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 0305240F / *Support to DCGS Enterprise*							
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	-	17.115	28.336	23.084	0.000	23.084	26.273	26.768	27.266	27.749	Continuing	Continuing
674826: *Common Imagery Ground / Surface Systems*	-	8.460	16.099	13.431	0.000	13.431	14.926	15.208	15.491	15.765	Continuing	Continuing
675265: *Common Imagery Processor (CIP)*	-	8.655	12.237	9.653	0.000	9.653	11.347	11.560	11.775	11.984	Continuing	Continuing

A. Mission Description and Budget Item Justification

This Program Element contains Distributed Common Ground/Surface System (DCGS) Family of Systems interoperability efforts for which the AF is lead service. The DCGS Family of Systems, including AF DCGS, was directed to migrate to a net-centric DoD Intelligence, Surveillance and Reconnaissance (ISR) enterprise enabling the Services to operate and share intelligence products more effectively in a joint environment. All Services must pursue a common path based on a set of common enterprise services consistent with the Department's net-centric vision while maintaining flexibility to support the full range of warfighter missions. Specifically, DoD charged the Air Force to lead the development, upgrade, integration, and test of common DCGS Integration Backbone (DIB) enterprise services. The DIB is a set of enterprise standards and services that enable interoperability and component reuse. All the military services are mandated to incorporate DIB interoperability standards and commit to DIB architecture as the migration path to common DCGS enterprise services.

The Distributed Common Ground Systems-Imagery (DCGS-I) Testbed is an integration and test environment, used by the Services and Agency DCGS program offices to conduct integration of DCGS components and test interoperability interfaces with new sensors, applications, and net-centric operations. This testbed also supports the integration and testing of DoD DCGS components prior to introduction into the operational environment. Periodic upgrades ensure the Testbed stays current with DCGS standards and architecture.

Support to OUSD(I), AF DCGS, and NATO interoperability efforts is also provided through this program element. This includes development, testing, and implementation of international standards (to include NATO standardization agreements) to ensure joint, allied, and coalition interoperability.

The Common Imagery Processor effort develops a common imagery sensor processing capability within the DCGS architecture. The imagery processor accepts airborne imagery data, processes it into an exploitable format, and provides it to other elements within the weapon system and the DCGS Enterprise. Current efforts are transitioning the legacy imagery processor from a hardware/software capability to a virtual software capability, thereby improving enterprise processing capabilities. Efforts continue to keep the capability on track to handle the current sensors. Activities also include testing, development, and demonstrations integrating updated and new/emerging sensors into DCGS.

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

The FY 2017 funding request was reduced by $4.86 million to account for the availability of prior year execution balances.

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 0305240F / *Support to DCGS Enterprise*

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	17.118	28.434	27.944	0.000	27.944
Current President's Budget	17.115	28.336	23.084	0.000	23.084
Total Adjustments	-0.003	-0.098	-4.860	0.000	-4.860
• 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	-0.003	0.000	-4.860	0.000	-4.860

Change Summary Explanation

The FY 2017 funding request was reduced by $4.86 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 0305240F / *Support to DCGS Enterprise*	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*	-	8.460	16.099	13.431	0.000	13.431	14.926	15.208	15.491	15.765	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

DoD charged the AF with developing, upgrading and managing the Distributed Common Ground/Surface System (DCGS) Integration Backbone (DIB) for all the Services to provide common DCGS enterprise services and interoperability at the data level. The DIB is a set of enterprise standards and services that enable interoperability and component reuse. Using the DIB, the Air Force Distributed Common Ground System (AF DCGS) upgrade will transform AF DCGS from its existing proprietary system to a net-centric service oriented architecture.

The DCGS Family of Systems, including AF DCGS, was directed to migrate to a net-centric DoD Intelligence, Surveillance, and Reconnaissance (ISR) enterprise enabling the Services to operate and share intelligence products more effectively in a joint environment. All Services must pursue a common path based on common enterprise services consistent with the Department's net-centric vision, while maintaining flexibility to support the full range of warfighter missions. Also, all Services are mandated to incorporate DIB interoperability standards and commit to DIB architecture as the migration path to common DCGS enterprise services.

The Distributed Common Ground Systems-Imagery (DCGS-I) Testbed is an integration and test environment, used by the Services and Agency DCGS program offices to conduct integration of DCGS components and test interoperability interfaces with new sensors, applications, and net centric operations. This testbed also supports the integration and testing of DoD DCGS components prior to introduction into the operational environment. Periodic upgrades ensure the Testbed stays current with DCGS standards and architecture.

The AF-sponsored DIB System Program Office also participates in the development, testing, and implementation of international standards (to include NATO standardization agreements) to ensure joint, allied, and coalition interoperability.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Title: Distributed Common Ground / Surface System (DCGS) Integration Backbone	4.389	11.972	9.246	-	9.246
Description: Upgrade, improve and manage the DCGS Integration Backbone (DIB).					
FY 2015 Accomplishments: - Delivered DIB version 4.2, which included improvements to secured federation, identity management support, and search capability.					
FY 2016 Plans:					

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 0305240F / *Support to DCGS Enterprise*	**Project (Number/Name)** 674826 / *Common Imagery Ground / Surface Systems*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
- Deliver DIB version 4.3. Continue to upgrade, improve, and manage the DIB with a focus on the Distributed Data Framework (DDF) based interoperability and federation tools. ***FY 2017 Base Plans:*** - Will continue to upgrade, improve and manage the DIB with the next major version release.					
Title: Distributed Common Ground / Surface System-Imagery (DCGS-I) Testbed ***Description:*** Continue DCGS-I Testbed development and upgrades. Continue to use the Testbed to conduct DIB and DCGS enterprise tests. ***FY 2015 Accomplishments:*** - Continued DCGS-I Testbed development and upgrades and used the Testbed to conduct DIB and DCGS enterprise tests ***FY 2016 Plans:*** - Upgrade the Testbed to support remote federation and testing in order to more directly support DIB development. Continue to support DoD DCGS Enterprise and AF exercise activities. ***FY 2017 Base Plans:*** - Will upgrade downlink antenna to be consistent with operational systems and improve capability to support DoD DCGS enterprise tests and exercise events.	1.871	1.927	1.985	-	1.985
Title: Support to Distributed Common Ground / Surface System (DCGS) Enterprise ***Description:*** Provide support to OUSD(I), AF DCGS and NATO Interoperability Enterprise efforts. ***FY 2015 Accomplishments:*** - Continued to support to OUSD(I), AF DCGS and NATO Interoperability Enterprise efforts ***FY 2016 Plans:*** - Continue to support to OUSD(I), AF DCGS and NATO Interoperability Enterprise efforts ***FY 2017 Base Plans:*** - Will continue to support to OUSD(I), AF DCGS and NATO Interoperability Enterprise efforts	2.200	2.200	2.200	-	2.200
Accomplishments/Planned Programs Subtotals	8.460	16.099	13.431	-	13.431

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 0305240F / *Support to DCGS Enterprise*	**Project (Number/Name)** 674826 / *Common Imagery Ground / Surface Systems*

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

The Air Force uses an evolutionary acquisition approach with version releases and periodic upgrades to develop, field, and upgrade the system and structure contracts for the improved capabilities through full and open competition to the maximum extent possible.

E. Performance Metrics

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

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 0305240F / *Support to DCGS Enterprise*	**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
DIB Modernization, Integration, DT and Interoperability	C/T&M	Various : Various	-	3.535	Mar 2015	11.219	Jan 2016	8.173	Jan 2017	0.000		8.173	Continuing	Continuing	24.900
Testbed Modernization and Licenses	C/CPFF	Various : Various	-	1.871	May 2015	1.927	Jun 2016	1.985	Jun 2017	0.000		1.985	Continuing	Continuing	1.985
		Subtotal	-	5.406		13.146		10.158		0.000		10.158	-	-	26.885

Remarks

Testbed modernization and licenses is an IDIQ contract with annual award of CPFF delivery orders. Target value of contract represents expected award value for FY17.

DIB modernization target value of contract represents the ceiling of the contract.

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
System Engineering	C/CPFF	MITRE : Bedford, MA	-	0.159	Oct 2014	0.000		0.000		0.000		0.000	0.000	0.159	-
DCGS Team Support for OUSD(I)	C/Various	Various : Various	-	2.200	Jul 2015	2.200	Jul 2016	2.200	Jul 2017	0.000		2.200	Continuing	Continuing	-
		Subtotal	-	2.359		2.200		2.200		0.000		2.200	-	-	-

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
		Subtotal	-	-		-		-		-		-	-	-	-

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 0305240F / *Support to DCGS Enterprise*	**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
Mgmt Services	C/CPFF	Various : Bedford, MA	-	0.281	Apr 2015	0.289	Apr 2016	0.300	Apr 2016	0.000		0.300	Continuing	Continuing	-
PMA	C/CPAF	Various : Various	-	0.414	Mar 2015	0.464	Mar 2016	0.773	Feb 2017	0.000		0.773	Continuing	Continuing	-
		Subtotal	-	0.695		0.753		1.073		0.000		1.073	-	-	-

	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	-	8.460		16.099		13.431		0.000		13.431	-	-	-

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 0305240F / *Support to DCGS Enterprise*	**Project (Number/Name)** 674826 / *Common Imagery Ground / Surface Systems*

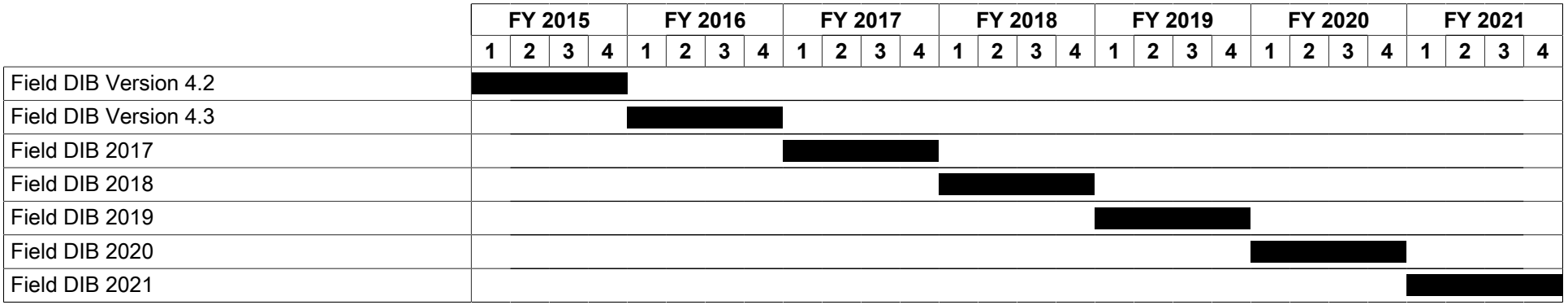

Exhibit R-4A, RDT&E Schedule Details: PB 2017 Air Force		Date: February 2016
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305240F / *Support to DCGS Enterprise*	**Project (Number/Name)** 674826 / *Common Imagery Ground / Surface Systems*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Field DIB Version 4.2	1	2015	4	2015
Field DIB Version 4.3	1	2016	4	2016
Field DIB 2017	1	2017	4	2017
Field DIB 2018	1	2018	4	2018
Field DIB 2019	1	2019	4	2019
Field DIB 2020	1	2020	4	2020
Field DIB 2021	1	2021	4	2021

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 0305240F / *Support to DCGS Enterprise*	Project (Number/Name) 675265 / *Common Imagery Processor (CIP)*	

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
675265: *Common Imagery Processor (CIP)*	-	8.655	12.237	9.653	0.000	9.653	11.347	11.560	11.775	11.984	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Imagery Processing effort develops imagery sensor processing capability within the DCGS architecture. The imagery processor accepts airborne imagery data, processes it into an exploitable format, and provides it to other elements within the weapon system and/or the DCGS Enterprise. Current efforts are transitioning the legacy imagery processor from a hardware/software capability to a virtual software capability, thereby improving enterprise processing capabilities. Efforts continue to keep the capability on track to handle the current sensors. Activities also include testing, development, and demonstrations integrating updated and new/emerging sensors into DCGS.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Title: Imagery Processor	8.655	12.237	9.653	0.000	9.653
Description: Continue developing the imagery processor capability to keep pace with growing sensor baseline.					
FY 2015 Accomplishments: Fielded Versions 3.34 and 3.36 which: - Continued Global Hawk Block 30 "stitching" improvements - Fielded detection visualization capability - Fielded a Senior Year Electro-Optical NIIRS estimator					
FY 2016 Plans: Field Versions 3.38 and 3.4, which will: - Continue to develop imagery processing capability to keep pace with growing sensor baseline - Complete centralizing imagery processing at ingest locations - Mature open processing framework to rapidly integrate new sensors and algorithms					
FY 2017 Base Plans: Will field versions 3.42 and 3.44 which: - Will continue to develop imagery processing capability to keep pace with growing sensor baseline - Will continue centralizing imagery processing at ingest locations					
FY 2017 OCO Plans:					

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 0305240F / *Support to DCGS Enterprise*	**Project (Number/Name)** 675265 / *Common Imagery Processor (CIP)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
N/A					
Accomplishments/Planned Programs Subtotals	8.655	12.237	9.653	0.000	9.653

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: *Support to DCGS Enterprise*	0.000	3.526	3.561	0.000	3.561	3.614	3.700	3.783	3.522	Continuing	Continuing

Remarks

D. Acquisition Strategy

For imagery processing the Air Force uses an evolutionary acquisition approach with increments and spirals to develop, field, and upgrade the system and structure contracts for the improved capabilities through full and open competition to the maximum extent possible.

E. Performance Metrics

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

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 0305240F / *Support to DCGS Enterprise*	Project (Number/Name) 675265 / *Common Imagery Processor (CIP)*	

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
Imagery Processing Software Development	C/CPAF	Various; Various : TBD	-	8.655	Mar 2015	12.237	Mar 2016	9.653	Mar 2017	0.000		9.653	Continuing	Continuing	-
		Subtotal	-	8.655		12.237		9.653		0.000		9.653	-	-	-

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
		Subtotal	-	-		-		-		-		-	-	-	-

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
		Subtotal	-	-		-		-		-		-	-	-	-

	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	-	8.655		12.237		9.653		0.000		9.653	-	-	-

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 0305240F / *Support to DCGS Enterprise*	**Project (Number/Name)** 675265 / *Common Imagery Processor (CIP)*

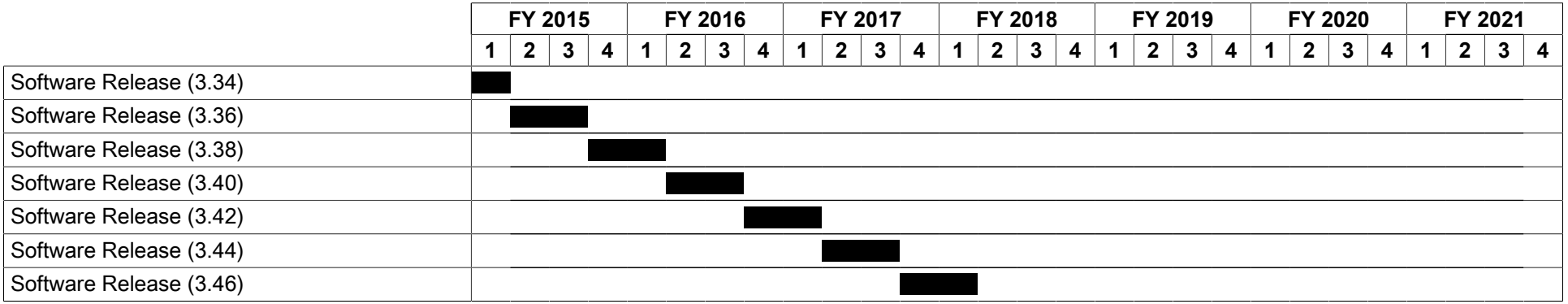

Exhibit R-4A, RDT&E Schedule Details: PB 2017 Air Force		Date: February 2016
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305240F / *Support to DCGS Enterprise*	**Project (Number/Name)** 675265 / *Common Imagery Processor (CIP)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Software Release (3.34)	1	2015	1	2015
Software Release (3.36)	2	2015	3	2015
Software Release (3.38)	4	2015	1	2016
Software Release (3.40)	2	2016	3	2016
Software Release (3.42)	4	2016	1	2017
Software Release (3.44)	2	2017	3	2017
Software Release (3.46)	4	2017	1	2018