Exhibit R-2, RDT&E Budget Item Justification: PB 2017 Air Force											Date: February 2016	
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0305208F / *Distributed Common Ground/Surface Systems*							
COST ($ in Millions)	**Prior Years**	**FY 2015**	**FY 2016**	**FY 2017 Base**	**FY 2017 OCO**	**FY 2017 Total**	**FY 2018**	**FY 2019**	**FY 2020**	**FY 2021**	**Cost To Complete**	**Total Cost**
Total Program Element	-	26.993	22.686	18.902	0.000	18.902	26.422	22.143	22.554	22.954	Continuing	Continuing
674826: *Common Imagery Ground / Surface Systems*	-	19.482	22.686	18.902	0.000	18.902	26.422	22.143	22.554	22.954	Continuing	Continuing
676025: *Data Compression*	-	7.511	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	7.511

A. Mission Description and Budget Item Justification

Air Force Distributed Common Ground System (AF DCGS) is the Combat Air Force (CAF) weapon system architecture for planning and direction, collection, processing and exploitation, analysis and production, and dissemination (PCPAD) of data from Intelligence, Surveillance, and Reconnaissance (ISR) missions. Since AF DCGS is also a major component of the DoD DCGS, the system is designed to complement and interoperate with the DoD, Army, Navy and Marine Corps DCGS. The AF DCGS mission is to provide Joint Task Force (JTF) Commanders, Air Component Commanders, Unified Commands, and other directed organizations with global, time-sensitive ISR PCPAD across the spectrum of military operations. AF DCGS is a multi-INT network linked weapon system (AN/GSQ-272) capable of exploiting intelligence data from manned platforms, remotely piloted aircraft (RPA), non-traditional ISR platforms, national and commercial satellites, and other collection systems. AF DCGS is designed to support joint operational requirements by providing a common PCPAD means to provide time-sensitive intelligence to field commanders and in support of the Air Operations Center (AOC) mission requirements. Currently, the AF DCGS worldwide architecture is composed of two worldwide core sites, three regional core sites, two remote Air Force Forces (AF FOR) sites, four National Mission Partner (NMP) sites, three support sites, and multiple National Guard Bureau (NGB) sites. Currently, AF DCGS is supporting ongoing operations from forward deployed and in-garrison CONUS and OCONUS based locations. The system employs a concept of data distribution, information sharing and collaborative work centers. AF DCGS provides the national leadership and the warfighter with integrated and interoperable national and airborne reconnaissance by providing quality and fused Signals Intelligence (SIGINT), Measurement and Signature Intelligence (MASINT), and Geospatial Intelligence (GEOINT) tailored to the warfighter for all levels of conflict.

AF DCGS is transforming by integrating the necessary technologies and tools to provide increased capabilities and meet emerging and urgent operational needs. These efforts will also integrate commercial-off-the-shelf and government-off-the-shelf upgrades to provide current technologies and achieve necessary application services. The next series of upgrades will meet the operational need to integrate new and/or improved sensor capabilities, as well as enhance interoperability by migrating to an Open Architecture (OA) to improve data sharing ability per DoD direction.

The DCGS Data Compression effort provides the warfighter a capability to efficiently compress and decompress airborne ISR sensor data and transmit near real-time 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.

Activities 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 2017 Air Force	Date: February 2016
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305208F / *Distributed Common Ground/Surface Systems*

The FY 2017 funding request was reduced by $2.785 million to account for the availability of prior year execution balances.

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 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Previous President's Budget	26.994	22.784	21.687	0.000	21.687
Current President's Budget	26.993	22.686	18.902	0.000	18.902
Total Adjustments	-0.001	-0.098	-2.785	0.000	-2.785
• Congressional General Reductions	0.000	-0.098			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	-0.001	0.000	-2.785	0.000	-2.785

Change Summary Explanation

The FY 2017 funding request was reduced by $2.785 million to account for the availability of prior year execution balances.

Exhibit R-2A, RDT&E Project Justification: PB 2017 Air Force			Date: February 2016
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305208F / *Distributed Common Ground/Surface Systems*	Project (Number/Name) 674826 / *Common Imagery Ground / Surface Systems*	

COST ($ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
674826: *Common Imagery Ground / Surface Systems*	-	19.482	22.686	18.902	0.000	18.902	26.422	22.143	22.554	22.954	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Air Force Distributed Common Ground System (AF DCGS) is the Combat Air Force (CAF) weapon system architecture for planning and direction, collection, processing and exploitation, analysis and production, and dissemination (PCPAD) of data from Intelligence, Surveillance, and Reconnaissance (ISR) missions. Since AF DCGS is also a major component of the DoD DCGS, the system is designed to complement and interoperate with the DoD, Army, Navy and Marine Corps DCGS. The AF DCGS mission is to provide Joint Task Force (JTF) Commanders, Air Component Commanders, Unified Commands, and other directed organizations with global, time-sensitive ISR PCPAD across the spectrum of military operations. AF DCGS is a multi-INT network linked weapon system (AN/GSQ-272) capable of exploiting intelligence data from manned platforms, remotely piloted aircraft (RPA), non-traditional ISR platforms, national and commercial satellites, and other collection systems. AF DCGS is designed to support joint operational requirements by providing a common PCPAD means to provide time-sensitive intelligence to field commanders and in support of the Air Operations Center (AOC) mission requirements. Currently, the AF DCGS worldwide architecture is composed of two worldwide core sites, three regional core sites, two remote Air Force Forces (AF FOR) sites, four National Mission Partner (NMP) sites, three support sites, and multiple National Guard Bureau (NGB) sites. Currently, AF DCGS is supporting ongoing operations from forward deployed and in-garrison CONUS and OCONUS based locations. The system employs a concept of data distribution, information sharing and collaborative work centers. AF DCGS provides the national leadership and the warfighter with integrated and interoperable national and airborne reconnaissance by providing quality and fused Signals Intelligence (SIGINT), Measurement and Signature Intelligence (MASINT), and Geospatial Intelligence (GEOINT) tailored to the warfighter for all levels of conflict.

AF DCGS is transforming by integrating the necessary technologies and tools to provide increased capabilities and meet emerging and urgent operational needs. These efforts will also integrate commercial-off-the-shelf and government-off-the-shelf upgrades to provide current technologies and achieve necessary application services. The next series of upgrades will meet the operational need to integrate new and/or improved sensor capabilities, as well as enhance interoperability by migrating to an Open Architecture (OA) to improve data sharing ability per DoD direction.

AF DCGS was previously managed by four primary efforts: Geospatial Intelligence-1, Systems Release-1 (SIGINT Intelligence), Net Comms-1 (Network/Comm Infrastructure), and Data Links-1. Beginning in FY16, to better align with ACC focus areas and required operational capabilities, AF DCGS management has evolved into eight efforts consisting of: GEOINT (GB 4.1), GEOINT Transformation-1, Systems Release (SR 3.0), SIGINT Transformation-1, Sensor Integration-1, Multi-INT-1, Network Infrastructure Transformation-1, and DCGS Reference Imagery Transition (DRT):

1. *GB 4.1: The GEOINT Baseline 4.1 (GB4.1) effort completes the Bulk Release process and provides a common baseline across the weapon system. It also integrates Airborne Cuing and Exploitation System, Hyper Spectral ACES-HY (MQ-1) and Global Hawk (GH) Block 40 capability into AF DCGS.
2. GEOINT Transformation-1: The GEOINT Transformation effort rapidly integrates new capabilities and migrates GEOINT-specific applications & capabilities into the open architecture framework.

Exhibit R-2A, RDT&E Project Justification: PB 2017 Air Force		Date: February 2016
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305208F / *Distributed Common Ground/Surface Systems*	**Project (Number/Name)** 674826 / *Common Imagery Ground / Surface Systems*

3. *SR 3.0: The Systems Release (3.0) effort completes SIGINT Bulk Release process and provides a common baseline across the weapon system. Provides the ability to TPED the Airborne Signals Intelligence Payload (ASIP) family of systems and integrates the Common Intelligence Collections System (CICS) capability.
4. SIGINT Transformation-1: Rapidly integrate new capabilities, leverage mission partner methods and tools, exchange data, and migrate the SIGINT-specific applications/capabilities into the open architecture framework.
5. Sensor Integration-1: The Sensor Integration effort rapidly integrates AF, Joint, & Coalition Sensor data into DCGS Enterprise to ingest data, perform sensor planning, and Command & Control.
6. Multi-INT-1: Provides and supports Open Architecture (OA)-based Enterprise Services, moves to commodity hardware, a virtual desktop environment, and facilitates enterprise-wide collaborative tools.
7. Network Infrastructure Transformation-1: The Infrastructure Transformation effort modernizes the AF DCGS infrastructure to improve data ingest, transfer, and storage capabilities while migrating the network toward a cloud architecture.
8.*DRT: The Air Force DCGS Reference Imagery Transition (DRT) effort provides data ingest, transfer, and storage capabilities for NGA reference imagery data.

NOTES:
In FY15: GEOINT-1 and SR-1 did not have any associated RDT&E funding. The Other Procurement Air Force (OPAF) funding is exhibited in the Procurement Documentation.
*For FY16-FY17, this effort does not have any associated RDT&E funding. The Other Procurement Air Force (OPAF) funding is exhibited in the Procurement Documentation.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017
Title: Network Communications.	18.782	-	-
Description: The NetComms-1 ACAT III program provided the following: modification of AF DCGS infrastructure to improve data ingest, transfer, and storage capabilities while migrating the network toward a cloud architecture. ***FY 2015 Accomplishments:*** 1. Conducted analysis of next generation network protocol alternatives to replace current ATM network due to end of life, end of supply vendor support. 2. Developed and delivered DCGS Weapon System Trainer allowing training external to live missions across at each DCGS site. 3. Developed and integrated Enterprise Services to enable OA integration for available applications 4. Delivered OA DCGS Risk Reduction prototype providing new architecture, governance and methodology for the AF DCGS weapon system.			
Title: Datalinks	0.700	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2017 Air Force		Date: February 2016
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305208F / *Distributed Common Ground/Surface Systems*	**Project (Number/Name)** 674826 / *Common Imagery Ground / Surface Systems*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017
Description: The Data Links segment provides Line-of-Site (LOS) and Satellite Communications (SATCOM) capabilities that allow AF DCGS to send and receive information between airborne ISR assets and the AF DCGS weapon system. ***FY 2015 Accomplishments:*** 1. Supported all test and evaluation activities for the Air Force DCGS weapons system.			
Title: SIGINT Transformation ***Description:*** The Signal Intelligence (SIGINT) Transformation effort rapidly integrates new capabilities, leverage mission partner methods and tools, exchange data, and migrate the SIGINT-specific applications/capabilities into the open architecture framework. ***FY 2016 Plans:*** 1. Develop connectivity directly to NSANET leveraging national SIGINT and the current AF DCGS System Release 3.0 (SR3) baseline architecture to improve the tactical SIGINT available to the warfighter. 2. Integrate current SIGINT specific software applications to the Virtual Desktop Environment, providing expandability for multi-INT in the future. ***FY 2017 Plans:*** 1. Will continue to develop and integrate connectivity directly to NSANET leveraging national SIGINT and the System Release 3.0 (SR3.0) architecture to improve the tactical SIGINT available to the warfighter	-	13.425	7.987
Title: Multi-INT Transformation ***Description:*** Provides and supports Open Architecture-based Enterprise Services, moves to commodity hardware, a virtual desktop environment, and facilitates enterprise-wide collaborative tools. ***FY 2016 Plans:*** 1. Support for all projects' test and evaluation activities for the Air Force DCGS weapons system. ***FY 2017 Plans:*** 1. Will provide support for all projects' test and evaluation activities for the Air Force DCGS weapons system.	-	0.700	0.700
Title: Sensor Integration ***Description:*** Rapidly integrate AF, Joint, & Coalition Sensor data into DCGS Enterprise to ingest data, perform sensor planning, and Command & Control.	-	2.060	5.291

Exhibit R-2A, RDT&E Project Justification: PB 2017 Air Force		Date: February 2016
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305208F / *Distributed Common Ground/Surface Systems*	**Project (Number/Name)** 674826 / *Common Imagery Ground / Surface Systems*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017
FY 2016 Plans: 1. Will provide engineering support for new sensor integration. ***FY 2017 Plans:*** 1. Will integrate new GH sensor capabilities and other emerging sensors into the AF DCGS weapon system.			
Title: Network Infrastructure Transformation ***Description:*** The Network Infrastructure Transformation effort modernizes the AF DCGS infrastructure to improve data ingest, transfer, and storage capabilities while migrating the network toward a cloud architecture. Furthermore, the Infrastructure Transformation program adds capabilities to the baseline of the FOC weapon system already fielded and does not replace it. ***FY 2016 Plans:*** 1. Continue risk reduction, integration, and deployment activities for OA DCGS 2. Migrate GH imagery data into the DCGS Storage & Dissemination architecture, and Integrate improved Global Hawk sensor capability. ***FY 2017 Plans:*** 1. Will continue integration & deployment activities for OA DCGS	-	6.501	4.924
Accomplishments/Planned Programs Subtotals	19.482	22.686	18.902

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
• OPAF: BA07: Line Item #: 846080: *DCGS-AF*	181.556	145.202	139.334	0.000	139.334	144.848	136.073	128.234	130.541	Continuing	Continuing

Remarks

D. Acquisition Strategy

The AF DCGS acquisition strategy is to transition the weapon system to an open hardware and software architecture. Also, the strategy leverages approved lean and agile industry practices to increase delivery cycles and incorporates remote installation capabilities to speed up the installation tempo.

Contracting strategy involves a combination of Basic Ordering Agreements (BOAs), Indefinite Delivery/Indefinite Quantity (IDIQ) contracts awarded to execute program funds and delivery/task orders are negotiated/awarded individually.

Exhibit R-2A, RDT&E Project Justification: PB 2017 Air Force		Date: February 2016
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305208F / *Distributed Common Ground/Surface Systems*	**Project (Number/Name)** 674826 / *Common Imagery Ground / Surface Systems*

E. Performance Metrics

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

Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Air Force		Date: February 2016
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305208F / *Distributed Common Ground/Surface Systems*	**Project (Number/Name)** 674826 / *Common Imagery Ground / Surface Systems*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Network Comm	Various	Various : Various	-	15.282	Feb 2015	0.000		0.000		0.000		0.000	Continuing	Continuing	-
Sensor Integration	Various	Various : Various	-	0.000		1.500	Feb 2016	4.731	Apr 2017	0.000		4.731	Continuing	Continuing	-
Network Infrastructure Transformation	Various	Various : Various	-	0.000		4.652	Mar 2016	3.075	May 2017	0.000		3.075	Continuing	Continuing	-
SIGINT Transformation	Various	Various : Various	-	0.000		12.334	Mar 2016	6.896	Feb 2017	0.000		6.896	Continuing	Continuing	-
		Subtotal	-	15.282		18.486		14.702		0.000		14.702	-	-	-

Remarks

Note on "various" entries - Contract Method, Contract Type, Performing Activity, Target Value of Contract are entered as "various" because there are multiple projects within in each upgrade and depending on the type of effort to be completed determines the contract vehicle to use. There is no way on this document to delineate the contracts that support each upgrade as they are numerous.

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 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 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Data Links - Test Support	Various	Various : Various	-	0.700	Mar 2015	0.000		0.000		0.000		0.000	Continuing	Continuing	-
Multi-Int - Test Support	Various	Various : Various	-	0.000		0.700	Mar 2016	0.700	Mar 2017	0.000		0.700	Continuing	Continuing	-
		Subtotal	-	0.700		0.700		0.700		0.000		0.700	-	-	-

Remarks

Note on "various" entries - Contract Method, Contract Type, Performing Activity, Target Value of Contract are entered as "various" because there are multiple projects within in each upgrade and depending on the type of effort to be completed determines the contract vehicle to use. There is no way on this document to delineate the contracts that support each upgrade as they are numerous.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Air Force			Date: February 2016
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305208F / *Distributed Common Ground/Surface Systems*	Project (Number/Name) 674826 / *Common Imagery Ground / Surface Systems*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
PMA	Various	Various : Various	-	3.500	Sep 2015	3.500	Sep 2016	3.500	Sep 2017	0.000		3.500	Continuing	Continuing	-
		Subtotal	-	3.500		3.500		3.500		0.000		3.500	-	-	-

Remarks

Note on "various" entries - Contract Method, Contract Type, Performing Activity, Target Value of Contract are entered as "various" because there are multiple projects within in each upgrade and depending on the type of effort to be completed determines the contract vehicle to use. There is no way on this document to delineate the contracts that support each upgrade as they are numerous.

	Prior Years	FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	19.482		22.686		18.902		0.000		18.902	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2017 Air Force		Date: February 2016
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305208F / *Distributed Common Ground/Surface Systems*	**Project (Number/Name)** 674826 / *Common Imagery Ground / Surface Systems*

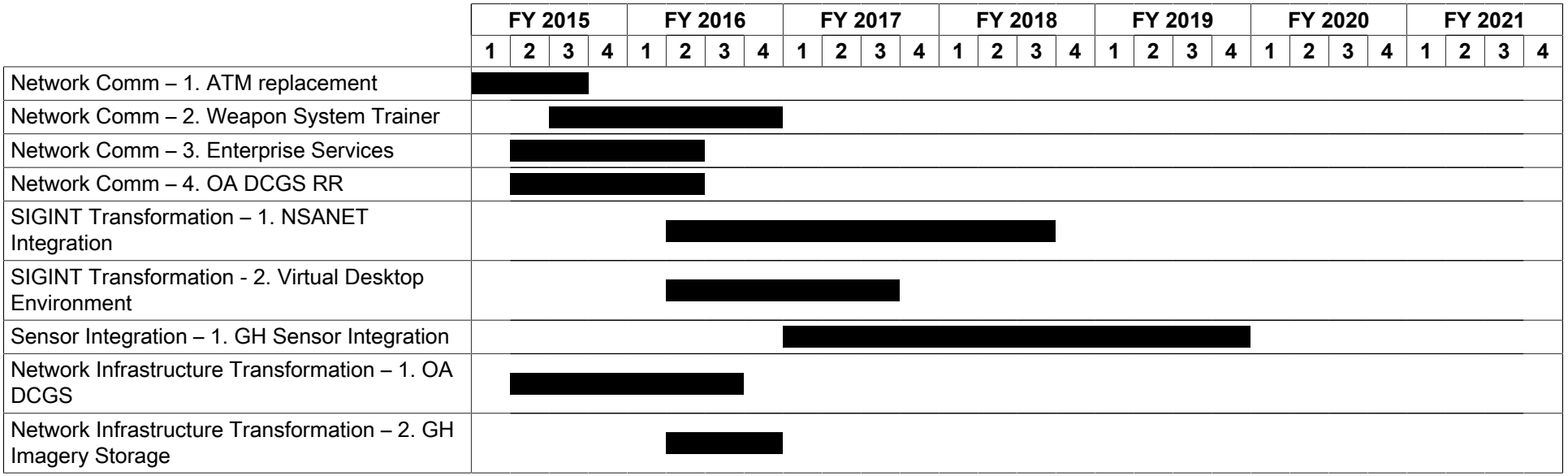

Exhibit R-4A, RDT&E Schedule Details: PB 2017 Air Force		Date: February 2016
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305208F / *Distributed Common Ground/Surface Systems*	**Project (Number/Name)** 674826 / *Common Imagery Ground / Surface Systems*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Network Comm – 1. ATM replacement	1	2015	3	2015
Network Comm – 2. Weapon System Trainer	3	2015	4	2016
Network Comm – 3. Enterprise Services	2	2015	2	2016
Network Comm – 4. OA DCGS RR	2	2015	2	2016
SIGINT Transformation – 1. NSANET Integration	2	2016	3	2018
SIGINT Transformation - 2. Virtual Desktop Environment	2	2016	3	2017
Sensor Integration – 1. GH Sensor Integration	1	2017	4	2019
Network Infrastructure Transformation – 1. OA DCGS	2	2015	3	2016
Network Infrastructure Transformation – 2. GH Imagery Storage	2	2016	4	2016

Exhibit R-2A, RDT&E Project Justification: PB 2017 Air Force			Date: February 2016
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305208F / *Distributed Common Ground/Surface Systems*	Project (Number/Name) 676025 / *Data Compression*	

COST ($ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
676025: *Data Compression*	-	7.511	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	7.511
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This initiative will provide the warfighter a capability to efficiently compress and decompress airborne ISR sensor data and transmit near real-time to tactical users through current and future bandwidth limited commercial 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 for manned and unmanned airborne platforms, associated ground stations, data storage and the DCGS. The effort includes life-cycle systems engineering of airborne hardware & software including updates and integration support. Algorithms will be suitable for service-wide use within the DoD GEOINT and MASINT architectures as part of ISR enterprise standards.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017
Title: Data Compression	7.511	-	-
Description: The program began developing and testing compression and decompression algorithms for airborne ISR sensor data. The program will eventually build, integrate and test sensor specific hardware (with the algorithms embedded) for onboard data compression. The effort initially focused on compression and decompression of complex and detected Synthetic Aperture Radar (SAR) data followed by applications of compression technologies to other DoD IMINT/MASINT sensor data (Spectral, Electro-Optical/Infrared (EO/IR), Phase History SAR) and ground architecture. Algorithms will be suitable for service-wide use as part of ISR enterprise standards. NOTE: In FY16, PE 0305208F, Distributed Common Ground/Surface Systems, Project 676025, Data Compression, was transferred to PE 0305206F, Airborne Reconnaissance System, Project 676025, Data Compression, to better align the program with like RDT&E efforts. ***FY 2015 Accomplishments:*** - Increased development and testing of complex/detected SAR, spectral (HSI/MSI), Persistent EO/IR data compression capabilities, and other phenomenologies. - Began developing and testing compression and decompression algorithms for Phase History SAR. - Began cooperative platform integration in support of technology demonstrations.			
Accomplishments/Planned Programs Subtotals	7.511	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2017 Air Force		Date: February 2016
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305208F / *Distributed Common Ground/Surface Systems*	**Project (Number/Name)** 676025 / *Data Compression*

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 modification to support demonstration activities.

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 2017 Air Force			Date: February 2016
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305208F / *Distributed Common Ground/Surface Systems*	Project (Number/Name) 676025 / *Data Compression*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Phase History Development	C/CPFF	KEYW : Severn, MD	-	4.300	Apr 2015	0.000		0.000		0.000		0.000	0.000	4.300	-
Standards Development	Various	NASA JPL : Pasadena, CA	-	0.020	Feb 2016	0.000		0.000		0.000		0.000	Continuing	Continuing	-
		Subtotal	-	4.320		0.000		0.000		0.000		0.000	-	-	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Validation/Verification Support	MIPR	Warner Robins AFB : Warner Robins, GA	-	0.059	Aug 2015	0.000		0.000		0.000		0.000	Continuing	Continuing	-
CST Demonstration Support	MIPR	AFRL : Dayton, OH	-	1.045	Aug 2015	0.000		0.000		0.000		0.000	Continuing	Continuing	-
		Subtotal	-	1.104		0.000		0.000		0.000		0.000	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
STARLite SAR Demonstration	MIPR	Army : Yuma, AZ	-	0.125	Feb 2015	0.000		0.000		0.000		0.000	Continuing	Continuing	-
SARZip Demonstration	C/TBD	Leidos : Reston, VA	-	0.400	Aug 2015	0.000		0.000		0.000		0.000	Continuing	Continuing	-
Technology Demonstration	C/Various	TBD : TBD	-	0.697	Sep 2015	0.000		0.000		0.000		0.000	Continuing	Continuing	-
		Subtotal	-	1.222		0.000		0.000		0.000		0.000	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Air Force			Date: February 2016
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305208F / *Distributed Common Ground/Surface Systems*	Project (Number/Name) 676025 / *Data Compression*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Office Support	C/Various	DCS Corporation : Alexandria, VA	-	0.865	Oct 2014	0.000		0.000		0.000		0.000	Continuing	Continuing	-
		Subtotal	-	0.865		0.000		0.000		0.000		0.000	-	-	-

	Prior Years	FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	7.511		0.000		0.000		0.000		0.000	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2017 Air Force		Date: February 2016
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305208F / *Distributed Common Ground/Surface Systems*	**Project (Number/Name)** 676025 / *Data Compression*

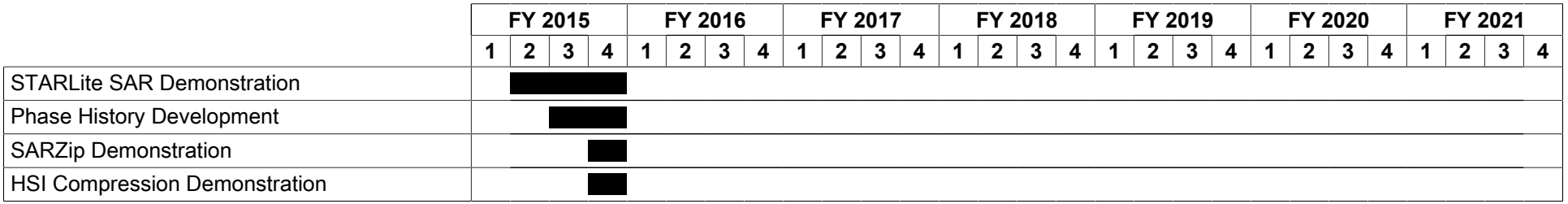

Exhibit R-4A, RDT&E Schedule Details: PB 2017 Air Force		Date: February 2016
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305208F / *Distributed Common Ground/Surface Systems*	**Project (Number/Name)** 676025 / *Data Compression*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
STARLite SAR Demonstration	2	2015	4	2015
Phase History Development	3	2015	4	2015
SARZip Demonstration	4	2015	4	2015
HSI Compression Demonstration	4	2015	4	2015

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