Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force										DATE: February 2012	
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)	**FY 2011**	**FY 2012**	**FY 2013 Base**	**FY 2013 OCO**	**FY 2013 Total**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Cost To Complete**	**Total Cost**
Total Program Element	243.161	103.877	96.735	-	96.735	71.994	42.116	47.578	49.394	Continuing	Continuing
674818: *Imaging and Targeting Support*	143.527	45.809	28.968	-	28.968	13.923	13.172	13.581	13.915	Continuing	Continuing
674819: *Common Data Link (CDL)*	37.671	36.001	-	-	-	-	-	-	-	Continuing	Continuing
675092: *JTC/SIL MUSE*	3.362	3.235	3.464	-	3.464	3.472	3.504	3.601	3.487	Continuing	Continuing
675291: *Gorgon Stare*	31.721	16.047	16.359	-	16.359	13.040	6.458	-	-	Continuing	Continuing
675292: *Hyperspectral Sensors*	26.880	2.760	2.844	-	2.844	2.870	2.758	2.799	2.836	Continuing	Continuing
675382: *Broad Area Surveillance Sensors*	-	0.025	-	-	-	7.889	16.224	27.597	29.156	Continuing	Continuing
676031: *DISMOUNT DETECTION RADAR*	-	-	45.100	-	45.100	30.800	-	-	-	Continuing	Continuing

Note

FY 2011 funding totals include $153.5M appropriated for Overseas Contingency Operations and transferred from PE 0207277F via technical adjustment.

In FY 2013, Project 674819, Common Data Link, efforts transferred to PE 0305236F, Project 674819, Common Data Link, in order to provide greater visibility into this congressionally mandated capability and prepare for extended applications as new operational concepts come into existence.

In FY 2013, Project 676031, Dismount Detection Radar (DDR) efforts were transferred from Project 674818, Imaging and Targeting Support in order to provide greater visibility into development activities.

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.

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305206F: *Airborne Reconnaissance Systems*

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

B. Program Change Summary ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	168.963	106.877	135.159	-	135.159
Current President's Budget	243.161	103.877	96.735	-	96.735
Total Adjustments	74.198	-3.000	-38.424	-	-38.424
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-78.700	-18.200			
• Congressional Adds	-	15.200			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	152.898	-	-38.424	-	-38.424

Change Summary Explanation

In FY 2013, Project 674819, Common Data Link, efforts transferred to PE 0305236F, Project 674819, Common Data Link. This accounts for the -38.424M reduction in FY 2013.

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force			DATE: February 2012
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)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
674818: *Imaging and Targeting Support*	143.527	45.809	28.968	-	28.968	13.923	13.172	13.581	13.915	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

Note

FY 2011 funding totals include $130.5M appropriated for Overseas Contingency Operations.

FY 2012 funding totals include $17.9M for Dismount Detection Radar (DDR).

In FY 2012, Project 675382, Broad Area Surveillance Sensors, efforts transferred to Project 674818, Imaging and Targeting Support, in order to satisfy Congressional direction to continue $15.2M of Wide Area Motion Imagery (WAMI) efforts under "Imagery and Targeting Support" within PE 0305206F.

In FY 2013, Dismount Detection Radar (DDR) efforts transferred to Project 676031, Dismount Detection Radar, in order to provide greater visibility into the development activities.

In FY 2012, Project 675382, Broad Area Surveillance Sensors, efforts transferred to Project 674818, Imaging and Targeting Support, in order to satisfy Congressional direction to continue $14.5M of Wide Area Motion Imagery (WAMI) efforts under "Imagery and Targeting Support" within PE 0305206F.

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 and common imagery reconnaissance sensor capabilities (radar and electro-optical systems) 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 other radar and electro-optical models), 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 geographical 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.

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force		DATE: February 2012
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*

Traditional focus areas include, but are not limited to: development and demonstration of common radar and electro-optical sensors (Synthetic Aperture Radar [SAR], Low Frequency SAR, and antenna, Electo-Optical [EO], Infrared [IR], HSI, Low Light, Laser Radar [LADAR], Light Detection And Ranging [LIDAR]) and their operational modes (High Resolution Imagery, Moving Target Indication, Dismount Detection, Persistent Surveillance, Wide Area Motion Imagery, Spectral Identification) for multiple airborne platforms. 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 Moving Target Indicator (GMTI), 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.

FY11 and FY12 include funds for the design and development of a Dismount Detection Radar (DDR). Beginning in FY13, DDR funding will be discussed in project 676031.

FY12 and FY13 include funds for the maturation of Wide Area Motion Imagery (WAMI) technologies. 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.

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 2011**	**FY 2012**	**FY 2013 Base**	**FY 2013 OCO**	**FY 2013 Total**
Title: I&TS	13.027	12.709	14.473	-	14.473
Description: Develop/demonstrate and advance technical maturity of promising sensors and processing capabilities (ex: next-generation Hyperspectral (HSI), Low Light, Laser Radar (LADAR/LIDAR), and Obscured Target (OT) mitigation technologies.)					
FY 2011 Accomplishments: Continued development of advanced HSI sensors and detection algorithms, including mid-wave and long-wave (MWIR/LWIR) ranges, advanced SAR technology development insupport of OT detection, sensor library update,					

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force		DATE: February 2012
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*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
and High Altitude Long Range GEOINT Collection (HALRGC) analysis. Developed data compression algorithms for sensor outputs. ***FY 2012 Plans:*** Begin development of advanced LADAR sensor on-board processing and UAS integration. Continue development of LWIR HSI sensor and detection algorithms, update sensor library, and complete HALRGC draft report. Continue development of advanced SAR technology in support of OT mitigation. ***FY 2013 Base Plans:*** Will continue development of advanced LADAR sensor on-board processing and UAS integration, advanced HSI sensors and detection algorithms, including MWIR and LWIR ranges, sensor library update, and complete HALRGC analysis final report.					
Title: DDR ***Description:*** Develop/demonstrate improved dismount detection radar capability for employment on a medium altitude air vehicle. ***FY 2011 Accomplishments:*** Refined/derived requirements, conducted system-level studies, released Request for Proposal (RFO) for primary development contractor. $35M provided to US Army for purchase and development support of additional Vehicle And Dismount Exploitation Radar (VADER) pod. ***FY 2012 Plans:*** Begin development of radar array, modify hardware and software to Open System Architecture (OSA). ***FY 2013 Base Plans:*** Effort moved to project 676031. ***FY 2013 OCO Plans:*** N/A.	88.500	17.900	-	-	-
Title: ISR Innovations ***Description:*** These innovations include developing a sensor testbed to relieve the testing burden on the MQ-9 platforms, as well as conducting a DB-110 radar integration on a medium altitude unmanned platform.	42.000	-	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force		DATE: February 2012
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*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
FY 2011 Accomplishments: FY11 OCO funds include developing a sensor testbed and conducting a DB-110 radar integration evaluation on a medium altitude platform. ***FY 2012 Plans:*** N/A. ***FY 2013 Base Plans:*** N/A. ***FY 2013 OCO Plans:*** N/A.					
Title: WAMI ***Description:*** This effort matures the development of various wide area airborne critical technology elements in support of Combatant Commands' 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 2011 Accomplishments:*** N/A. ***FY 2012 Plans:*** Integrate and test a dial-a-rate gigabit data link. Begin test of next generation airborne processing. Continue development and testing of wide area electo-optic and infrared sensors. Operate and support a persistent surveillance laboratory (PSL) for advanced persistent ISR technologies. ***FY 2013 Base Plans:*** Will continue development of network communications and information dissemination. Integrate next generation airborne processing with wide area sensors. Continue development and testing of single and multi-INT wide area sensors. Continue to operate and support a persistent surveillance laboratory (PSL) for advanced persistent ISR technologies. ***FY 2013 OCO Plans:*** N/A.	-	15.200	14.495	-	14.495
Accomplishments/Planned Programs Subtotals	143.527	45.809	28.968	-	28.968

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force		DATE: February 2012
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*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• Other Government Agency, (Proc): *N/A*	10.800	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

D. Acquisition Strategy

Acquisition strategy is to maximize commercial and national development efforts and investment through multiple contracting methods; including the use of Engineering Change Proposals (ECP) to modify existing contracts and new contracts that were awarded both competitively or on a sole source basis.

E. Performance Metrics

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

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
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*

Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
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*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Advanced SAR Development	1	2011	4	2017
Advanced Hyperspectral Development	1	2011	4	2017
LADAR	1	2012	4	2017
Sensor Studies & Analysis	1	2011	4	2017
Other Technology Efforts (Prioritized by GCWG)	1	2011	4	2017
Dismount Detection Radar (DDR)	4	2011	4	2012
DB-110 Demo	3	2011	3	2013
ISR Testbed	3	2011	3	2013
WAMI	2	2012	4	2017

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force			DATE: February 2012
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)*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
674819: *Common Data Link (CDL)*	37.671	36.001	-	-	-	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

Note

In FY 2013, Project 674819, Common Data Link, efforts transferred to PE 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

Common Data Link (CDL) provides 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 include 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.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Title: CDL evolutionary terminal development	9.109	7.963	-	-	-
Description: CDL evolutionary terminal development per CDL IPT direction to the CDL Executive Agent (CDL EA)					

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force		DATE: February 2012
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)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
FY 2011 Accomplishments: Completed development and testing of Increment 3 Mini-CDL terminals from multiple vendors. Completed development of Team Portable CDL terminal. Started development of High Data Rate terminal and additional Size, Weight and Power (SWaP) improvements. ***FY 2012 Plans:*** Continue development and testing of High Data Rate terminal and additional Size, Weight and Power (SWaP) improvements.					
Title: CDL specification maintenance, development and distribution ***Description:*** CDL specification maintenance, development, and distribution per CDL IPT direction to CDL EA. ***FY 2011 Accomplishments:*** Continued maintenance and configuration control of the CDL architecture, standards, specifications, and modules. Continued updating the Capstone specification and exploring upgrades to support current and future employment profiles. Started High Data Rate specification development. Completed testing and initial release of bandwidth efficient waveform specification. ***FY 2012 Plans:*** Continue researching and/or developing upgrades to support current and future specification employment profiles including High Data Rate. Begin enhancing spectrally efficient CDL waveform specification. Continue to maintain configuration control of the CDL architecture, standards, specifications, and modules.	8.094	7.885	-	-	-
Title: CDL advanced technology insertion and studies ***Description:*** CDL advanced technology insertion, demonstrations, and studies per CDL WIPT direction to CDL EA. ***FY 2011 Accomplishments:*** Technology developments increased; began development of a High Data Rate capability for CDL. Began adapting phased array and/or portable antennas, continued development of multispectral flexibility, spectrum efficiency, and integration of improved transmission components. Began enhanced CDL-based ISR communications developments, which includes rapid prototyping and validation, that leverage warfighter lessons learned. ***FY 2012 Plans:***	20.468	20.153	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force		DATE: February 2012
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)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Technology developments continue increasing with efforts on High Data Rate CDL terminal advancement, adapting/testing phased array and portable antennas, continuation of multispectral flexibility, increased spectrum efficiency, and integration of improved transmission components. Continue development of enhanced, CDL-based ISR communications capabilities and prototyping. Will begin supporting emerging communication backbone architecture development across space, air, and terrestrial layers including agile high capacity data transport.					
Accomplishments/Planned Programs Subtotals	37.671	36.001	-	-	-

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• None: *N/A*	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

D. Acquisition Strategy

The CDL Executive Agent, supported by the Airborne Network Division (ESC/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.

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
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)*

Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
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)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Team Portable CDL Development & Enhancement	1	2011	4	2011
Miniature CDL Development & Enhancement	1	2011	4	2011
MR-TCDL Test & Enhancement (incl. High Data Rate)	2	2011	4	2012
CDL Specification Maintenance, Development, & Control	1	2011	4	2012
Bandwidth/Spectrum spec development/documentation	1	2011	4	2012
High Data Rate Spec development	1	2011	4	2012
CDL Waveform RDT&E	1	2011	4	2012
High Data Rate CDL	1	2011	4	2012
CDL Test Equipment Development/Enhancement	1	2011	4	2012
Bandwidth/Spectrum Enhancements	1	2011	4	2012
CDL Antenna Enhancements	2	2011	4	2012
Advanced CDL ISR Communications	2	2011	4	2012

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force			DATE: February 2012
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)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
675092: *JTC/SIL MUSE*	3.362	3.235	3.464	-	3.464	3.472	3.504	3.601	3.487	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

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 test bed 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 Warfighting 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 CONOPS 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 Combat 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, Global Hawk (RQ-4), ERMP, 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 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 and execution of open architecture for joint service ground control systems, developing and maintaining STANAG 45 joint interoperability tasks to be defined on an annual basis.

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force		DATE: February 2012
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*

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 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
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 2011 Accomplishments:*** Continued AFSERS development for new ISR platforms and sensors. ***FY 2012 Plans:*** Continuing AFSERS development, focusing on the modeling of MQ-9, modeling of new sensor capabilities, and on integration into operational networks. ***FY 2013 Base Plans:*** Will continue AFSERS development for MQ-9 and include improvements to both simulate existing and emerging platforms and sensors and better integrate AFSERS into other networks.	1.362	1.235	1.464	-	1.464
Title: OSD Interoperability Support ***Description:*** JTC/SIL support to OSD interoperability requirements. Air Force portion of joint funding requirement. ***FY 2011 Accomplishments:*** Continued Air Force support to OSD interoperability efforts. ***FY 2012 Plans:*** Continuing Air Force support to OSD interoperability efforts. ***FY 2013 Base Plans:*** Will continue Air Force support to OSD interoperability efforts.	2.000	2.000	2.000	-	2.000
Accomplishments/Planned Programs Subtotals	3.362	3.235	3.464	-	3.464

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force		DATE: February 2012
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*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• RDT&E, Army, PE 0305204A, Ta...: *Project 123*	6.483	4.317	4.326	0.000	4.326	4.244	2.068	3.290	3.345	Continuing	Continuing
• RDT&E, Navy, PE 0603261N, Ta...: *N/A (1)*	3.653	3.573	3.600	0.000	3.600	3.629	3.667	1.689	1.718	Continuing	Continuing

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.

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
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*

Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
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

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
AFSERS Development	1	2011	4	2017
Interoperability Support	1	2011	4	2015

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force			DATE: February 2012
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)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
675291: *Gorgon Stare*	31.721	16.047	16.359	-	16.359	13.040	6.458	-	-	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

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 and is managed by 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, Aeronautical Systems Center, Air Force Material Command. Development of the Gorgon Stare QRC system provides a podded wide area airborne sensor suite integrated on an MQ-9 Reaper to provide city-sized and similar broad area 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 on existing manned and unmanned aircraft system platforms. This plan evolved into the current ten pod set Gorgon Stare QRC. The acquisition strategy for this Air Force QRC includes delivery of capability in increments, with development of each increment expanding the capabilities of previous increment with provisions to also integrate pre-planned product improvements (P3I) to address evolving and emerging technology advancements.

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 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Title: Gorgon Stare	31.721	16.047	16.359	-	16.359
Description: Gorgon Stare development including Airborne System, C2, Tactical Dissemination, and Fixed Site processing elements.					
FY 2011 Accomplishments: Continued development and test of Increment 2 capability, while supporting Increment 1 deployment.					
FY 2012 Plans: Begin pre-planned product improvement (P3I) development to airborne system, C2, tactical dissemination, and fixed site processing elements.					
FY 2013 Base Plans:					

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force		DATE: February 2012
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)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Will continue pre-planned product improvement (P3I) development to airborne system, C2, tactical dissemination, and fixed site processing elements. Development will lead to a procurement / retrofit effort to improve older pod capabilities.					
Accomplishments/Planned Programs Subtotals	31.721	16.047	16.359	-	16.359

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• APAF, PE 0305206F, Airborne Reco...: *Gorgon Stare 3010*	0.000	74.866	106.186	0.000	106.186	112.365	33.880	0.000	0.000	Continuing	Continuing
• APAF, PE 0205219F, MQ-9 Reaper: *Gorgon Stare 3010*	160.383	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
• O&M AF, PE 0305206F, Airborn...: *Gorgon Stare 3400*	21.723	27.225	20.666	0.000	20.666	18.945	11.809	11.318	10.870	Continuing	Continuing

D. Acquisition Strategy

In response to a COCOM urgent operational need, the wide area surveillance need will be delivered via the Gorgon Stare QRC program 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 needed capabilities quickly. Addresses Service requirements for broad area surveillance using existing manned and unmanned aircraft system platforms. BIG SAFARI SPO, as tasked by SAF/AQ (Service Acquisition Executive or SAE) and/or the PEO for ISR & SOF (Program Executive Officer or PEO), will initiate development efforts to rapidly respond to COCOM urgent operational needs.

E. Performance Metrics

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

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
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*

Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
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*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Increment 1: Integration, Test	1	2011	1	2011
Increment 1: Production/Fielding	1	2011	3	2011
Increment 2: Development, Integration & Test	1	2011	2	2013
Increment 2: FY11 Systems Fielding	4	2011	4	2017
Increment 2: FY12 Systems Fielding	2	2012	4	2017
Increment 2: FY13 Systems Fielding	2	2013	4	2017
Increment 2 Plus Pre-Planned Product Improvements (P3I): Sensor Assessment, Integration & Test	3	2012	4	2015
Increment 2 + P3I: FY14 Systems Fielding	2	2014	4	2017
Increment 2 + P3I: FY15 Systems Fielding	2	2015	4	2017

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force			DATE: February 2012
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)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
675292: *Hyperspectral Sensors*	26.880	2.760	2.844	-	2.844	2.870	2.758	2.799	2.836	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

Note

FY 2011 funding totals include $23M appropriated for Overseas Contingency Operations.

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 develops sensors for the MQ-1B Predator Block 15 and includes 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.

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 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Title: ACES HY	3.880	2.760	2.844	-	2.844
Description: Develop and integrate ACES HY sensor on MQ-1 Predator. Provide training and support data to accompany sensors. Tech development supporting sensor improvements and possible integration on other platforms.					
FY 2011 Accomplishments: Completed development and integration of 3 prototype ACES HY sensors onboard MQ-1. Conducted development testing. Prepared for ACES HY operational utility evaluation (OUE) and fielding.					
FY 2012 Plans: Operate ACES HY in the field. Conduct HSI capability study. Begin developing on-board processing and storage improvements for ACES HY sensors and development of future HSI capabilities for other platforms.					
FY 2013 Base Plans:					

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force		DATE: February 2012
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 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Will continue ACES HY upgrades and new HSI solutions for alternate platforms.					
Title: REDEYE ***Description:*** Develop REDEYE Capability and other supporting efforts ***FY 2011 Accomplishments:*** Development and fielding of REDEYE capability.	23.000	-	-	-	-
Accomplishments/Planned Programs Subtotals	26.880	2.760	2.844	-	2.844

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• NONE: *N/A*	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

D. Acquisition Strategy

Develop industry partners that procure improved, baseline deployable, supportable HSI sensor systems. The systems should support the joint warfighter and ensure spiral upgrade capability. Utilize the Advanced Technology Support Program process developed by OSD DMEA at McClellan, CA. Beginning in FY12, future contracts will be awarded by ASC. 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. The MQ-1 and MQ-9 developers will be included for interface control and planning for MQ-1B Predator Block 15 integration prior to fielding for ACES HY and other 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 (McKinney TX) for sensor development and leverages the sole source, cost plus fixed fee General Atomics (San Diego, CA) integration contract for sensor integration.

E. Performance Metrics

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

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
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*

Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
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*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
REDEYE	4	2011	4	2012
ACES HY Prototype Sensor Builds	1	2011	2	2011
MQ-1 Integration / DT	2	2011	1	2012
OUE (CONUS)	1	2012	2	2012
Production / Fielding / Operations	2	2012	4	2017
HSI Capability Study	3	2012	1	2013
Capability Upgrades	3	2012	4	2017

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force			DATE: February 2012
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: *Broad Area Surveillance Sensors*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
675382: *Broad Area Surveillance Sensors*	-	0.025	-	-	-	7.889	16.224	27.597	29.156	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

Note

In FY11, project 675382 was renamed from Wide Area Airborne Surveillance Program of Record (WAAS PoR) to Broad Area Surveillance Sensors to reflect the WAAS PoR termination and continued technical development of Broad Area Surveillance Sensors.

In FY12, Congress directed termination of project 675382, BASS and transfer of monies to project 674818, Imaging (Imagery) and Targeting Support to support Wide Area Motion Imagery (WAMI) developments.

FY14-17 funds are resident in this project to begin a formal WAMI program of record (PoR).

A. Mission Description and Budget Item Justification

The Broad Area Surveillance Sensors project develops wide area motion imagery (WAMI) capabilities in support of Combatant Commands' requirements for end-to-end persistent surveillance to provide airborne sensor suites, data links, and associated ground support elements for city-sized and similar WAMI surveillance capabilities on manned and unmanned aircraft.

This project has been aligned to respond to COCOM's greater need for broad area surveillance in current operations and congressional guidance. The restructure delivers more Quick Reaction Capabilities (QRC) in the near term while allowing time for the services to incorporate lessons learned from previously initiated QRC activities into a future program of record. Continued development of critical broad area surveillance technologies will feed 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 while incorporating QRC lessons learned into a normalized acquisition program. 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.

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 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Title: Broad Area Surveillance	-	0.025	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force		DATE: February 2012
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: *Broad Area Surveillance Sensors*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Description: Broad area surveillance sensors technology development, maturation, and capability demonstrations for manned and unmanned aircraft system platforms. ***FY 2011 Accomplishments:*** N/A. ***FY 2012 Plans:*** Wide Area Motion Imagery (WAMI) efforts moved to Imaging and Targeting Support. ***FY 2013 Base Plans:*** WAMI efforts moved to Imaging and Targeting Support					
Accomplishments/Planned Programs Subtotals	-	0.025	-	-	-

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• N/A: *N/A*	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

D. Acquisition Strategy

Competitive; specific strategy TBD.

E. Performance Metrics

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

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
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: *Broad Area Surveillance Sensors*

Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
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: *Broad Area Surveillance Sensors*

Schedule Details

	Start		End	
Events	Quarter	Year	Quarter	Year
Pre-Program Preparation	1	2014	4	2017

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force			DATE: February 2012
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)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
676031: *DISMOUNT DETECTION RADAR*	-	-	45.100	-	45.100	30.800	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

Note

In FY 2013, Project 676031, Dismount Detection Radar (DDR), 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 develops and demonstrates Synthetic Aperture Radar (SAR) and Ground Moving Target Indicator (GMTI) capability for MQ-9 Remotely Piloted Aircraft (RPA) and other manned or unmanned aircraft. DDR will provide a persistent GMTI capability for the detection, tracking, and classification of vehicles and dismounts, to include associated Tasking Processing Exploitation and Dissemination (TPED) capabilities. DDR help fulfill a portion of the sponsoring combatant command and Central Command (CENTCOM) current dismount detection requirements. The DDR program will initially develop sensors for the MQ-9 and includes 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 dismount detection sensors and capabilities.

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production fielding in the current or subsequent fiscal year.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Title: DDR ***Description:*** Develop and integrate DDR sensor on medium altitude air vehicle. Provide training and support data to accompany sensor. Technical development supporting sensor improvements and possible integration on other platforms. ***FY 2013 Base Plans:*** Will continue development of radar array, modification of hardware and software to an Open System Architecture (OSA), and prepare for sensor integration onto platform.	-	-	45.100	-	45.100
Accomplishments/Planned Programs Subtotals	-	-	45.100	-	45.100

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force		DATE: February 2012
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*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• RDT&E, PE 0305208F, Distribu...: *DCGS-AF*	94.272	85.724	63.501	0.000	63.501	36.222	30.478	30.114	30.912	Continuing	Continuing
• O&M AF, PE 0305208F, Distrib...: *DCGS-AF*	560.984	798.775	324.241	0.000	324.241	368.061	372.381	429.734	437.954	Continuing	Continuing

D. Acquisition Strategy

The acquisition strategy includes a competitive source selection that began in 1QFY12 with expected contract award in February 2012. With the program's open system architecture (OSA) structure, the radar design and sensor processing were released as separate elements in the request for proposal (RFP) and could be bid on individually. With the OSA approch, there will be a single contract award however, there is the possibility of having a government directed sub if the radar design and sensor processing selections are different contractors. This approach quickly fields the best capability possible while maximizing the development efforts and techincal investments enabling more rapid future system improvements.

E. Performance Metrics

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

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
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*

Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
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*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Design / Development	3	2011	3	2013
SIL Integration / Test	4	2013	2	2014
Platform Integration	2	2014	2	2014
Flight Testing	2	2014	4	2014
Fielding / Operations	1	2015	4	2017