Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Air Force											Date: February 2015	
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0305206F / *Airborne Reconnaissance Systems*							
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
Total Program Element	-	47.059	37.652	50.154	-	50.154	45.886	61.291	60.028	61.105	Continuing	Continuing
674818: *Imaging and Targeting Support*	-	9.739	20.172	19.450	-	19.450	15.769	15.730	14.007	14.257	Continuing	Continuing
675092: *JTC/SIL MUSE*	-	2.472	3.934	3.475	-	3.475	3.880	3.452	3.513	3.576	Continuing	Continuing
675148: *Common-Airborne Sense and Avoid (C-ABSAA)*	-	-	-	19.735	-	19.735	21.931	37.423	38.129	38.811	Continuing	Continuing
675291: *Gorgon Stare*	-	10.000	10.000	-	-	-	-	-	-	-	-	20.000
675292: *Hyperspectral Sensors*	-	1.156	3.546	2.691	-	2.691	2.841	3.192	2.857	2.908	Continuing	Continuing
676025: *Data Compression*	-	-	-	4.803	-	4.803	1.465	1.494	1.522	1.553	Continuing	Continuing
676031: *Dismount Detection RADAR*	-	23.692	-	-	-	-	-	-	-	-	-	23.692

Note

In FY 2016, PE 0305220F, RQ-4, Project 675148, Common Airborne Sense and Avoid (C-ABSAA), efforts transferred to PE 0305206F, Airborne Reconnaissance Systems, Project 675148, Common Airborne Sense and Avoid (C-ABSAA), in order to provide greater visibility into this capability and prepare for expanded applications.

In FY 2016, PE 0305208F, Distributed Common Ground Station (DCGS), Project 676025, Data Compression, efforts transferred to PE 0305206F, Airborne Reconnaissance Systems, Project 676025, Data Compression, in order to provide greater visibility into this capability.

In FY 2015, Project 676031, the Dismount Detection Radar effort, was completed.

A. Mission Description and Budget Item Justification

The Airborne Reconnaissance Systems (ARS) program coordinates the development of advanced technologies (sensors, data links, targeting networks and products, and quick reaction capabilities) in support of multiple airborne reconnaissance platforms, both manned and unmanned. Its objectives are to develop, demonstrate, and rapidly transition advanced, interoperable, multi-platform solutions to reduce the find, fix, target, and track kill chain timeline, and to provide safe separation and collision avoidance for Remotely Piloted Aircraft (RPAs). 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 2016 Air Force	Date: February 2015
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** 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.

The FY2016 funding request was reduced by $0.983 million to account for the availability of prior execution balances.

B. Program Change Summary ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	47.155	28.113	31.408	-	31.408
Current President's Budget	47.059	37.652	50.154	-	50.154
Total Adjustments	-0.096	9.539	18.746	-	18.746
• Congressional General Reductions	-	-0.461			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	10.000			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-0.096	-	18.746	-	18.746

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2014	FY 2015
Project: 675291: *Gorgon Stare*		
Congressional Add: *NVDF/WAMI Integration, Adaptive Compression, and Processing*	10.000	10.000
Congressional Add Subtotals for Project: 675291	10.000	10.000
Congressional Add Totals for all Projects	10.000	10.000

Change Summary Explanation

FY14 changes are because funding was taken to cover a Department voucher.

FY 2016 changes are due to the transfer of two projects, Common Airborne Sense and Avoid and Data Compression, into Airborne Reconnaissance Systems, as well as the removal of $5.6M for higher Department priorities.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Air Force											Date: February 2015	
Appropriation/Budget Activity 3600 / 7					R-1 Program Element (Number/Name) PE 0305206F / *Airborne Reconnaissance Systems*				Project (Number/Name) 674818 / *Imaging and Targeting Support*			
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
674818: *Imaging and Targeting Support*	-	9.739	20.172	19.450	-	19.450	15.769	15.730	14.007	14.257	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

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 sensor data processing, for multiple airborne platforms, as well as 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(GMTI), foliage penetration (FOPEN), 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. These efforts are intended 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 Congressional adds and Quick Reaction Capabilities (QRCs), 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 based on strategic roadmaps. 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, Electo-Optical(EO), Infrared (IR), HSI, Low Light, Laser Radar (LADAR), Light Detection And Ranging (LIDAR) and their operational modes (High Resolution Imagery, Ground and Dismount Moving Target Indication(GMTI/DMTI), Persistent Surveillance, Wide Area Motion Imagery (WAMI), 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 (GMTI/DMTI), National Imagery Transmission Format (NITF); and 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.

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

Exhibit R-2A, RDT&E Project Justification: PB 2016 Air Force		Date: February 2015
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305206F / *Airborne Reconnaissance Systems*	**Project (Number/Name)** 674818 / *Imaging and Targeting Support*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Imaging & Targeting Support (I&TS) ***Description:*** Develop/demonstrate and advance technical maturity of promising sensors and processing capabilities (ex: radar improvement, next-generation hyperspectral imaging (HSI), laser radar/light detection and ranging (LADAR/LIDAR), and data mitigation technologies). ***FY 2014 Accomplishments:*** - Developed advanced radar sensor algorithms, multiband EO/IR sensors, other GEOINT sensor modalities, high volume on-board data storage, and near real time onboard processing. - Continued SAR and HSI sensor developments in support of high-altitude platforms. - Completed sensor library. ***FY 2015 Plans:*** - Continue to develop/demonstrate advanced HSI focal plane array material, sensors, and detection algorithms, multiband longer range EO/IR sensors, other GEOINT sensor modalities for cueing and future data fusion, improved on-board data processing, improved/ advanced radar sensor algorithms and capabilities, polarimetric imaging, and high volume on-board data storage. Enhance capabilities of airborne LIDAR. - Develop and modernize advanced SAR sensors for future high-altitude applications, Anti-Access Area Denial, and foliage penetration (FOPEN). ***FY 2016 Base Plans:*** Will continue development, modernization, and demonstration of advanced sensors and detection and processing algorithms, hyperspectral imaging technologies, multiband EO/IR and SAR sensor systems, enhanced lidar capabilities, polarimetric imaging, and other GEOINT sensing modalities for Anti-Acess Area Denial, FOPEN, and littoral environments. ***FY 2016 OCO Plans:*** N/A	7.335	20.172	19.450	-	19.450
Title: Advanced Synthetic Aperture Radar System (ASARS) 2B/2C ***Description:*** Update Advanced Synthetic Aperture Radar System (ASARS) due to Diminishing Manufacturing Sources (DMS) issues and user identified capability gaps. Includes total government and contractor costs for this project. ***FY 2014 Accomplishments:***	2.404	-	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2016 Air Force		Date: February 2015
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305206F / *Airborne Reconnaissance Systems*	**Project (Number/Name)** 674818 / *Imaging and Targeting Support*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Completed ASARS next generation updates to the ASARS 2B/2C Phase 1 to CDR. ***FY 2015 Plans:*** N/A ***FY 2016 Base Plans:*** N/A ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	9.739	20.172	19.450	-	19.450

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• RDTE: BA07: PE 0305202F: *Dragon U-2 (JMIP)*	13.700	5.511	-	-	-	-	-	-	-	-	-

Remarks

A portion of the funding within the U-2 RDTE line will be used to advance ASARS refurbishment and modernization.

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-3, RDT&E Project Cost Analysis: PB 2016 Air Force		Date: February 2015
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305206F / *Airborne Reconnaissance Systems*	**Project (Number/Name)** 674818 / *Imaging and Targeting Support*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
MB-SAR	C/CPFF	Northrop Grumman : Columbia, MD	-	0.307	Jun 2014	-		-		-		-	Continuing	Continuing	19.357
Lidar-HSI Data Fusion	C/CPFF	MIT LL : Lexington, MA	-	-		2.280	Feb 2015	2.220	Feb 2016	-		2.220	Continuing	Continuing	4.500
GOTCHA Motion Imagery SAR	C/CPFF	Various : Various,	-	0.978	Jun 2014	-		-		-		-	Continuing	Continuing	4.924
HALO	C/CPFF	DRS Sensors & Targeting Systems : Cypress, CA	-	1.870	Jul 2014	-		-		-		-	Continuing	Continuing	1.870
HEIRS	C/CPAF	Lockheed Martin, Leidos, UTC Aerospace Systems : Various,	-	2.041	Aug 2014	3.100	Jan 2015	-		-		-	Continuing	Continuing	5.000
KeyRadar	C/CPFF	KEYW : Severn, MD	-	-		2.000	Feb 2015	1.800	Mar 2016	-		1.800	Continuing	Continuing	3.800
SlimSAR Multi-INT	C/CPFF	Artemis, BAE : Hauppauge, NY	-	-		1.790	Mar 2015	2.370	Apr 2016	-		2.370	Continuing	Continuing	4.160
LWIR PI	C/CPFF	Raytheon : El Segundo, CA	-	-		1.000	Dec 2014	1.000	Feb 2016	-		1.000	Continuing	Continuing	2.000
Compressive Sensing HD Lidar	C/CPFF	Raytheon : El Segundo, CA	-	-		1.460	Mar 2015	1.190	Mar 2016	-		1.190	Continuing	Continuing	2.650
HPC Processing	C/CPFF	BAE, Leidos, KEYW : Dayton, OH	-	-		2.250	Nov 2014	2.250	Nov 2015	-		2.250	Continuing	Continuing	4.500
Common Module Spectrometer	C/CPFF	Raytheon : El Segundo, CA	-	-		4.000	Jan 2015	-		-		-	Continuing	Continuing	7.381
ASARS 2B/2C	C/CPAF	Raytheon : El Segundo, CA	-	2.500	Sep 2014	-		-		-		-	Continuing	Continuing	-
Other Tech Efforts (prioritized by GCWG)	Various	Various : Various,	-	0.815	Aug 2014	0.992	Dec 2014	7.170	Mar 2016	-		7.170	Continuing	Continuing	-
		Subtotal	-	8.511		18.872		18.000		-		18.000	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Air Force			Date: February 2015
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305206F / *Airborne Reconnaissance Systems*	Project (Number/Name) 674818 / *Imaging and Targeting Support*	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	-	-		-		-		-		-	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	-	-		-		-		-		-	-	-	-

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
PMA: Other Govt Cost	SS/T&M	Various : Dayton, OH	-	1.228	Jan 2014	1.300	Jan 2015	1.450	Jan 2016	-		1.450	Continuing	Continuing	-
		Subtotal	-	1.228		1.300		1.450		-		1.450	-	-	-

	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	9.739		20.172		19.450		-		19.450	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Air Force		Date: February 2015
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305206F / *Airborne Reconnaissance Systems*	**Project (Number/Name)** 674818 / *Imaging and Targeting Support*

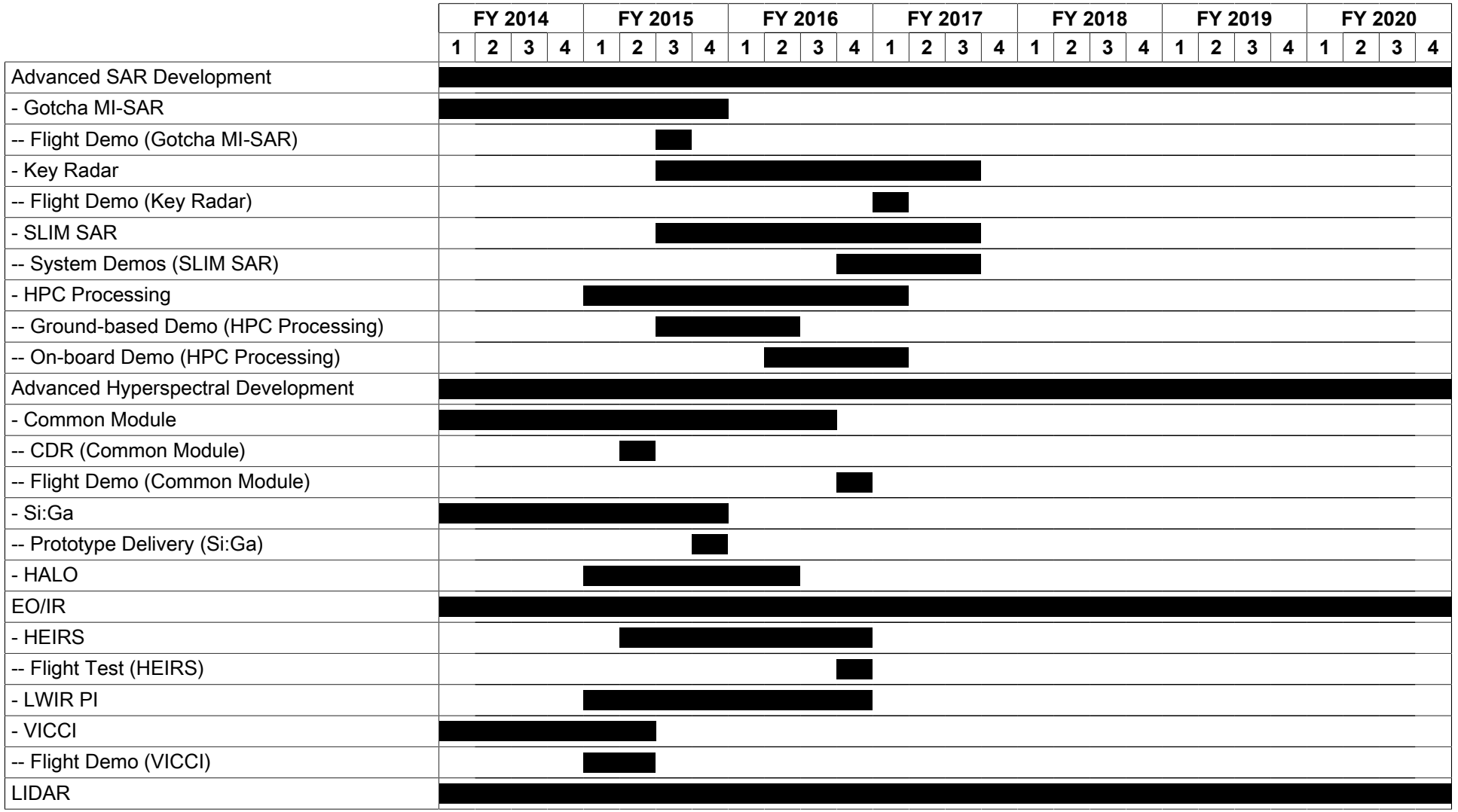

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Air Force		Date: February 2015
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305206F / *Airborne Reconnaissance Systems*	**Project (Number/Name)** 674818 / *Imaging and Targeting Support*

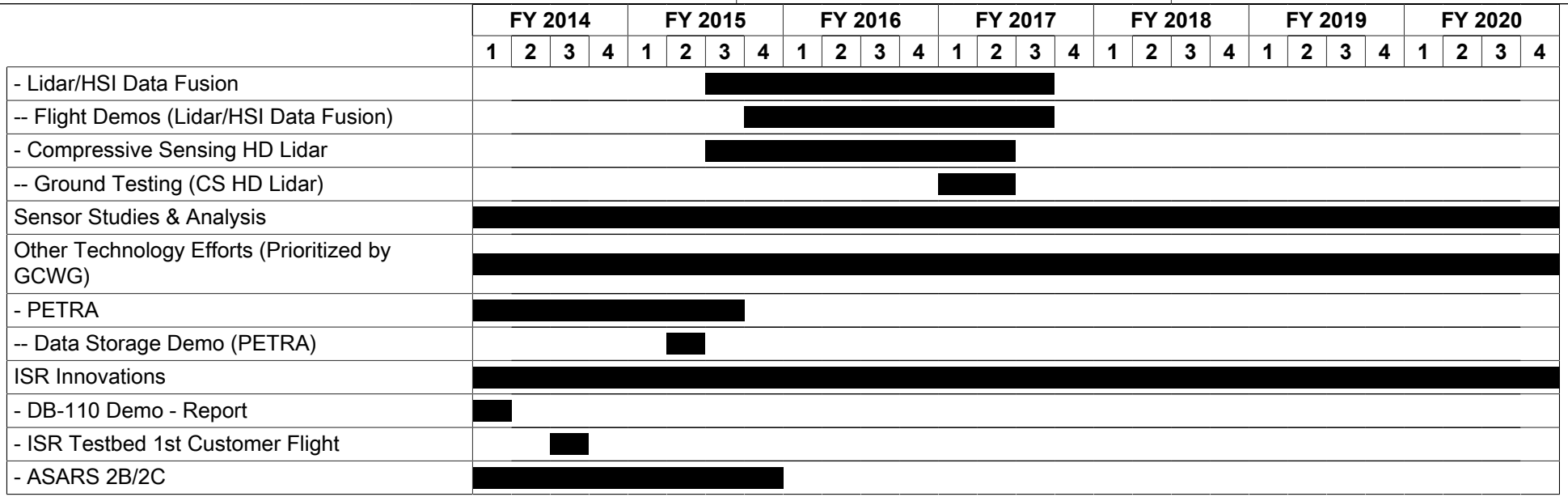

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Air Force		Date: February 2015
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305206F / *Airborne Reconnaissance Systems*	**Project (Number/Name)** 674818 / *Imaging and Targeting Support*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Advanced SAR Development	1	2014	4	2020
- Gotcha MI-SAR	1	2014	4	2015
-- Flight Demo (Gotcha MI-SAR)	3	2015	3	2015
- Key Radar	3	2015	3	2017
-- Flight Demo (Key Radar)	1	2017	1	2017
- SLIM SAR	3	2015	3	2017
-- System Demos (SLIM SAR)	4	2016	3	2017
- HPC Processing	1	2015	1	2017
-- Ground-based Demo (HPC Processing)	3	2015	2	2016
-- On-board Demo (HPC Processing)	2	2016	1	2017
Advanced Hyperspectral Development	1	2014	4	2020
- Common Module	1	2014	3	2016
-- CDR (Common Module)	2	2015	2	2015
-- Flight Demo (Common Module)	4	2016	4	2016
- Si:Ga	1	2014	4	2015
-- Prototype Delivery (Si:Ga)	4	2015	4	2015
- HALO	1	2015	2	2016
EO/IR	1	2014	4	2020
- HEIRS	2	2015	4	2016
-- Flight Test (HEIRS)	4	2016	4	2016
- LWIR PI	1	2015	4	2016
- VICCI	1	2014	2	2015

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Air Force		Date: February 2015
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305206F / *Airborne Reconnaissance Systems*	**Project (Number/Name)** 674818 / *Imaging and Targeting Support*

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
-- Flight Demo (VICCI)	1	2015	2	2015
LIDAR	1	2014	4	2020
- Lidar/HSI Data Fusion	3	2015	3	2017
-- Flight Demos (Lidar/HSI Data Fusion)	4	2015	3	2017
- Compressive Sensing HD Lidar	3	2015	2	2017
-- Ground Testing (CS HD Lidar)	1	2017	2	2017
Sensor Studies & Analysis	1	2014	4	2020
Other Technology Efforts (Prioritized by GCWG)	1	2014	4	2020
- PETRA	1	2014	3	2015
-- Data Storage Demo (PETRA)	2	2015	2	2015
ISR Innovations	1	2014	4	2020
- DB-110 Demo - Report	1	2014	1	2014
- ISR Testbed 1st Customer Flight	3	2014	3	2014
- ASARS 2B/2C	1	2014	4	2015

Exhibit R-2A, RDT&E Project Justification: PB 2016 Air Force			Date: February 2015
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305206F / *Airborne Reconnaissance Systems*	Project (Number/Name) 675092 / *JTC/SIL MUSE*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
675092: *JTC/SIL MUSE*	-	2.472	3.934	3.475	-	3.475	3.880	3.452	3.513	3.576	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

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) and Remotely Piloted Aircraft (RPA) 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, RPA 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 and RPA ground stations, when actual 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; 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 MQ-1, MQ-9, RQ-4, MQ-1C, M/RQ-5, RQ-7, national and commercial satellite collectors, P-3, E-8, and the U-2. During warfighting exercises, the JTC/SIL integrates imagery simulations with associated C4ISR systems to support the 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 supports the OSD UAS Task Force staff and the Standards and Interoperability Integrated Product Team, as well as the joint team working the Ground Segment Interface. 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 standardization agreement (STANAG) 45 joint interoperability tasks to be defined on an annual basis.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Air Force		Date: February 2015
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305206F / *Airborne Reconnaissance Systems*	**Project (Number/Name)** 675092 / *JTC/SIL MUSE*

Activities also include studies and analysis supporting current and future program planning and project execution.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Air Force Synthetic Environment for Reconnaissance and Surveillance (AFSERS) Development	1.172	1.934	3.475	-	3.475
Description: DoD's simulation/training system of choice for ISR systems, sensors, and platforms. Includes AFSERS, Common Ground Station Interface, and infrastructure support. ***FY 2014 Accomplishments:*** - Developed AFSERS for MQ-9. - Provided improvements to simulations of existing and emerging platforms and sensors. - Improved integration of AFSERS into other networks. - Supported Intel Simulation Training at Goodfellow Air Force Base. ***FY 2015 Plans:*** - Continue to enhance the Multiple Unified Simulation Environment (MUSE) mission planning training software to facilitate ease of use, concurrency and interoperability with current mission planning application capabilities. - Enhance MUSE Service Oriented Architecture to support Cloud computing for US Air Force military exercises, to include Distributed Mission Operations Network (DMON) certification. - Enhance MUSE interoperability with Air Force federations such as Air, Space, and Cyberspace Constructive Environment; joint,live, virtual, constructive training, and specific federated interfaces with the Air Force intelligence-operations simulation. - Develop new ISR sensor simulation training capabilities to reflect service emerging assets, such as multi-sensor platforms. - Develop and port applicable training software for hosting on portable devices. Continue Intel Simulation Training support at Goodfellow Air Force Base. ***FY 2016 Base Plans:*** - Will redesign the Vignette Planning and Rehearsal Software by implementing a Service Oriented Architecture (SOA) to facilitate external users developing generic solutions and to optimize the software baseline to maintain pace with the training audience's requirements, thereby reducing the costs of travel and training. - Will redesign MUSE/AFSERS U2/RQ-4 (FFI - Fixed Frame Imagery) simulation Capability. - Will design and implement a Heads Up Display (HUD) wizard. - Will complete the full virtualization of MUSE/AFSERS. - Will implement Web enabled MUSE/AFSERS that will allow users to train, via a web browser, without needing the MUSE/AFSERS software installed on their systems.					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Air Force		Date: February 2015
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305206F / *Airborne Reconnaissance Systems*	**Project (Number/Name)** 675092 / *JTC/SIL MUSE*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
- Will implement ports management into the MUSE/AFSERS baseline to better facilitate Information Assurance guidance and to be in accordance with the upcoming RMF (Risk Management Framework) that will replace DIACAP (Department of Defense Information Assurance and Accreditation Process). Will provide Exercise Support for Unified Endeavor, Key Resolve (KASC & KBSC - Korean Air Simulation Center & Korean Battle Simulation Center) & Ulchi Freedom Guardian (KASC & KBSC). - Will continue Intel Simulation Training support at Goodfellow Air Force Base. ***FY 2016 OCO Plans:*** N/A					
Title: OSD Interoperability Support ***Description:*** Joint Technology Center (JTC)/Systems Integration Laboratory (SIL) support to OSD interoperability requirements. Air Force portion of joint funding requirement. ***FY 2014 Accomplishments:*** Provided service support to OSD interoperability efforts. ***FY 2015 Plans:*** Complete Air Force support to OSD interoperability efforts, including support and configuration management of architecture products. ***FY 2016 Base Plans:*** N/A ***FY 2016 OCO Plans:*** N/A	1.300	2.000	-	-	-
Accomplishments/Planned Programs Subtotals	2.472	3.934	3.475	-	3.475

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• RDTE: BA07: PE 0305204A: *Tactical Unmanned Aerial Vehicles*	3.283	4.695	4.516	-	4.516	4.141	4.760	4.867	5.004	Continuing	Continuing
• RDTE: BA07: PE 0603261N: *Tactical Airborne Reconnaissance*	2.000	2.000	-	-	-	-	-	-	-	Continuing	Continuing

Exhibit R-2A, RDT&E Project Justification: PB 2016 Air Force		Date: February 2015
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305206F / *Airborne Reconnaissance Systems*	**Project (Number/Name)** 675092 / *JTC/SIL MUSE*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost

Remarks

D. Acquisition Strategy

This is an enterprise services effort, jointly funded and centrally managed by the US Army. AFLCMC/WIN MIPRs funds in support of UAS modeling and simulation efforts.

E. Performance Metrics

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

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Air Force			Date: February 2015
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305206F / *Airborne Reconnaissance Systems*	Project (Number/Name) 675092 / *JTC/SIL MUSE*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
AFSERS Development	MIPR	Redstone Arsenal : Huntsville, AL	-	1.172	Jan 2014	1.934	Jan 2015	3.475	Jan 2016	-		3.475	Continuing	Continuing	-
		Subtotal	-	1.172		1.934		3.475		-		3.475	-	-	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
OSD Interoperability Support	MIPR	Redstone Arsenal : Huntsville, AL	-	1.300	Jan 2014	2.000	Feb 2015	-		-		-	Continuing	Continuing	-
		Subtotal	-	1.300		2.000		-		-		-	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	-	-		-		-		-		-	-	-	-

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	-	-		-		-		-		-	-	-	-

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	2.472		3.934		3.475		-		3.475	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Air Force		Date: February 2015
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305206F / *Airborne Reconnaissance Systems*	**Project (Number/Name)** 675092 / *JTC/SIL MUSE*

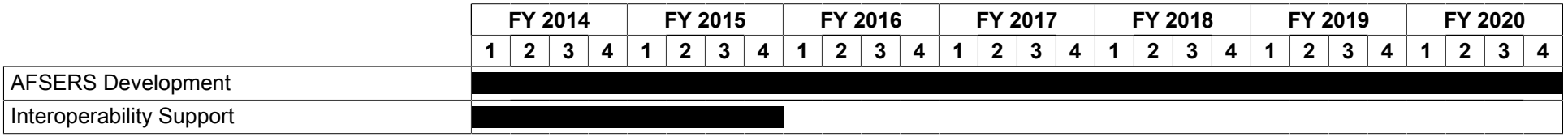

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Air Force		Date: February 2015
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305206F / *Airborne Reconnaissance Systems*	**Project (Number/Name)** 675092 / *JTC/SIL MUSE*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
AFSERS Development	1	2014	4	2020
Interoperability Support	1	2014	4	2015

Exhibit R-2A, RDT&E Project Justification: PB 2016 Air Force			Date: February 2015
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305206F / *Airborne Reconnaissance Systems*	Project (Number/Name) 675148 / *Common-Airborne Sense and Avoid (C-ABSAA)*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
675148: *Common-Airborne Sense and Avoid (C-ABSAA)*	-	-	-	19.735	-	19.735	21.931	37.423	38.129	38.811	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

In FY 2016, PE 0305220F, RQ-4, Project 675148, Common Airborne Sense and Avoid (C-ABSAA), efforts transferred to PE 0305206F, Airborne Reconnaissance Systems, Project 675148, Common Airborne Sense and Avoid (C-ABSAA), in order to provide greater visibility into this capability and prepare for expanded applications.

A. Mission Description and Budget Item Justification

C-ABSAA is an analysis and developmental effort in the pre-Material Development Decision phase of the acquisition lifecycle which supports emerging warfighter requirements to fully integrate Group 4-5 RPA into the National Airspace System (NAS), international airspace, other nations' sovereign airspace, and operational combat airspace to conduct the entire range of military operations across all mission environments. C-ABSAA also supports the "Worldwide Operations" Key Performance Parameter (KPP) in larger Remotely Piloted Aircraft (RPA) requirement documents, and Public Law 112-239 directing DoD collaboration with the Federal Aviation Administration (FAA) and the National Air and Space Administration (NASA) to safely integrate RPA in the NAS. Funding in this project supports the development of a Sense and Avoid (SAA) capability set for Group 4-5 RPA and covers analysis, research, and developmental activities as well as infrastructure and other government costs. Ongoing activities include support to the development of warfighter requirements and analysis of possible solution alternatives, the collaboration with the FAA, NASA, and Office of the Secretary of Defense (OSD) to develop national policy and standards, and SAA related studies, analysis, modeling and simulation, program planning and project execution. RPA platform specific integration and testing is not included.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: SAA-Related Requirements Development and Analysis, National Policy Standards Development, and Technology Development and Demonstration	-	-	19.735	-	19.735
Description: Support development and analysis of warfighter requirements and analysis of possible solution alternatives. Develop Sense and Avoid (SAA) technology and capabilities for Group 4-5 RPA. Collaborate with the FAA, NASA, and OSD to develop national policy and standards. Conduct SAA-related studies, analysis, modeling and simulation, demonstrations, program planning and project execution.					
FY 2014 Accomplishments: Efforts prior to FY 2016 reported under PE 0305220F.					
FY 2015 Plans:					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Air Force		Date: February 2015
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305206F / *Airborne Reconnaissance Systems*	**Project (Number/Name)** 675148 / *Common-Airborne Sense and Avoid (C-ABSAA)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Efforts prior to FY 2016 reported under PE 0305220F. ***FY 2016 Base Plans:*** - Will continue to support Air Combat Command with Analysis of Alternatives study. - Will continue to collaborate with FAA and NASA on national policy and standards, and to build and exercise modeling and simulation capabilities to support requirements, policy/standards, and technology development. - Will continue SAA science and technology research and development with the AFRL. ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	-	-	19.735	-	19.735

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

C-ABSAA will integrate Better Buying Power 3.0 initiatives throughout its acquisition lifecycle and rely upon acquisition of government data rights to maximize contractor competition from Technology Development through Production. The program uses an incremental acquisition strategy to provide the warfighter with SAA capability for Group 4-5 RPA with increased, time-phased capability improvements as technology and risks achieve satisfactory levels. Group 4-5 RPA platforms will be expected to integrate the C-ABSAA provided capability into their unique systems via retrofit or in production.

E. Performance Metrics

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

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Air Force			Date: February 2015
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305206F / *Airborne Reconnaissance Systems*	**Project (Number/Name)** 675148 / *Common-Airborne Sense and Avoid (C-ABSAA)*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
C-ABSAA Technology Development	C/Various	Various : Various,	-	-		-		18.583	Oct 2015	-		18.583	Continuing	Continuing	-
		Subtotal	-	-		-		18.583		-		18.583	-	-	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	-	-		-		-		-		-	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	-	-		-		-		-		-	-	-	-

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Administration (PMA)	Various	Various : Dayton, OH	-	-		-		1.152	Oct 2015	-		1.152	Continuing	Continuing	-
		Subtotal	-	-		-		1.152		-		1.152	-	-	-

Remarks

The Target supports multiple technology development contracts.

	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	-		-		19.735		-		19.735	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Air Force			Date: February 2015
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305206F / *Airborne Reconnaissance Systems*	Project (Number/Name) 675148 / *Common-Airborne Sense and Avoid (C-ABSAA)*	

	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract

Remarks

The Target Value supports multiple technology development contracts.

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Air Force		Date: February 2015
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305206F / *Airborne Reconnaissance Systems*	**Project (Number/Name)** 675148 / *Common-Airborne Sense and Avoid (C-ABSAA)*

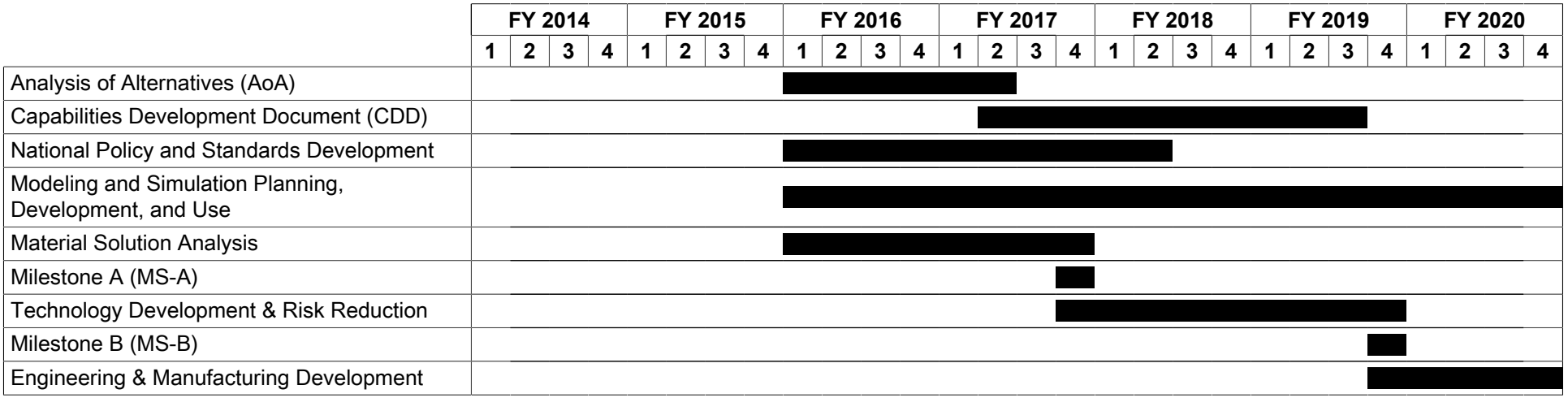

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Air Force		Date: February 2015
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305206F / *Airborne Reconnaissance Systems*	**Project (Number/Name)** 675148 / *Common-Airborne Sense and Avoid (C-ABSAA)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Analysis of Alternatives (AoA)	1	2016	2	2017
Capabilities Development Document (CDD)	2	2017	3	2019
National Policy and Standards Development	1	2016	2	2018
Modeling and Simulation Planning, Development, and Use	1	2016	4	2020
Material Solution Analysis	1	2016	4	2017
Milestone A (MS-A)	4	2017	4	2017
Technology Development & Risk Reduction	4	2017	4	2019
Milestone B (MS-B)	4	2019	4	2019
Engineering & Manufacturing Development	4	2019	4	2020

Exhibit R-2A, RDT&E Project Justification: PB 2016 Air Force			Date: February 2015
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305206F / *Airborne Reconnaissance Systems*	Project (Number/Name) 675291 / *Gorgon Stare*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
675291: *Gorgon Stare*	-	10.000	10.000	-	-	-	-	-	-	-	-	20.000
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Gorgon Stare provides city-sized wide area airborne surveillance for Combatant Commanders and is managed by the 645th Aeronautical Systems Group, Intelligence, Surveillance, and Reconnaissance and Special Operations Forces (ISR&SOF) Directorate. The Gorgon Stare system provides a podded wide area airborne sensor suite integrated on specially-modified MQ-9 Reaper Remotely Piloted Aircraft (RPA). The Air Force Requirements Oversight Council (AFROC) approved Air Combat Command's recommendation to transition Gorgon Stare from a Quick Reaction Capability to an Air Force Enduring Capability in November 2014. Gorgon Stare's requirements are documented in the Gorgon Stare Wide Area Airborne Sensor Capabilities Production Document (draft). The acquisition strategy for this Air Force podded sensor suite solution is sustainment of the currently fielded capabilities with any upgrades implemented via validated -1067s or Urgent Operational Needs. Provisions to consider 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.

Development efforts conducted with FY14 Congressionally added RDT&E funds include software integration lab testing of Near Vertical Direction Finding (NVDF) with Gorgon Stare Inc 2 Wide Area Motion Imagery (WAMI) sensors. Funds spent on NVDF will provide a ramp for future airborne integration efforts as required. RDT&E efforts conducted with FY15 Congressionally added funds include development efforts focused on adaptive compression and processing to enable more efficient and timely reachback.

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

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015
Congressional Add: NVDF/WAMI Integration, Adaptive Compression, and Processing	10.000	10.000
FY 2014 Accomplishments: - Conducted demo integrating a fielded near vertical direction finding (NVDF) capability with an existing Gorgon Stare Wide Area Motion Imagery (WAMI) - Equipped MQ-9. - Demonstrated SIGINT sensor and Gorgon Stare WAMI sensors' integration in a software integration lab.		
FY 2015 Plans: Further develop adaptive compression and processing solutions to enable data dissemination via "reachback".		
Congressional Adds Subtotals	10.000	10.000

Exhibit R-2A, RDT&E Project Justification: PB 2016 Air Force		Date: February 2015
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305206F / *Airborne Reconnaissance Systems*	**Project (Number/Name)** 675291 / *Gorgon Stare*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• APAF: BP16: Line Item # PRDTB3: *MQ-9 UAS Payloads (Spares)*	8.256	6.790	5.554	-	5.554	3.575	0.218	-	-	-	-

Remarks

D. Acquisition Strategy

The wide area airborne surveillance requirement is being delivered via the Gorgon Stare podded wide area motion imagery sensor suite integrated on dedicated, specially-modified MQ-9 Reaper RPAs. Gorgon Stare transitioned from a Quick Reaction Capability to an Air Force Enduring Capability under AFROC authority in November 2014. The program is executed by the 645th AESG as a post-MS C program. The sensor suite will be sustained in its current configuration. Any future capability upgrades will be fielded as a result of validated -1067s or 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-3, RDT&E Project Cost Analysis: PB 2016 Air Force			Date: February 2015
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305206F / *Airborne Reconnaissance Systems*	Project (Number/Name) 675291 / *Gorgon Stare*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Near Vertical Direction Finding (NVDF) Integration Demo	SS/CPFF	Sierra Nevada Corporation : Sparks, NV	-	10.000	Feb 2015	-		-		-		-	Continuing	Continuing	-
Adaptive Compression and Processing	SS/CPFF	Sierra Nevada Corporation : Sparks, NV	-	-		10.000	Mar 2015	-		-		-	Continuing	Continuing	-
		Subtotal	-	10.000		10.000		-		-		-	-	-	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	-	-		-		-		-		-	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	-	-		-		-		-		-	-	-	-

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	-	-		-		-		-		-	-	-	-

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	10.000		10.000		-		-		-	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Air Force			Date: February 2015
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305206F / *Airborne Reconnaissance Systems*	Project (Number/Name) 675291 / *Gorgon Stare*	

	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract

Remarks

FY14 and FY15 funds are Congressional adds

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Air Force		Date: February 2015
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305206F / *Airborne Reconnaissance Systems*	**Project (Number/Name)** 675291 / *Gorgon Stare*

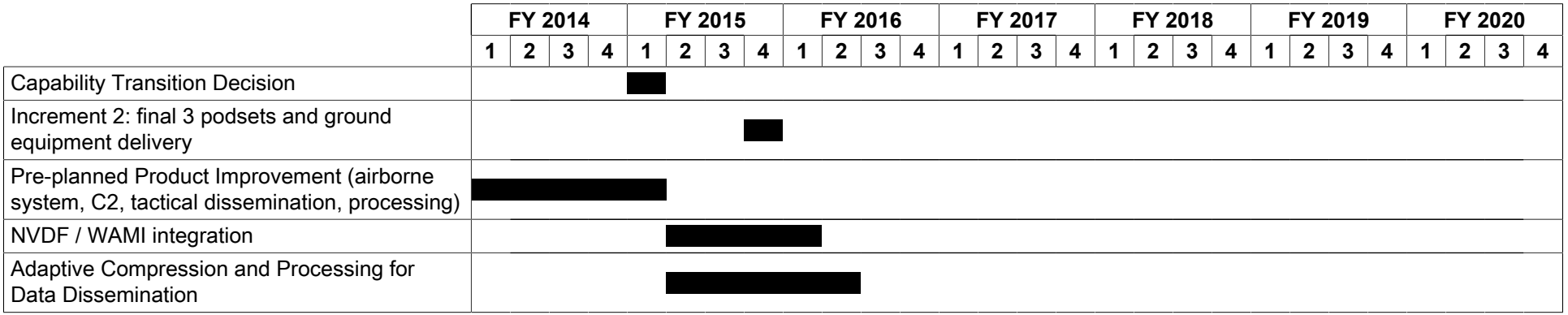

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Air Force		Date: February 2015
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305206F / *Airborne Reconnaissance Systems*	**Project (Number/Name)** 675291 / *Gorgon Stare*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Capability Transition Decision	1	2015	1	2015
Increment 2: final 3 podsets and ground equipment delivery	4	2015	4	2015
Pre-planned Product Improvement (airborne system, C2, tactical dissemination, processing)	1	2014	1	2015
NVDF / WAMI integration	2	2015	1	2016
Adaptive Compression and Processing for Data Dissemination	2	2015	2	2016

Exhibit R-2A, RDT&E Project Justification: PB 2016 Air Force			Date: February 2015
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305206F / *Airborne Reconnaissance Systems*	Project (Number/Name) 675292 / *Hyperspectral Sensors*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
675292: *Hyperspectral Sensors*	-	1.156	3.546	2.691	-	2.691	2.841	3.192	2.857	2.908	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Hyperspectral Sensors project develops Hyperspectral Imagery (HSI) sensors and capabilities for MQ-1 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's current HSI requirements. The ACES HY program 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 per the HSI strategic roadmap.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Airborne Cueing & Exploitation System - Hyperspectral (ACES HY)	1.156	3.546	2.691	-	2.691
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 2014 Accomplishments:*** - Developed ACES HY upgrades, including the qualification and integration of the ACES HY Rapid Innovation Fund (RIF) processor. - Completed the ACES HY MQ-9 Integration study. - Fnalized pod selection. - Completed premlinary design studies. - Completed contractor integration laboratory testing at General Atomics. ***FY 2015 Plans:*** - Continue ACES HY upgrades, to include design development - Test a new ACES HY high resolution camera to resolve image interpretability findings from Operational Test and Evaluation (OT&E). - Conduct preliminary and critical design reviews - Build two protoype systems					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Air Force		Date: February 2015
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305206F / *Airborne Reconnaissance Systems*	**Project (Number/Name)** 675292 / *Hyperspectral Sensors*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
- Qualify the resulting design to the ACES HY system specification. ***FY 2016 Base Plans:*** - Will complete high resolution camera development and test and prepare for camera production effort. - Design develop and test replacement ACES HY GPS/INS system element in response to supportability issues and operational requirements. - Conduct prelimary and critical design reviews and build two units to support qualification testing. ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	1.156	3.546	2.691	-	2.691

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• APAF: BA05: Line Item # PRDT01: *MQ-1 Mods*	4.272	2.755	-	-	-	-	-	-	-	-	-

Remarks

A portion of the Predator modification funding listed above is used to support ACES HY integration.

D. Acquisition Strategy

ACES HY production sensor deliveries were completed in July of 2014, using the Advanced Technology Support Program process developed by Office of the Secretary of Defense (OSD)'s Defense MicroElectronics Activity (DMEA) at McClellan AFB, CA. Sensors are currently managed at AFLCMC/WIILR, the MQ-1 Predator sustainment program office, Warner-Robbins AFB GA.

ACES HY utilizes a sole source Basic Ordering Agreement with Raytheon (McKinney, TX) for system modifications.

E. Performance Metrics

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

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Air Force			Date: February 2015
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305206F / *Airborne Reconnaissance Systems*	Project (Number/Name) 675292 / *Hyperspectral Sensors*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Processor Integration	SS/CPFF	Raytheon : McKinney, TX	-	0.555	Feb 2014	-		-		-		-	Continuing	Continuing	1.632
HRI Upgrade	SS/CPFF	Raytheon : McKinney, TX	-	-		2.892	Apr 2015	0.691	Mar 2016	-		0.691	Continuing	Continuing	4.587
GPS Update	SS/CPFF	Raytheon : McKinney, TX	-	-		-		1.540	Dec 2015	-		1.540	Continuing	Continuing	1.540
Other Tech Efforts	Various	Various : Various,	-	0.017	May 2014	-		-		-		-	Continuing	Continuing	-
		Subtotal	-	0.572		2.892		2.231		-		2.231	-	-	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Engineering Support	SS/CPFF	MIT/LL : Cambridge, MA	-	0.195	May 2014	0.195	May 2015	-		-		-	Continuing	Continuing	-
		Subtotal	-	0.195		0.195		-		-		-	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	-	-		-		-		-		-	-	-	-

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
PMA: Other Govt Cost	SS/T&M	Various : Dayton, OH	-	0.389	Jan 2014	0.459	Jan 2015	0.460	Jan 2016	-		0.460	Continuing	Continuing	-
		Subtotal	-	0.389		0.459		0.460		-		0.460	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Air Force			Date: February 2015
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305206F / *Airborne Reconnaissance Systems*	Project (Number/Name) 675292 / *Hyperspectral Sensors*	

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	1.156		3.546		2.691		-		2.691	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Air Force		Date: February 2015
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305206F / *Airborne Reconnaissance Systems*	**Project (Number/Name)** 675292 / *Hyperspectral Sensors*

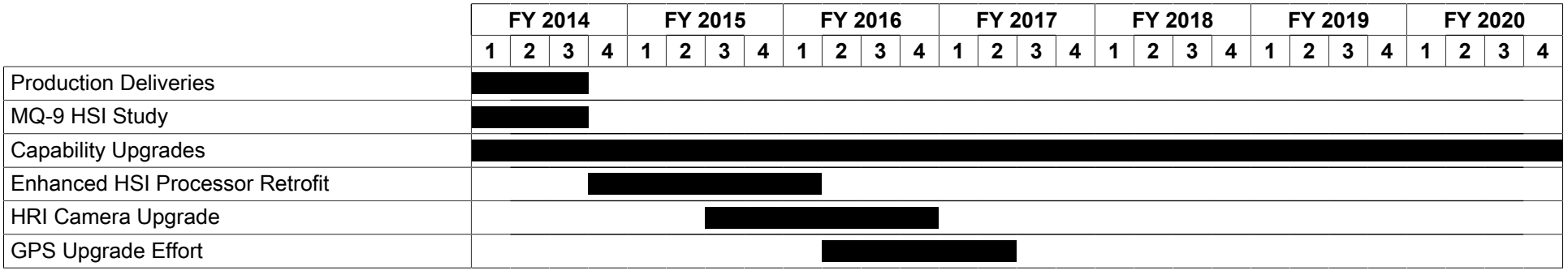

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Air Force		Date: February 2015
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305206F / *Airborne Reconnaissance Systems*	**Project (Number/Name)** 675292 / *Hyperspectral Sensors*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Production Deliveries	1	2014	3	2014
MQ-9 HSI Study	1	2014	3	2014
Capability Upgrades	1	2014	4	2020
Enhanced HSI Processor Retrofit	4	2014	1	2016
HRI Camera Upgrade	3	2015	4	2016
GPS Upgrade Effort	2	2016	2	2017

Exhibit R-2A, RDT&E Project Justification: PB 2016 Air Force			Date: February 2015
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305206F / *Airborne Reconnaissance Systems*	Project (Number/Name) 676025 / *Data Compression*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
676025: *Data Compression*	-	-	-	4.803	-	4.803	1.465	1.494	1.522	1.553	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

In FY 2016, PE 0305208F, Distributed Common Ground Station (DCGS), Project 676025, Data Compression, efforts transferred to PE 0305206F, Airborne Reconnaissance Systems, Project 676025, Data Compression, in order to provide greater visibility into this capability.

A. Mission Description and Budget Item Justification

The DCGS Data Compression effort provides the warfighter a capability to efficiently compress and decompress airborne ISR sensor data and transmit near realtime to tactical users through current and future bandwidth limited commercial satellite communications (SATCOM) or military SATCOM. The effort will develop, test and implement new sensor data compression and decompression algorithms for current and emerging airborne ISR sensors. Additionally, the program develops compression and decompression capabilities for manned and unmanned airborne platforms, associated ground stations, and DCGS. Outputs will meet standard certification for use within the DoD GEOINT and MASINT architectures.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Data Compression	-	-	4.803	-	4.803
Description: The DCGS Data Compression effort provides the warfighter a capability to efficiently compress and decompress airborne ISR sensor data and transmit near realtime to tactical users through current and future bandwidth limited commercial satellite communications (SATCOM) or military SATCOM. The effort will develop, test and implement new sensor data compression and decompression algortihms for current and emerging airborne ISR sensors. Additionally, the program develops compression and decompression capabilities for manned and unmanned airborne platforms, associated ground stations, and DCGS. Outputs will meet standard certification for use within the DoD GEOINT and MASINT architectures.					
FY 2014 Accomplishments: Prior to FY 2016, efforts were reported under PE 0305208F, Distributed Common Ground Station.					
FY 2015 Plans: Prior to FY 2016, efforts were reported under PE 0305208F, Distributed Common Ground Station.					
FY 2016 Base Plans: - Increase development and testing of Persistent EO/IR and Phase History SAR data compression capabilities, LIDAR and other phenomenologies.					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Air Force		Date: February 2015
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305206F / *Airborne Reconnaissance Systems*	**Project (Number/Name)** 676025 / *Data Compression*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
- Will begin developing and testing compression and decompression algorithms for Persistent SAR and Smart Data Discrimination. ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	-	-	4.803	-	4.803

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

The Data Compression acquisition approach is to design and develop compression and decompression technology hardware and software components, interfaces and standards for various airborne ISR platforms, ground stations, data storage facilities, and exploitation tools utilizing existing contracts with full and open competition where appropriate. Integration will be accomplished by the requisite program offices with data compression specific integration support provided.

E. Performance Metrics

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

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Air Force			Date: February 2015
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305206F / *Airborne Reconnaissance Systems*	Project (Number/Name) 676025 / *Data Compression*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Technology Demonstration- Phase History	C/CPAF	TBD : TBD,	-	-		-		0.500		-		0.500	Continuing	Continuing	-
Technology Development- Phase History	C/CPAF	TBD : TBD,	-	-		-		1.500		-		1.500	Continuing	Continuing	-
Technology Development	C/CPAF	TBD : TBD,	-	-		-		1.278	Mar 2016	-		1.278	Continuing	Continuing	-
		Subtotal	-	-		-		3.278		-		3.278	-	-	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	-	-		-		-		-		-	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Technology Development - AFRL Support	C/Various	Various : Various,	-	-		-		0.500	Mar 2016	-		0.500	Continuing	Continuing	-
Technology Development - Other Support	C/Various	Various : Various,	-	-		-		0.300	Nov 2015	-		0.300	Continuing	Continuing	-
		Subtotal	-	-		-		0.800		-		0.800	-	-	-

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Office Support	Various	Govt/Contractors : TBD,	-	-		-		0.725	Oct 2015	-		0.725	Continuing	Continuing	-
		Subtotal	-	-		-		0.725		-		0.725	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Air Force			Date: February 2015
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305206F / *Airborne Reconnaissance Systems*	Project (Number/Name) 676025 / *Data Compression*	

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	-		-		4.803		-		4.803	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Air Force		Date: February 2015
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305206F / *Airborne Reconnaissance Systems*	**Project (Number/Name)** 676025 / *Data Compression*

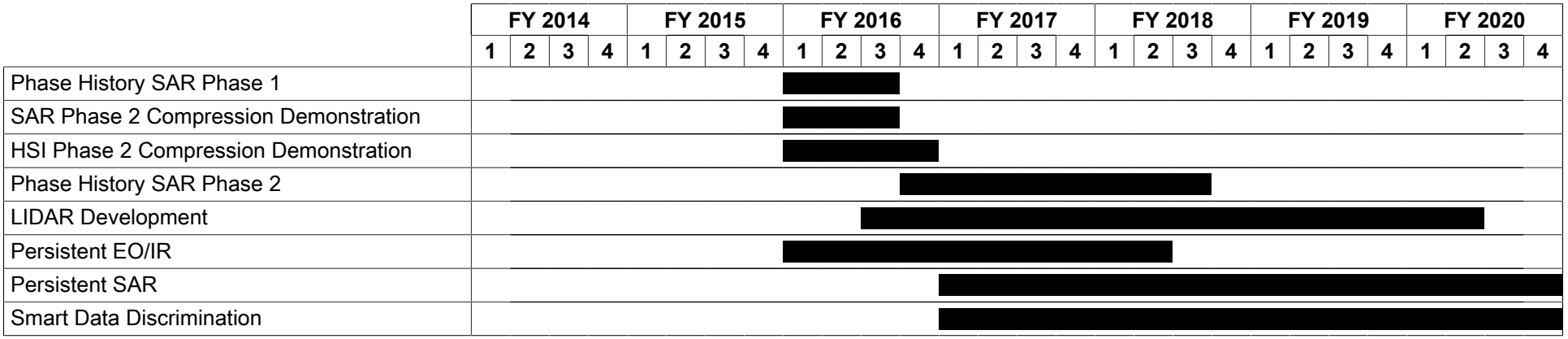

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Air Force		Date: February 2015
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305206F / *Airborne Reconnaissance Systems*	**Project (Number/Name)** 676025 / *Data Compression*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Phase History SAR Phase 1	1	2016	3	2016
SAR Phase 2 Compression Demonstration	1	2016	3	2016
HSI Phase 2 Compression Demonstration	1	2016	4	2016
Phase History SAR Phase 2	4	2016	3	2018
LIDAR Development	3	2016	2	2020
Persistent EO/IR	1	2016	2	2018
Persistent SAR	1	2017	4	2020
Smart Data Discrimination	1	2017	4	2020

Exhibit R-2A, RDT&E Project Justification: PB 2016 Air Force			Date: February 2015
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305206F / *Airborne Reconnaissance Systems*	Project (Number/Name) 676031 / *Dismount Detection RADAR*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
676031: *Dismount Detection RADAR*	-	23.692	-	-	-	-	-	-	-	-	-	23.692
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

In FY 2015, Project 676031, Dismount Detection Radar, was completed.

A. Mission Description and Budget Item Justification

The Dismount Detection Radar (DDR) project designed, developed, integrated, and tested 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 advanced Open Systems Architecture (OSA) in the area of sensors and mission systems. The DDR program also studied, developed, tested, and implemented 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 included studies, analysis, and technology development, maturation, and demonstration to support current and future program planning and execution.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Dismount Detection RADAR (DDR)	23.692	-	-	-	-
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 2014 Accomplishments: - Completed sensor testing, integration of radar system on surrogate platform. - Completed flight testing and reported radar performance. - Completed development of third-party software mode and validated open system architecture approach. - Completed technical studies/analysis to support future advanced radar development. - Dispositioned both full and partial systems to AFLCMC/HB and to AFRL(classified)programs.					
FY 2015 Plans: NA					
FY 2016 Base Plans:					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Air Force		Date: February 2015
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305206F / *Airborne Reconnaissance Systems*	**Project (Number/Name)** 676031 / *Dismount Detection RADAR*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
N/A ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	23.692	-	-	-	-

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

The acquisition strategy for Dismount Detection Radar (DDR) included a competitive source selection that began in 1QFY12 and was awarded in February 2012. After a ~100 day protest, the Government Accountability Office (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 included an OSA approach, which will be demonstrated when MIT/LL develops and integrates an advanced mode into the radar system. Program completed demonstration activities in FY14, and completed remaining closeout activities in FY15.

E. Performance Metrics

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

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Air Force			Date: February 2015
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305206F / *Airborne Reconnaissance Systems*	Project (Number/Name) 676031 / *Dismount Detection RADAR*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
DDR Development	C/CPIF	Raytheon : El Segundo, CA	-	16.822	Jan 2014	-		-		-		-	Continuing	Continuing	-
		Subtotal	-	16.822		-		-		-		-	-	-	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
MIT Lincoln Laboratories	SS/T&M	MIT L/L FFRDC : Lexington, MA	-	1.414	Jan 2014	-		-		-		-	Continuing	Continuing	-
MITRE Corp FFRDC	C/T&M	MITRE Corp FFRDC : Lexington, MA	-	2.739	Oct 2013	-		-		-		-	Continuing	Continuing	-
		Subtotal	-	4.153		-		-		-		-	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
46th Test Wing, Eglin AFB	PO	46th Test Wing : Eglin AFB, FL	-	0.909	Jan 2014	-		-		-		-	Continuing	Continuing	-
		Subtotal	-	0.909		-		-		-		-	-	-	-

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
PMA (A&AS)	Various	Various : Various, MA	-	1.712	Jan 2014	-		-		-		-	Continuing	Continuing	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Air Force		Date: February 2015
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305206F / *Airborne Reconnaissance Systems*	**Project (Number/Name)** 676031 / *Dismount Detection RADAR*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
PMA (MITRE FFRDC)	C/T&M	MITRE Corp FFRDC : Lexington, MA	-	-	Oct 2013	-		-		-		-	Continuing	Continuing	-
PMA (Gov't Travel/ Supplies & Equip)	Various	Various : Various, MA	-	0.096	Oct 2013	-		-		-		-	Continuing	Continuing	-
		Subtotal	-	1.808		-		-		-		-	-	-	-

Remarks

NOTE: Prior to FY 2013, Dismount Detection Radar (DDR) efforts were funded within Project 674818, Imaging and Targeting Support.

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	23.692		-		-		-		-	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Air Force		Date: February 2015
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305206F / *Airborne Reconnaissance Systems*	**Project (Number/Name)** 676031 / *Dismount Detection RADAR*

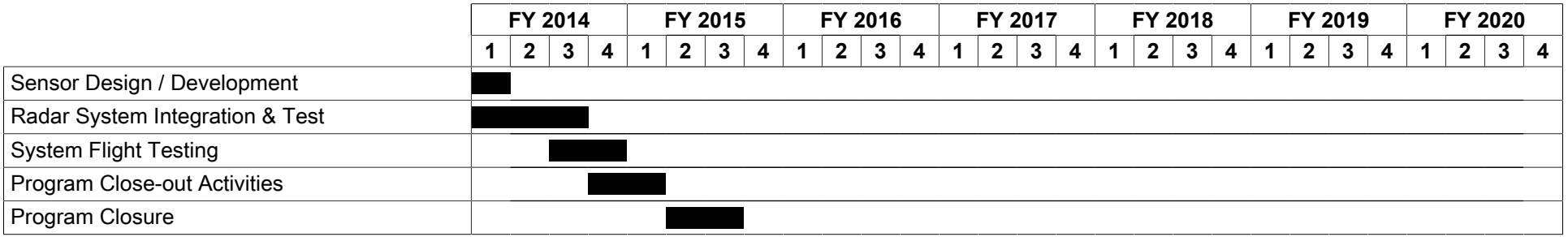

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Air Force		Date: February 2015
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305206F / *Airborne Reconnaissance Systems*	**Project (Number/Name)** 676031 / *Dismount Detection RADAR*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Sensor Design / Development	1	2014	1	2014
Radar System Integration & Test	1	2014	3	2014
System Flight Testing	3	2014	4	2014
Program Close-out Activities	4	2014	1	2015
Program Closure	2	2015	3	2015