Cycle Management Center (AFLCMC), Air Force Material Command. Development of the Gorgon Stare QRC system provides a podded wide area airborne sensor suite integrated on dedicated MQ-9 Reaper remotely piloted aircraft (RPA) to provide a city-sized surveillance capability for the COCOMs. The Joint Requirements Oversight Council Memorandum (JROCM 106-08, dated 27 May 2008) approved the Air Force concept for a program plan to address Service requirements for broad area airborne sensors capability on existing manned and unmanned aircraft system platforms. This plan evolved into the current incremental delivery of ten pod sets of Gorgon Stare QRC carried on MQ-9 Reaper RPAs. The acquisition strategy for this Air Force QRC podded sensor suite solution includes delivery of incremental capability upgrades, with development of each capability upgrade expanding the capabilities of the previous increment. Provisions to consider integrating pre-planned product improvements (P3I) and/or multi-INT enhanced capabilities to address evolving and emerging technology advancements are within the scope of the acquisition strategy.												
Activities also include studies and anlysis to support both current program planning and execution as well as future program planning.												
This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.												
B. Accomplishments/Planned Programs (\$ in Millions)									FY 2012	FY 2013	FY 2014	
Title: GS2, P3I									16.047	16.359	0.000	
Description: Gorgon Stare QRC development including Airborne System, C2, Tactical Dissemination, and Fixed Site processing elements.												
FY 2012 Accomplishments:												

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force										DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 7: Operational Systems Development				R-1 ITEM NOMENCLATURE PE 0305206F: Airborne Reconnaissance Systems				PROJECT 675291: Gorgon Stare				
B. Accomplishments/Planned Programs (\$ in Millions) Began pre-planned product improvement (P3I) researching efforts and multi-INT crossflowing development to airborne system, C2, tactical dissemination, and fixed site processing elements. Continued Increment 2 development. FY 2013 Plans: Continue pre-planned product improvement (P3I) and multi-INT research and development to airborne system, C2, tactical dissemination, and fixed site processing elements. Development will lead to a procurement / retrofit capability that could be integrated to improve older pod capabilities. Complete development and fielding of Increment 2 pods. Begin replacement of Increment 1 pods.										FY 2012	FY 2013	FY 2014
Accomplishments/Planned Programs Subtotals										16.047	16.359	0.000
C. Other Program Funding Summary (\$ in Millions)												
Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost	
• APAF: BA05: Line Item #	74.611	93.461	0.000		0.000	0.000	0.000	0.000	0.000	Continuing	Continuing	
PRDTB3: MQ-9 UAS Payloads												
• APAF: BP16: MQ-9 Initial Spares	0.000	12.725	8.256		8.256	15.039	1.239	0.000	0.000	Continuing	Continuing	
Remarks												
D. Acquisition Strategy In response to a COCOM urgent operational need, the wide area airborne surveillance requirement will be delivered via the Gorgon Stare QRC effort and executed by the 645 AESG (BIG SAFARI SPO) using an incremental acquisition strategy to mitigate risk, find affordable end-to-end architecture solutions and field requested multi-INT capabilities quickly. Gorgon Stare QRC addresses Service requirements for broad area surveillance using existing, dedicated MQ-9 Reaper RPA. The BIG SAFARI SPO, as tasked by the Air Force Service Acquisition Executive (SAE) and Program Execution Officer for Intelligence, Surveillance and Reconnaissance and Special Operations Forces (PEO/ISR & SOF), will continue with their development efforts to rapidly respond to COCOM urgent operational needs.												
E. Performance Metrics Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.												

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force												DATE: April 2013			
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>						R-1 ITEM NOMENCLATURE PE 0305206F: <i>Airborne Reconnaissance Systems</i>						PROJECT 675291: <i>Gorgon Stare</i>			
Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Sensor Development	SS/CPFF	L3:Rockwall, TX	-	3.560	Dec 2011	5.000	Jun 2013	0.000		-		0.000	Continuing	Continuing	TBD
Sensor Development (Prime)	SS/FFP	Sierra Nevada Corporation:Sparks, NV	-	7.040	Dec 2011	7.020	Jun 2013	0.000		-		0.000	Continuing	Continuing	TBD
Sensor Integration	SS/CPFF	GA:Grey Butte, CA	-	2.447	Dec 2011	0.689	Jun 2013	0.000		-		0.000	Continuing	Continuing	TBD
Subtotal			0.000	13.047		12.709		0.000		0.000		0.000			
Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Technical	SS/CPFF	Riverside Research:Dayton, OH	-	1.200	Jan 2012	2.550	Jun 2013	0.000		-		0.000	Continuing	Continuing	0.000
Subtotal			0.000	1.200		2.550		0.000		0.000		0.000			0.000
Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Incremental Development Test & Evaluation	Various	645 AESG:Dayton, OH	-	1.800	Dec 2011	1.100	Jun 2013	0.000		-		0.000	Continuing	Continuing	TBD
Subtotal			0.000	1.800		1.100		0.000		0.000		0.000			
Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
PMA	SS/Various	SNC:Denver, CO	-	0.000		0.000		0.000		-		0.000	Continuing	Continuing	TBD
Subtotal			0.000	0.000		0.000		0.000		0.000		0.000			

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force

DATE: April 2013

APPROPRIATION/BUDGET ACTIVITY

3600: Research, Development, Test & Evaluation, Air Force
BA 7: Operational Systems Development

R-1 ITEM NOMENCLATURE

PE 0305206F: Airborne Reconnaissance Systems

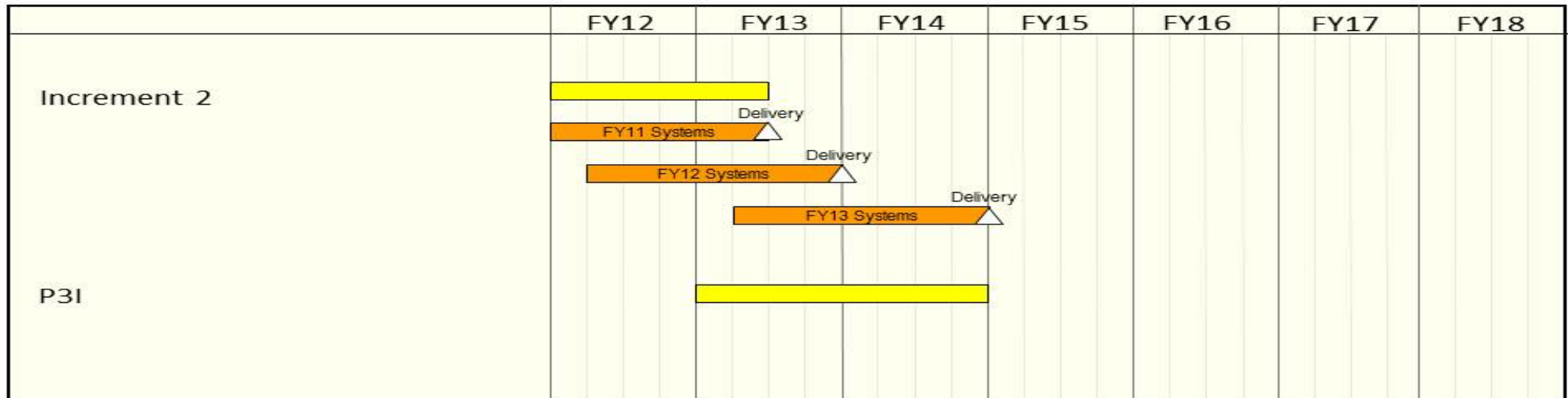
PROJECT

675291: Gorgon Stare



U.S. AIR FORCE

Gorgon Stare QRC Schedule



Technology Maturation activities
Production / fielding

Design / development
Operations / sustainment

Integration / test
Key events

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305206F: <i>Airborne Reconnaissance Systems</i>	PROJECT 675291: <i>Gorgon Stare</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Increment 2: Integration & Test	1	2012	2	2013
Increment 2: FY11 Systems Delivery	1	2012	2	2013
Increment 2: FY12 Systems Delivery	2	2012	4	2013
Increment 2: FY13 Systems Delivery	2	2013	4	2014
P3I: Integration & Test	1	2013	4	2014

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force									DATE: April 2013			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 7: Operational Systems Development					R-1 ITEM NOMENCLATURE PE 0305206F: Airborne Reconnaissance Systems				PROJECT 675292: Hyperspectral Sensors			
COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
675292: Hyperspectral Sensors	-	2.760	2.844	1.221	-	1.221	3.590	3.555	2.802	2.852	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		
# FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012												
## The FY 2014 OCO Request will be submitted at a later date												
A. Mission Description and Budget Item Justification												
The Hyperspectral Sensors project develops Hyperspectral Imagery (HSI) sensors and capabilities for MQ-1/MQ-9 Remotely Piloted Aircraft (RPA) and other manned or unmanned aircraft. Within this project, the Airborne Cueing & Exploitation System-Hyperspectral (ACES HY) program helps to fulfill a portion of the sponsoring combatant command and Central Command (CENTCOM) current HSI requirements. The ACES HY program initially developed sensors for the MQ-1B Predator Block 15 and included development of the required training, maintenance and fielding plans to support a working architecture.												
Activities within this project also include studies and analysis supporting current and future program planning and tech development for advanced HSI sensors and capabilities, including high altitude HSI sensor developments.												
This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.												
B. Accomplishments/Planned Programs (\$ in Millions)									FY 2012	FY 2013	FY 2014	
Title: ACES HY									2.277	2.349	1.013	
Description: Develop capability enhancements and perform technical refresh on the ACES HY sensor system. Provide support data to accompany sensors and modifications. Tech development supporting sensor improvements and possible integration on other platforms.												
FY 2012 Accomplishments: Fielded ACES HY. Conducted HSI capability study. Began developing on-board processing and storage improvements for ACES HY sensors and development of future HSI capabilities for other platforms.												
FY 2013 Plans: Enhance real-time target detection and identification capability through algorithm development and processing optimizations. Complete MQ-9 HSI study. Implement National Imagery Transmission Format compliance in data streams. Prepare for integration of OSD funded processor upgrade.												
FY 2014 Plans:												

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force							DATE: April 2013				
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 7: Operational Systems Development				R-1 ITEM NOMENCLATURE PE 0305206F: Airborne Reconnaissance Systems			PROJECT 675292: Hyperspectral Sensors				
B. Accomplishments/Planned Programs (\$ in Millions)							FY 2012	FY 2013	FY 2014		
Will continue ACES HY upgrades. Will develop HSI solutions for alternate platforms, including high-altitude platforms. Will continue developing organizational level diagnostic support equipment. Will continue integration & qualification of OSD funded processor upgrade.											
Title: Program Management Activity							0.483	0.495	0.208		
Description: Providing management services to the development and fielding of ACES HY.											
FY 2012 Accomplishments: Provided management services to support the development and fielding of ACES HY.											
FY 2013 Plans: Provide management services to support the development and fielding of ACES HY.											
FY 2014 Plans: Will provide management services to support the development and fielding of ACES HY.											
Accomplishments/Planned Programs Subtotals							2.760	2.844	1.221		
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• APAF:BA 07:0305219F: Mod PRDT02	38.200	6.800	4.300		4.300	0.000	0.000	0.000	0.000	0.000	0.000
Remarks											
ACES HY - Platform (Predator) responsible for Operations and Maintenance (in sustainment line). A portion of the Predator modification funding listed above is used to support ACES HY integration.											
D. Acquisition Strategy											
Partner with industry to procure improved, baseline deployable, supportable HSI sensor systems. The systems should support the joint warfighter and ensure evolutionary upgrade capability. Complete production sensor deliveries using the Advanced Technology Support Program process developed by OSD DMEA at McClellan, CA. All future contracts will be awarded by AFLCMC. The contractors should provide a disciplined design process that is the lowest risk solution (cost, schedule, and performance) and ensures logistics support with initial test spares and associated source data to support training and TO development.											
ACES HY: The MQ-1 and MQ-9 developers will be included for sensor technology efforts as they mature and for planning possible future integration on MQ-9. ACES HY utilizes a competitively selected, cost plus fixed fee prime contract to Raytheon (Mc Kinney, TX) for system production and a sole source Basic Ordering Agreement with Raytheon (McKinney, TX) for system modificaions.											

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305206F: <i>Airborne Reconnaissance Systems</i>	PROJECT 675292: <i>Hyperspectral Sensors</i>
Acquisition strategy for high-altitude HSI remains TBD. <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 2014 Air Force												DATE: April 2013			
APPROPRIATION/BUDGET ACTIVITY						R-1 ITEM NOMENCLATURE				PROJECT					
3600: Research, Development, Test & Evaluation, Air Force						PE 0305206F: Airborne Reconnaissance Systems				675292: Hyperspectral Sensors					
BA 7: Operational Systems Development															
Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
ACES HY Sensor Integration	SS/CPFF	General Atomics:San Diego, CA	-	0.000		0.000		0.000		-		0.000	0.000	0.000	3.166
Mod Study	SS/CPFF	Raytheon:McKinney, TX	-	1.859	Aug 2012	0.383	Jan 2013	0.000		-		0.000	0.000	2.242	2.242
Capability Processor Upgrades	SS/CPFF	Raytheon:McKinney, TX	-	0.260	Aug 2012	0.782	Jan 2013	0.000		-		0.000	0.000	1.042	1.042
Processor Integration	SS/CPFF	Raytheon:McKinney, TX	-	0.000		0.994	Jan 2013	0.511	Jan 2014	-		0.511	0.000	1.505	1.505
Hard Drive Update	SS/CPFF	Raytheon:McKinney, TX	-	0.000		0.000		0.000		-		0.000	Continuing	Continuing	0.332
Organization Level Diagnostics Support Equipment	SS/CPFF	Raytheon:McKinney, TX	-	0.000		0.000		0.000		-		0.000	Continuing	Continuing	0.275
GPS Update	SS/CPFF	Raytheon:McKinney, TX	-	0.000		0.000		0.000		-		0.000	Continuing	Continuing	1.540
Subtotal			0.000	2.119		2.159		0.511		0.000		0.511			10.102
Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Engineering Support	SS/CPFF	MIT/LL:Cambridge, MA	-	0.158	Apr 2012	0.190	Jan 2013	0.190	Jan 2014	-		0.190	Continuing	Continuing	TBD
Subtotal			0.000	0.158		0.190		0.190		0.000		0.190			
Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	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		0.000		0.000		0.000	0.000	0.000	0.000

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force												DATE: April 2013			
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>						R-1 ITEM NOMENCLATURE PE 0305206F: <i>Airborne Reconnaissance Systems</i>				PROJECT 675292: <i>Hyperspectral Sensors</i>					

Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
PMA	Various	Various:Various,	-	0.483	Jan 2012	0.495	Jan 2013	0.520	Jan 2014	-		0.520	Continuing	Continuing	TBD
Subtotal			0.000	0.483		0.495		0.520		0.000		0.520			

	All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	2.760		2.844		1.221		0.000		1.221			

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force

DATE: April 2013

APPROPRIATION/BUDGET ACTIVITY

3600: Research, Development, Test & Evaluation, Air Force
BA 7: Operational Systems Development

R-1 ITEM NOMENCLATURE

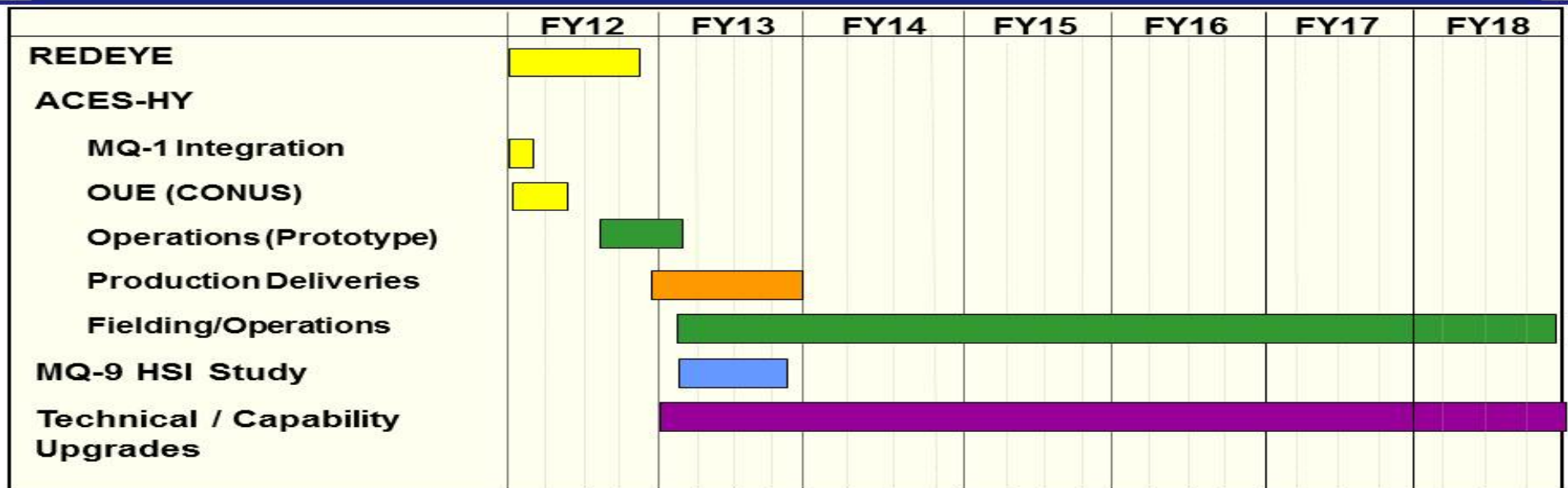
PE 0305206F: Airborne Reconnaissance
Systems

PROJECT

675292: Hyperspectral Sensors



ARS Hyperspectral Sensors Schedule



NOTE: ACES HY Operations funded under MQ-1 PE



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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305206F: <i>Airborne Reconnaissance Systems</i>	PROJECT 675292: <i>Hyperspectral Sensors</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
REDEYE	1	2012	4	2012
MQ-1 Integration	1	2012	1	2012
Operational User Evaluation (CONUS)	1	2012	2	2012
Operations (Prototype)	3	2012	1	2013
Production Deliveries	4	2012	4	2013
Fielding/Operations	1	2013	4	2018
MQ-9 HSI Study	1	2013	4	2013
Technical/Capability Upgrades	4	2012	4	2018

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force									DATE: April 2013			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 7: Operational Systems Development					R-1 ITEM NOMENCLATURE PE 0305206F: Airborne Reconnaissance Systems				PROJECT 675382: Wide Area Motion Imagery (WAMI)			
COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
675382: Wide Area Motion Imagery (WAMI)	-	0.025	0.000	0.000	-	0.000	27.127	28.160	28.802	29.320	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		
# FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012												
## The FY 2014 OCO Request will be submitted at a later date												
Note												
In FY 2012, Congress directed the removal of FY 2012/FY 2013 funding from the Broad Area Surveillance Sensors program. Monies in FY 2012/FY 2013 were transferred to project 674818, Imaging and Targeting Support, for Wide Area Motion Imagery (WAMI) development, per Congressional direction.												
Project 675382, Wide Area Motion Imagery (WAMI), changed from project 675382, Broad Area Surveillance Sensors.												
In FY 2014, reduction of \$7.889M due to higher Department priorities.												
In FY 2015-2018, funds are resident in this project to continue a WAMI program to enable cross-cueing to other sensors and enhance size, weight, and power (SWaP) tradeoffs.												
A. Mission Description and Budget Item Justification												
This project develops wide area motion imagery capabilities paired with near vertical direction finding (NVDF) capabilities in support of Combatant Command (COCOM) requirements for end-to-end persistent surveillance to provide airborne sensor suites, data links, and associated ground support elements for city-sized and similar WAMI surveillance capabilities on manned and unmanned aircraft.												
In FY 2015-2018, funds will continue WAMI developments that will enable cross-cueing to other sensors, including Near Vertical Direction Finding sensors, and improve SWaP tradeoffs.												
This project has been aligned to respond to COCOM's greater need for wide area surveillance. Quick reaction capability (QRC) has been delivered in the near term while allowing time for the Department to incorporate lessons learned from previously initiated QRC activities into this WAMI project. Continued development of critical wide area surveillance technologies will support existing QRCs supporting various aircraft size, weight, and power configurations; sensor performance attributes; Processing, Exploitation, and Dissemination (PED) architectures, and operational missions. Pre-program planning activities will continue to support formal ACC program of record (PoR) activities. The proposed funding profile shown here reflects this strategy.												
Activities also include studies, analysis, and technology development, maturation, and demonstration to support current and future program planning and execution.												

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force							DATE: April 2013				
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>				R-1 ITEM NOMENCLATURE PE 0305206F: <i>Airborne Reconnaissance Systems</i>			PROJECT 675382: <i>Wide Area Motion Imagery (WAMI)</i>				
This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.											
B. Accomplishments/Planned Programs (\$ in Millions)							FY 2012	FY 2013	FY 2014		
Title: Wide Area Motion Imagery Description: WAMI bridge project to include wide area surveillance sensors technology development, maturation, and capability demonstrations for manned and unmanned aircraft system platforms. FY 2012 Accomplishments: Supported transition of WAMI efforts to Project 674818, Imaging and Targeting Support. Efforts are further described under Project 674818, Imaging and Targeting Support (I&TS). FY 2013 Plans: WAMI efforts described under Project 674818, I&TS. FY 2014 Plans: WAMI efforts described under Project 674818, I&TS.							0.025	0.000	0.000		
Accomplishments/Planned Programs Subtotals							0.025	0.000	0.000		
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• None: N/A	0.000	0.000	0.000		0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Remarks											
D. Acquisition Strategy											
Competitive; specific strategy TBD.											
E. Performance Metrics											
Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.											

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force												DATE: April 2013			
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>						R-1 ITEM NOMENCLATURE PE 0305206F: <i>Airborne Reconnaissance Systems</i>						PROJECT 675382: <i>Wide Area Motion Imagery (WAMI)</i>			
Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
IR Image Resolution (AFRL-SAFEGARD)	C/CPFF	Lockheed Martin:Orlando, FL	-	0.000		0.000		0.000		-		0.000	0.000	0.000	
Integration (AFRL-SAFEGARD)	C/CPFF	Northrop Grumman:Baltimore, MD	-	0.000		0.000		0.000		-		0.000	0.000	0.000	
Data Links/Fusion (AFRL-SAFEGARD)	C/CPFF	L-3 Comm:Salt Lake City, UT	-	0.000		0.000		0.000		-		0.000	0.000	0.000	
PED Forward (AFRL-SAFEGARD)	C/CPFF	BAE:Arlington, VA	-	0.000		0.000		0.000		-		0.000	0.000	0.000	
IR Image Resolution (Office of Naval Research)	C/CPFF	Cincinnati Electronics:Mason, OH	-	0.000		0.000		0.000		-		0.000	0.000	0.000	
EO Image Resolution (Office of Naval Research)	C/CPFF	Logos Technology:Arlington, VA	-	0.000		0.000		0.000		-		0.000	0.000	0.000	
PED Forward (Office of Naval Research)	C/CPFF	Sarnoff Corporation:Princeton, NJ	-	0.000		0.000		0.000		-		0.000	0.000	0.000	
Persistent Surveillance Laboratory (PSL)/Analysis Support	Various	TBD:TBD,	-	0.000		0.000		0.000		-		0.000	Continuing	Continuing	TBD
Geolocation Accuracy/Target Support	Various	TBD:TBD,	-	0.000		0.000		0.000		-		0.000	Continuing	Continuing	TBD
MDD Planning & Support	Various	TBD:TBD,	-	0.000		0.000		0.000		-		0.000	Continuing	Continuing	TBD
Phase II Integration/Requirements Flow Down	C/CPFF	TBD:TBD,	-	0.000		0.000		0.000		-		0.000	Continuing	Continuing	TBD
Tech Maturation (SAFEGARD)	C/TBD	TBD:TBD,	-	0.000		0.000		0.000		-		0.000	Continuing	Continuing	TBD
Subtotal			0.000	0.000		0.000		0.000		0.000		0.000			

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force												DATE: April 2013			
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>						R-1 ITEM NOMENCLATURE PE 0305206F: <i>Airborne Reconnaissance Systems</i>						PROJECT 675382: <i>Wide Area Motion Imagery (WAMI)</i>			
Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
ARGUS Demo- Data Links	C/CPFF	L-3 Comm:Salt Lake City, UT	-	0.000		0.000		0.000		-		0.000	0.000	0.000	
ARGUS Demo- Platform	C/CPFF	Northrop Grumman:Baltimore, MD	-	0.000		0.000		0.000		-		0.000	0.000	0.000	
Data Link Equipment	C/CPFF	L-3 Comm:Salt Lake City, UT	-	0.000		0.000		0.000		-		0.000	0.000	0.000	
Subtotal			0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	
Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	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		0.000		0.000		0.000	0.000	0.000	0.000
Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
PMA - Aeronautical Systems Center	Various	Govt/ Contractors:Dayton, OH	-	0.000		0.000		0.000		-		0.000	Continuing	Continuing	TBD
TBD	TBD	TBD:TBD,	-	0.025		0.000		0.000		-		0.000	0.000	0.025	0.025
Subtotal			0.000	0.025		0.000		0.000		0.000		0.000			
Remarks \$0.025M in FY 2012 will be removed from this project to meet Congressional intent. FY 2012 and FY 2013 WAMI funds are executed in project 674818.															
			All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			0.000	0.025		0.000		0.000		0.000		0.000			

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force							DATE: April 2013			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 7: Operational Systems Development				R-1 ITEM NOMENCLATURE PE 0305206F: Airborne Reconnaissance Systems			PROJECT 675382: Wide Area Motion Imagery (WAMI)			
	All Prior Years	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract	

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force

DATE: April 2013

APPROPRIATION/BUDGET ACTIVITY

3600: Research, Development, Test & Evaluation, Air Force
BA 7: Operational Systems Development

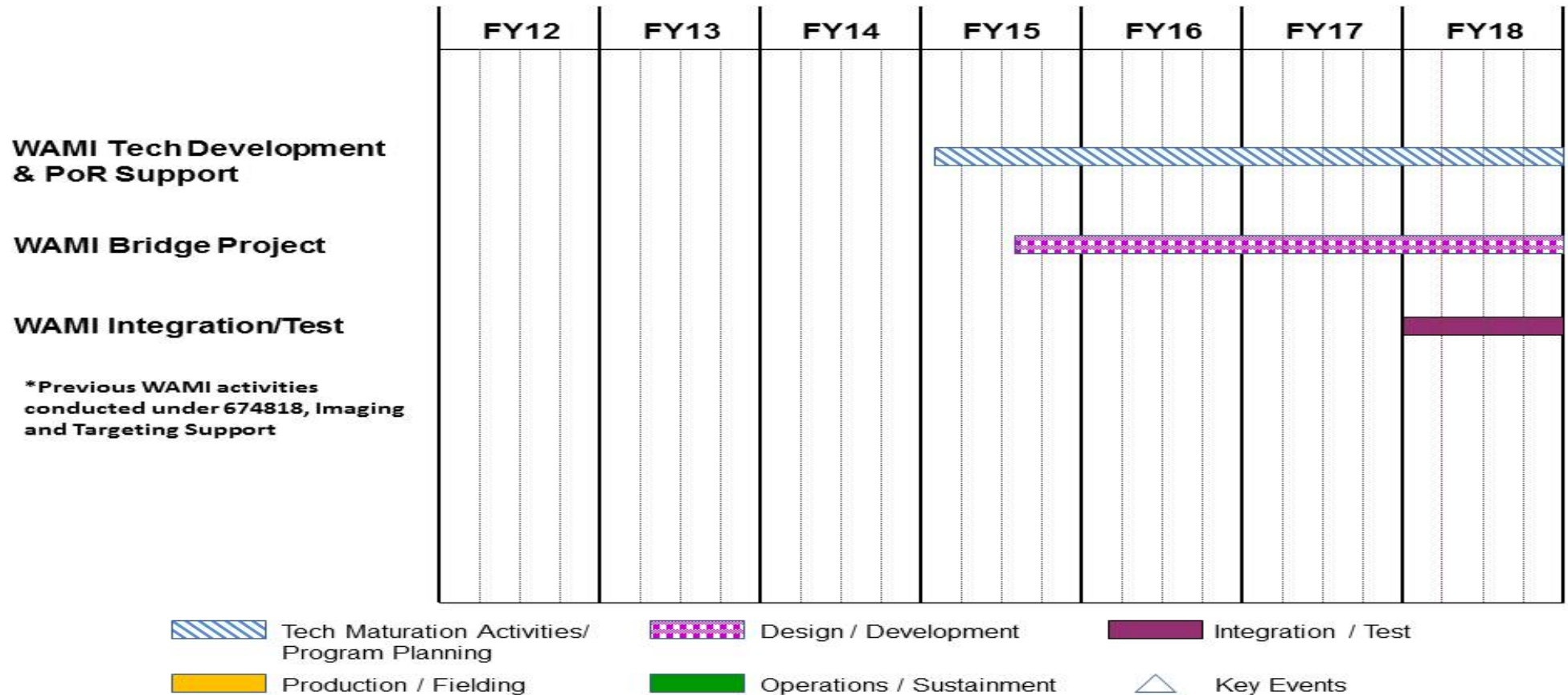
R-1 ITEM NOMENCLATURE

PE 0305206F: Airborne Reconnaissance
Systems

PROJECT

675382: Wide Area Motion Imagery (WAMI)

Wide Area Motion Imagery



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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 7: Operational Systems Development	R-1 ITEM NOMENCLATURE PE 0305206F: Airborne Reconnaissance Systems	PROJECT 675382: Wide Area Motion Imagery (WAMI)

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
WAMI Tech Development & PoR Support	1	2015	4	2018
WAMI Bridge Project	3	2015	4	2018
WAMI Integration & Test	1	2018	4	2018

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force									DATE: April 2013			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 7: Operational Systems Development					R-1 ITEM NOMENCLATURE PE 0305206F: Airborne Reconnaissance Systems				PROJECT 676031: Dismount Detection RADAR			
COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
676031: Dismount Detection RADAR	-	0.000	45.100	30.800	-	30.800	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		
# FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012												
## The FY 2014 OCO Request will be submitted at a later date												
Note												
In FY 2013, Project 676031, Dismount Detection Radar, efforts were transferred from Project 674818, Imaging and Targeting Support, in order to provide greater visibility into the development activities.												
A. Mission Description and Budget Item Justification												
The Dismount Detection Radar (DDR) project designs, develops, integrates, tests, fields, and sustains Ground Moving Target Indicator / Dismount Moving Target Indicator (GMTI/DMTI) and Synthetic Aperture Radar (SAR) capability for improved dismount and moving target detection, identification, tracking, and classification. DDR is advancing the Open Systems Architecture (OSA) in the area of sensors and mission systems. DDR includes associated Tasking Processing Exploitation and Dissemination (TPED) capabilities, and will be applicable to other combatant command (COCOM) GMTI requirements. DDR helps to fulfill the sponsoring COCOM and Central Command (CENTCOM) dismount detection requirements. DDR will be employed on medium altitude air vehicles, such as the MQ-9 Reaper. The DDR program also studies, develops, tests, and implements new concepts, hardware and software capabilities that can be leveraged by the OSA design in the radar and associated TPED for GMTI, and various technical analysis/studies to support future advanced radar development.												
Activities also include studies, analysis, and technology development, maturation, and demonstration to support current and future program planning and execution.												
This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production fielding in the current or subsequent fiscal year.												
B. Accomplishments/Planned Programs (\$ in Millions)									FY 2012	FY 2013	FY 2014	
Title: DDR									0.000	41.188	27.470	
Description: Design, develop, integrate, test, field, and sustain a persistent GMTI/DMTI capability in theater for employment on medium altitude air vehicles and various technical studies/analysis to support future advanced radar development.												
FY 2012 Accomplishments: FY 2012 DDR efforts described under Project 674818, Imaging and Targeting Support.												
FY 2013 Plans:												

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force							DATE: April 2013				
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>				R-1 ITEM NOMENCLATURE PE 0305206F: <i>Airborne Reconnaissance Systems</i>			PROJECT 676031: <i>Dismount Detection RADAR</i>				
B. Accomplishments/Planned Programs (\$ in Millions)							FY 2012	FY 2013	FY 2014		
Continue development of the radar system; develop air and ground hardware and software to support an OSA design and to prepare for sensor integration onto the platform. Continue the development and integration of advanced third-party modes to confirm the OSA of radar systems through a software spiral upgrade (i.e. maritime modes, etc.) and associated TPED. FY 2014 Plans: Will complete sensor testing, integration of radar system. Will plan and execute flight testing, and will plan for deployment of system in theater. Will develop warfighter needed software enhancements. Will begin planning for future capabilities required by COCOMs to include various technical studies/analysis to support future advanced radar development.											
Title: Program Management Activity Description: Providing management services to the development of DDR and the open architecture that it incorporates and supports. FY 2012 Accomplishments: N/A FY 2013 Plans: Provide management services to the development of DDR and the open architecture that it incorporates and supports. FY 2014 Plans: Will provide management services to the development of DDR and the open architecture that it incorporates and supports.							0.000	3.912	3.330		
Accomplishments/Planned Programs Subtotals							0.000	45.100	30.800		
C. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u> <u>Base</u>	<u>FY 2014</u> <u>OCO</u>	<u>FY 2014</u> <u>Total</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• None:: N/A	0.000	0.000	0.000		0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Remarks											
D. Acquisition Strategy The acquisition strategy for DDR includes a competitive source selection that began in 1QFY12 and was awarded in February 2012. After a ~100 day protest, the GAO denied all protest allegations allowing the Prime Contractor, Raytheon, to begin the design and development of the radar system in June 2012. The radar design includes an OSA approach, which will be tested when MIT/LL develops and integrates their advanced modes into the radar system. Testing will begin in											

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305206F: <i>Airborne Reconnaissance Systems</i>	PROJECT 676031: <i>Dismount Detection RADAR</i>
2014 and anticipate fielding in 2015. In addition, DDR will incorporate warfighter needed software enhancements with a spiral acquisition plan and contractual model. Enhancements will be developed in 2014 with integration and testing in 2015.		
E. Performance Metrics Please refer to the Performance Base Budget Overview Book for information on how Air 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 2014 Air Force												DATE: April 2013			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 7: Operational Systems Development						R-1 ITEM NOMENCLATURE PE 0305206F: Airborne Reconnaissance Systems				PROJECT 676031: Dismount Detection RADAR					
Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
DDR Development	C/CPIF	Raytheon:El Segundo, CA	-	0.000	Feb 2012	23.997	Mar 2013	14.834	Jan 2014	-		14.834	Continuing	Continuing	
DDR Integration	SS/TBD	General Atomics:San Diego, CA	-	0.000		6.000	Jan 2013	5.000	Jan 2014	-		5.000	Continuing	Continuing	
BA Delta (Trouble Ticket filed 31Jul12)	TBD	SAF/ AQIJ:Washington, DC	-	0.000		0.000		0.200	Aug 2012	-		0.200	Continuing	Continuing	
Subtotal			0.000	0.000		29.997		20.034		0.000		20.034			
Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
MIT Lincoln Laboratories	SS/T&M	MIT L/L FFRDC:Lexington, MA	-	0.000		8.605	Jan 2013	4.350	Jan 2014	-		4.350	Continuing	Continuing	
MITRE Corp FFRDC	C/T&M	MITRE Corp FFRDC:Lexington, MA	-	0.000		1.086	Oct 2012	1.086	Oct 2013	-		1.086	0.000	2.172	
Subtotal			0.000	0.000		9.691		5.436		0.000		5.436			
Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
46th Test Wing, Eglin AFB	PO	46th Test Wing:Eglin AFB, FL	-	0.000		1.500	Jan 2013	2.000	Jan 2014	-		2.000	Continuing	Continuing	
Subtotal			0.000	0.000		1.500		2.000		0.000		2.000			

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force	DATE: April 2013
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APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305206F: <i>Airborne Reconnaissance Systems</i>	PROJECT 676031: <i>Dismount Detection RADAR</i>
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Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
PMA (A&AS)	Various	Various:Various, MA	-	0.000		3.293	Jan 2013	2.711	Jan 2014	-		2.711	Continuing	Continuing	
PMA (MITRE FFRDC)	C/T&M	MITRE Corp FFRDC:Lexington, MA	-	0.000		0.469	Oct 2012	0.469	Oct 2013	-		0.469	Continuing	Continuing	
PMA (Gov't Travel/Supplies & Equip)	Various	Various:Various, MA	-	0.000		0.150	Oct 2012	0.150	Oct 2013	-		0.150	Continuing	Continuing	
Subtotal			0.000	0.000		3.912		3.330		0.000		3.330			

Remarks

NOTE: Prior to FY13, the Dismount Detection Radar (DDR) efforts were captured in Project 674818.

	All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	0.000		45.100		30.800		0.000		30.800			

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force

DATE: April 2013

APPROPRIATION/BUDGET ACTIVITY

3600: *Research, Development, Test & Evaluation, Air Force*
BA 7: *Operational Systems Development*

R-1 ITEM NOMENCLATURE

PE 0305206F: *Airborne Reconnaissance Systems*

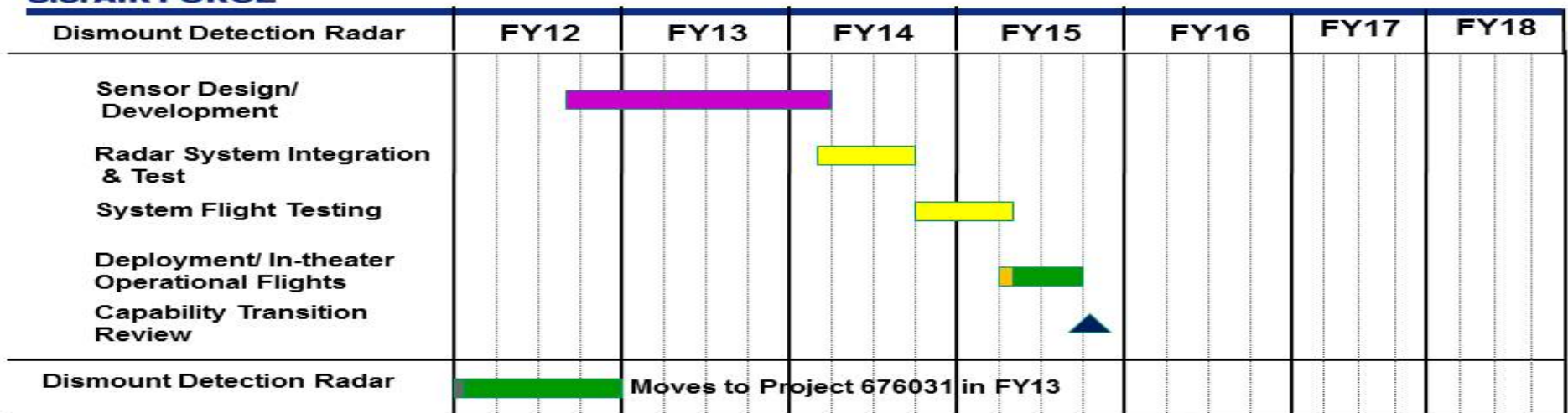
PROJECT

676031: *Dismount Detection RADAR*



U.S. AIR FORCE

ARS DDR Schedule



FY14 Staffer Brief

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305206F: <i>Airborne Reconnaissance Systems</i>	PROJECT 676031: <i>Dismount Detection RADAR</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Sensor Design / Development	3	2012	1	2014
Radar System Integration & Test	1	2014	3	2014
System Flight Testing	4	2014	2	2015
Deployment / In-theater Operational Flights	2	2015	4	2015
Capability Transition Review	4	2015	4	2015