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<b>Exhibit R-2, RDT&amp;E Budget Item Justification: FY 2018 Air Force</b>	<b>Date: May 2017</b>
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<b>Appropriation/Budget Activity</b> 3600: <i>Research, Development, Test &amp; Evaluation, Air Force I BA 7: Operational Systems Development</i>					<b>R-1 Program Element (Number/Name)</b> PE 0304260F / <i>Airborne SIGINT Enterprise</i>							
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2016</b>	<b>FY 2017</b>	<b>FY 2018 Base</b>	<b>FY 2018 OCO</b>	<b>FY 2018 Total</b>	<b>FY 2019</b>	<b>FY 2020</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
Total Program Element	-	111.142	90.762	121.948	0.000	121.948	122.883	119.275	120.648	123.118	Continuing	Continuing
675180: <i>RC-135 (Airborne SIGINT Development - RC-135 Rivet Joint)</i>	-	43.046	39.756	59.706	0.000	59.706	50.958	41.002	42.513	43.383	Continuing	Continuing
675182: <i>MQ-1/MQ-9 (Airborne SIGINT Development - Predator)*</i>	-	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	Continuing	Continuing
675183: <i>Common Development (Airborne SIGINT Development - Common Development)</i>	-	54.178	38.779	19.485	0.000	19.485	55.865	56.506	55.987	57.132	Continuing	Continuing
675185: <i>Non-Traditional SIGINT (NTS)</i>	-	10.988	8.875	18.063	0.000	18.063	11.110	14.342	14.593	14.892	Continuing	Continuing
675186: <i>Special Programs (Airborne SIGINT Development - Special Platforms)</i>	-	2.930	3.352	24.694	0.000	24.694	4.950	7.425	7.555	7.709	Continuing	Continuing

\*This project's R-2a exhibit has been suppressed due to funding not beginning until after FY 2018

**A. Mission Description and Budget Item Justification**

This Program provides signals intelligence (SIGINT) development efforts for all USAF airborne platforms. The funds in this Program are distributed among all Airborne SIGINT Enterprise (ASE) projects based on the development priorities established by the USAF SIGINT Capabilities Working Group (SCWG) in order to build a total SIGINT capability. As a result, the USAF will move funds between projects periodically to develop the highest priority projects in response to urgent and emerging warfighter needs. This PE will participate in the development, integration, testing, and implementation of international and Air Force standards (to include North Atlantic Treaty Organization standardization agreements) to ensure joint, allied, and coalition interoperability. Modernization efforts include sensors for the platforms and where appropriate, Air Force Distributed Common Ground System interfaces to the sensor. This approach supports a synergistic development effort providing a true Air Force-wide capability.

This enterprise will use the Air Force SIGINT Architecture for planning and decision-making and, in turn, employ open architecture standards whenever possible to allow maximum ease of future upgrades and system interoperability. The primary goal of the ASE is to produce an architecture-based, capability-focused SIGINT investment strategy for the USAF. Funds in any project may be used to fund initiatives in other projects within this Program at the discretion of the SCWG. 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.

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> FY 2018 Air Force	<b>Date:</b> May 2017
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<b>Appropriation/Budget Activity</b> 3600: <i>Research, Development, Test &amp; Evaluation, Air Force I BA 7: Operational Systems Development</i>	<b>R-1 Program Element (Number/Name)</b> PE 0304260F / Airborne SIGINT Enterprise
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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>B. Program Change Summary (\$ in Millions)</b>	<b><u>FY 2016</u></b>	<b><u>FY 2017</u></b>	<b><u>FY 2018 Base</u></b>	<b><u>FY 2018 OCO</u></b>	<b><u>FY 2018 Total</u></b>
Previous President's Budget	112.775	90.762	128.599	0.000	128.599
Current President's Budget	111.142	90.762	121.948	0.000	121.948
Total Adjustments	-1.633	0.000	-6.651	0.000	-6.651
• Congressional General Reductions	0.000	0.000			
• 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	-1.633	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	0.000	0.000	-6.651	0.000	-6.651

**Change Summary Explanation**

- In FY 2016, \$1.633M was reprogrammed to higher Air Force priorities
- In FY 2018, \$6.651M was reprogrammed to higher Air Force priorities.

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Exhibit R-2A, RDT&E Project Justification: FY 2018 Air Force										Date: May 2017		
Appropriation/Budget Activity 3600 / 7					R-1 Program Element (Number/Name) PE 0304260F / Airborne SIGINT Enterprise				Project (Number/Name) 675180 / RC-135 (Airborne SIGINT Development - RC-135 Rivet Joint)			
COST (\$ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
675180: RC-135 (Airborne SIGINT Development - RC-135 Rivet Joint)	-	43.046	39.756	59.706	0.000	59.706	50.958	41.002	42.513	43.383	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

**A. Mission Description and Budget Item Justification**

This project supports design studies, engineering analysis, non-recurring engineering, and other efforts associated with the integration and modification of the RC-135 Signals Intelligence (SIGINT) sensors and their associated air and ground components. Through extensive utilization of commercial-off-the-shelf (COTS) based solutions to field needed capabilities, it also incurs a need for continuous identification of suitable replacements for components affected by Diminishing Manufacturing Sources and integration efforts consistent with the COTS technology cycle. These efforts provide required engineering for preliminary assessments of technical feasibility, operability, or military utility as well as specific engineering implementations integrated into the various baseline modifications. These funds will be split between the RC-135V/W RIVET JOINT, the RC-135U COMBAT SENT, and the RC-135S COBRA BALL programs. Funding reflects the SIGINT Capabilities Working Group priorities and the accomplishment of other Airborne SIGINT Enterprise initiatives.

**B. Accomplishments/Planned Programs (\$ in Millions)**

	<b>FY 2016</b>	<b>FY 2017</b>	<b>FY 2018</b>
<b>Title:</b> RC-135 SIGINT Development	43.046	39.756	59.706
<b>Description:</b> Non-Recurring Engineering for the RC-135 signals intelligence Systems. See Classified Budget Exhibits (PE 0305207F)			
<b>FY 2016 Accomplishments:</b> - Continued SIGINT development efforts for the RC-135 fleet to include new signal sets and upgrades to current capabilities.			
<b>FY 2017 Plans:</b> - Continues SIGINT development efforts for the RC-135 fleet to include new signal sets and upgrades to current capabilities.			
<b>FY 2018 Plans:</b> - Will continue SIGINT development efforts for the RC-135 fleet to include new signal sets and upgrades to current capabilities.			
<b>Accomplishments/Planned Programs Subtotals</b>	43.046	39.756	59.706

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> FY 2018 Air Force			<b>Date:</b> May 2017
<b>Appropriation/Budget Activity</b> 3600 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0304260F / Airborne SIGINT Enterprise	<b>Project (Number/Name)</b> 675180 / RC-135 (Airborne SIGINT Development - RC-135 Rivet Joint)	

**C. Other Program Funding Summary (\$ in Millions)**

<u>Line Item</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u> <u>Base</u>	<u>FY 2018</u> <u>OCO</u>	<u>FY 2018</u> <u>Total</u>	<u>FY 2019</u>	<u>FY 2020</u>	<u>FY 2021</u>	<u>FY 2022</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• APAF: BA05: Line Item # DARPO1: RC-135	217.673	259.172	280.734	0.000	280.734	234.706	239.037	243.443	248.318	Continuing	Continuing

**Remarks**

The funds within the PE 0305207F procure all necessary aircraft modifications for the RC-135 program and include those funds necessary to field Signals Intelligence (SIGINT) capabilities developed under Project 675180 of this Airborne SIGINT Enterprise (ASE). Not all procurement funds in #DARPO1: RC-135 are for ASE SIGINT projects.

**D. Acquisition Strategy**

Aircraft, aircraft sensor systems, and associated ground support system modifications planned include the procurement, fielding and logistical support for future RC-135V/W RIVET JOINT, RC-135U COMBAT SENT and RC-135S COBRA BALL baseline configurations. Development and integration is managed by the Big Safari Systems Group. They employ evolutionary acquisition approaches to field incremental capability improvements.

**E. Performance Metrics**

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

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: FY 2018 Air Force</b>													<b>Date:</b> May 2017		
<b>Appropriation/Budget Activity</b> 3600 / 7							<b>R-1 Program Element (Number/Name)</b> PE 0304260F / Airborne SIGINT Enterprise				<b>Project (Number/Name)</b> 675180 / RC-135 (Airborne SIGINT Development - RC-135 Rivet Joint)				

  

<b>Product Development (\$ in Millions)</b>				FY 2016		FY 2017		FY 2018 Base		FY 2018 OCO		FY 2018 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
RC-135 SIGINT Development	SS/ Various	L3COM : Greenville, TX	-	43.046	Jan 2016	39.756	Jan 2017	59.706	Jan 2018	0.000		59.706	Continuing	Continuing	-
<b>Subtotal</b>			-	43.046		39.756		59.706		0.000		59.706	-	-	-

  

<b>Remarks</b> Above contract method/type will be CPFF and FFP															
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<b>Support (\$ in Millions)</b>				FY 2016		FY 2017		FY 2018 Base		FY 2018 OCO		FY 2018 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
<b>Subtotal</b>			-	-		-		-		-		-	-	-	-

  

<b>Test and Evaluation (\$ in Millions)</b>				FY 2016		FY 2017		FY 2018 Base		FY 2018 OCO		FY 2018 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
<b>Subtotal</b>			-	-		-		-		-		-	-	-	-

  

<b>Management Services (\$ in Millions)</b>				FY 2016		FY 2017		FY 2018 Base		FY 2018 OCO		FY 2018 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
<b>Subtotal</b>			-	-		-		-		-		-	-	-	-

  

			Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	Cost To Complete	Total Cost	Target Value of Contract
<b>Project Cost Totals</b>			-	43.046	39.756	59.706	0.000	59.706	-	-	-

  

<b>Remarks</b>											
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Exhibit R-4, RDT&E Schedule Profile: FY 2018 Air Force										Date: May 2017									
Appropriation/Budget Activity 3600 / 7										R-1 Program Element (Number/Name) PE 0304260F / Airborne SIGINT Enterprise					Project (Number/Name) 675180 / RC-135 (Airborne SIGINT Development - RC-135 Rivet Joint)				

	FY 2016				FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Development of RIVET JOINT mission sensors (see 0305207F for classified details)																												
Development of COMBAT SENT mission sensors (see 0305207F for classified details)																												
Development of COBRA BALL mission sensors (see 0305207F for classified details)																												

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> FY 2018 Air Force		<b>Date:</b> May 2017
<b>Appropriation/Budget Activity</b> 3600 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0304260F / Airborne SIGINT Enterprise	<b>Project (Number/Name)</b> 675180 / RC-135 (Airborne SIGINT Development - RC-135 Rivet Joint)

## Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Development of RIVET JOINT mission sensors (see 0305207F for classified details)	1	2016	4	2022
Development of COMBAT SENT mission sensors (see 0305207F for classified details)	1	2016	4	2022
Development of COBRA BALL mission sensors (see 0305207F for classified details)	1	2016	4	2022

### Note

Details are classified and are shown in the classified portion of PE 0305207F

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Exhibit R-2A, RDT&E Project Justification: FY 2018 Air Force										Date: May 2017		
Appropriation/Budget Activity 3600 / 7					R-1 Program Element (Number/Name) PE 0304260F / Airborne SIGINT Enterprise				Project (Number/Name) 675183 / Common Development (Airborne SIGINT Development - Common Development)			
COST (\$ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
675183: Common Development (Airborne SIGINT Development - Common Development)	-	54.178	38.779	19.485	0.000	19.485	55.865	56.506	55.987	57.132	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

## A. Mission Description and Budget Item Justification

This project supports design studies, engineering analysis, non-recurring engineering, program management administration and other efforts associated with the insertion of new capabilities integrated into Airborne Signals Intelligence Payload (ASIP) and other sensors and their associated air and ground components that will be used on/by more than one platform. The common development Signals Intelligence (SIGINT) project also supports development of new sensors capabilities, normalization of quick reaction capabilities, and identifies suitable replacements for components affected by diminishing manufacturing sources. New capabilities are developed by separate projects. This project also supports the development of projects common to the Airborne SIGINT Enterprise Program overall to include, but not limited to: the Air Force SIGINT Architecture maintenance, modeling and simulation efforts, and North Atlantic Treaty Organization SIGINT efforts.

Development supports ASIP system upgrades. The ASIP sensor is designed to be a common SIGINT system that will allow for for maximum coverage of the electromagnetic spectrum through the use of an integrated high and low band system.

Capability improvements will be inserted into the ASIP sensor through individual development efforts that exploit signals of interest identified as service priorities by the Air Force SIGINT Capabilities Working Group (SCWG). This project provides the warfighter near term increased combat capability. Enhancements are implemented as soon as technology and risk achieve satisfactory levels. Compatability improvements will be inserted into the ASIP through individual development efforts that exploit signals of interest identified as Service priorities by the USAF SCWG. Sensors will be integrated and tested on the various platforms as funding permits.

## B. Accomplishments/Planned Programs (\$ in Millions)

	<b>FY 2016</b>	<b>FY 2017</b>	<b>FY 2018</b>
<b>Title:</b> Airborne Signals Intelligence Payload-Increment 1	54.178	38.779	19.485
<b>Description:</b> Develop and test a common Signals Intelligence (SIGINT) system for multiple SIGINT platforms including Airborne Signals Intelligence Payload (ASIP) incremental upgrades using an open system architecture to the maximum extent possible.			
<b>FY 2016 Accomplishments:</b>			
- Continued new signals capabilities and enhancements for the ASIP Family of Systems (FoS)			
- Continued integration activities and incorporate upgrades as appropriate. Details are classified.			
<b>FY 2017 Plans:</b>			
- Continues new signals capabilities and enhancements for the ASIP FoS			



**UNCLASSIFIED**

<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> FY 2018 Air Force								<b>Date:</b> May 2017			
<b>Appropriation/Budget Activity</b> 3600 / 7				<b>R-1 Program Element (Number/Name)</b> PE 0304260F / Airborne SIGINT Enterprise				<b>Project (Number/Name)</b> 675183 / Common Development (Airborne SIGINT Development - Common Development)			

  

<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>				<b>FY 2016</b>	<b>FY 2017</b>	<b>FY 2018</b>
- Continues integration activities and incorporate upgrades as appropriate. Details are classified.  <b><i>FY 2018 Plans:</i></b> - Will continue new signals capabilities and enhancements for the ASIP FoS. - Will continue integration activities and incorporate upgrades as appropriate. Details are classified.						
<b>Accomplishments/Planned Programs Subtotals</b>				54.178	38.779	19.485

  

<b>C. Other Program Funding Summary (\$ in Millions)</b>											
<b>Line Item</b>	<b>FY 2016</b>	<b>FY 2017</b>	<b>FY 2018 Base</b>	<b>FY 2018 OCO</b>	<b>FY 2018 Total</b>	<b>FY 2019</b>	<b>FY 2020</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
• APAF: BA05 Line Item # HAWK00: RQ-4 Mods	50.022	32.045	43.968	0.000	43.968	76.511	22.590	132.710	143.228	167.265	668.339

  

**Remarks**  
 Not all funds are associated with Signals Intelligence (SIGINT). However, the Airborne Signals Intelligence Payload production is included in FY18/FY19.

  

**D. Acquisition Strategy**  
 SIGINT capabilities will be developed and integrated onto various platforms using an incremental acquisition approach. In response to requirements as validated by the SIGINT Capabilities Working Group, an incremental acquisition strategy plan will be executed, contracting with appropriate vendor(s) to deliver capability while encouraging competition where 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.

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Exhibit R-3, RDT&E Project Cost Analysis: FY 2018 Air Force												Date: May 2017			
Appropriation/Budget Activity 3600 / 7						R-1 Program Element (Number/Name) PE 0304260F / Airborne SIGINT Enterprise				Project (Number/Name) 675183 / Common Development (Airborne SIGINT Development - Common Development)					
Product Development (\$ in Millions)				FY 2016		FY 2017		FY 2018 Base		FY 2018 OCO		FY 2018 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
ASIP Upgrades Development	SS/CPIF	Northrop Grumman : San Jose, CA	-	0.146	May 2016	0.000		0.000		0.000		0.000	Continuing	Continuing	-
ASIP Global Hawk Increment 1	SS/CPFF	Northrop Grumman : San Jose, CA	-	14.200	Dec 2015	3.347	Dec 2016	0.000		0.000		0.000	Continuing	Continuing	-
ASIP Increment 2 - Build A	SS/CPIF	Northrop Grumman : San Jose, CA	-	28.305	Mar 2016	17.476	Dec 2016	8.204	Nov 2017	0.000		8.204	Continuing	Continuing	-
ASIP Increment 2 - Build B - Pre EMD	MIPR	AFRL : Rome, NY	-	0.000		1.000	Dec 2016	0.000		0.000		0.000	Continuing	Continuing	-
Various SIGINT Efforts	Various	AECOM : Annapolis Junction, MD	-	4.509	Nov 2015	4.000	Nov 2016	4.000	Nov 2017	0.000		4.000	Continuing	Continuing	-
Subtotal			-	47.160		25.823		12.204		0.000		12.204	-	-	-
Support (\$ in Millions)				FY 2016		FY 2017		FY 2018 Base		FY 2018 OCO		FY 2018 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Various integration efforts and flight test	Various	Various : Various	-	4.818	Aug 2016	9.564	Jan 2017	4.737	Dec 2017	0.000		4.737	Continuing	Continuing	-
Subtotal			-	4.818		9.564		4.737		0.000		4.737	-	-	-
Test and Evaluation (\$ in Millions)				FY 2016		FY 2017		FY 2018 Base		FY 2018 OCO		FY 2018 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Test and Evaluation Support	Various	Various : Various	-	0.096	Feb 2017	0.100	Feb 2017	0.000		0.000		0.000	Continuing	Continuing	-
Subtotal			-	0.096		0.100		0.000		0.000		0.000	-	-	-

**UNCLASSIFIED**

<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: FY 2018 Air Force</b>												<b>Date:</b> May 2017		
<b>Appropriation/Budget Activity</b> 3600 / 7						<b>R-1 Program Element (Number/Name)</b> PE 0304260F / Airborne SIGINT Enterprise				<b>Project (Number/Name)</b> 675183 / Common Development (Airborne SIGINT Development - Common Development)				

  

Management Services (\$ in Millions)				FY 2016		FY 2017		FY 2018 Base		FY 2018 OCO		FY 2018 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
PMA	Various	Various : Dayton, OH	-	2.104	Nov 2015	3.292	Nov 2016	2.544	Nov 2017	0.000		2.544	Continuing	Continuing	-
<b>Subtotal</b>			-	2.104		3.292		2.544		0.000		2.544	-	-	-

  

	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	Cost To Complete	Total Cost	Target Value of Contract
<b>Project Cost Totals</b>	-	54.178	38.779	19.485	0.000	19.485	-	-	-

  

**Remarks**

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<b>Exhibit R-4, RDT&amp;E Schedule Profile: FY 2018 Air Force</b>			<b>Date: May 2017</b>		
<b>Appropriation/Budget Activity</b> 3600 / 7		<b>R-1 Program Element (Number/Name)</b> PE 0304260F / Airborne SIGINT Enterprise			<b>Project (Number/Name)</b> 675183 / Common Development (Airborne SIGINT Development - Common Development)

	FY 2016				FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
ASIP Upgrades Increment 1 - U-2 Field Release 3.2																												
ASIP Upgrades Increment 1 - Global Hawk																												
ASIP Upgrades Increment 2 - Build A																												
ASIP Upgrades Increment 2 - Build B - Pre EMD																												
ASIP Upgrades Increment 2 - Build B																												

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> FY 2018 Air Force			<b>Date:</b> May 2017
<b>Appropriation/Budget Activity</b> 3600 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0304260F / Airborne SIGINT Enterprise	<b>Project (Number/Name)</b> 675183 / Common Development (Airborne SIGINT Development - Common Development)	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
ASIP Upgrades Increment 1 - U-2 Field Release 3.2	1	2016	1	2017
ASIP Upgrades Increment 1 - Global Hawk	1	2016	4	2017
ASIP Upgrades Increment 2 - Build A	2	2016	3	2018
ASIP Upgrades Increment 2 - Build B - Pre EMD	1	2017	3	2017
ASIP Upgrades Increment 2 - Build B	2	2019	4	2022

# UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: FY 2018 Air Force										Date: May 2017		
Appropriation/Budget Activity 3600 / 7					R-1 Program Element (Number/Name) PE 0304260F / Airborne SIGINT Enterprise				Project (Number/Name) 675185 / Non-Traditional SIGINT (NTS)			
COST (\$ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
675185: Non-Traditional SIGINT (NTS)	-	10.988	8.875	18.063	0.000	18.063	11.110	14.342	14.593	14.892	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		
A. Mission Description and Budget Item Justification												
COMPASS BRIGHT develops, demonstrates, and rapidly transitions advanced Air Force specific Signals Intelligence (SIGINT) capabilities against emerging and future target signals of interest. This program pursues SIGINT technologies for program transition, to include Communications Intelligence (COMINT), Electronic Intelligence (ELINT), Audio, Analytics, Special Signals of Interest, and Radio Frequency Measurement and Signature Intelligence (MASINT). The COMPASS BRIGHT program objective is to develop technologies for application in SIGINT and MASINT systems or subsystems. Acquisition and production of these developed technologies will occur within the appropriate platform programs. COMPASS BRIGHT projects are selected through a data call process, whereby the USAF evaluates proposals from the laboratories and industry partners, to select those projects that are most promising. This program includes total government and contractor costs for these projects.												
Operational Reconnaissance (Ops Recce) is part of the ELINT initiative to improve overall USAF intelligence, surveillance, and reconnaissance (ISR) capability through development and use of sensor data from non-ISR platforms and innovative use of sensors. This program pursues Ops Recce capabilities for transition through development, testing, demonstration and implementation efforts across all platforms. The Ops Recce program objective is to provide increased battlespace awareness through the use of sensors/platforms to achieve effects beyond what those sensor/platforms were originally designed.												
The program office authority extends to accomplishment of out-of-cycle, nontraditional SIGINT efforts. These tasks may be filtered through the SIGINT Capability Working Group outside the normal vetting process to expedite acquisition of high-end capabilities for the warfighter.												
B. Accomplishments/Planned Programs (\$ in Millions)									FY 2016	FY 2017	FY 2018	
Title: Non-Traditional SIGINT Tech Development									10.988	8.875	18.063	
Description: Develops projects in the Signals Intelligence (SIGINT) and Radio Frequency Measurement and Signature Intelligence areas for transition to the RC-135 fleet, other intelligence, surveillance, and reconnaissance platforms and Operational Reconnaissance.												
FY 2016 Accomplishments: - Continued, and/or completed various SIGINT projects to include enhanced electronic intelligence (ELINT) exploitation, communications intelligence (COMINT), Audio exploitation, Ops Recce, signals of interest prosecution, and non-traditional ISR.												
FY 2017 Plans: - Initiates, continues, and completes various SIGINT projects to include enhanced ELINT exploitation, COMINT, Audio exploitation, Ops Recce, Signals of interest prosecution, and NTISR.												
FY 2018 Plans:												

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Exhibit R-2A, RDT&E Project Justification: FY 2018 Air Force										Date: May 2017		
Appropriation/Budget Activity 3600 / 7				R-1 Program Element (Number/Name) PE 0304260F / Airborne SIGINT Enterprise				Project (Number/Name) 675185 / Non-Traditional SIGINT (NTS)				
B. Accomplishments/Planned Programs (\$ in Millions)										FY 2016	FY 2017	FY 2018
- Will initiate, continue, and complete various SIGINT projects to include enhanced ELINT exploitation, COMINT, Audio exploitation, Ops Recce, signals of interest prosecution, and NTISR.												
Accomplishments/Planned Programs Subtotals										10.988	8.875	18.063
C. Other Program Funding Summary (\$ in Millions)												
Line Item	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost	
• APAF: BA05: Line Item # DARP01: RC-135	217.673	259.172	280.734	0.000	280.734	234.706	239.037	243.443	248.318	Continuing	Continuing	
• APAF: BA05: Line Item # HAWK00:: RQ-4 Mods	50.022	32.045	43.968	0.000	43.968	76.511	22.590	132.710	143.228	Continuing	Continuing	
Remarks												
D. Acquisition Strategy												
Air Force Life Cycle Management Center/Intelligence, Surveillance, and Reconnaissance and Special Operations Forces Directorate (AFLCMC/WI)will execute COMPASS BRIGHT and Operational Reconnaissance efforts through technology development and demonstration contracts which leverage existing laboratory relationships and other existing contractual vehicles, with future development projects emphasizing full and open competition.												
E. Performance Metrics												
Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.												

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Exhibit R-3, RDT&E Project Cost Analysis: FY 2018 Air Force												Date: May 2017			
Appropriation/Budget Activity 3600 / 7						R-1 Program Element (Number/Name) PE 0304260F / Airborne SIGINT Enterprise				Project (Number/Name) 675185 / Non-Traditional SIGINT (NTS)					
Product Development (\$ in Millions)				FY 2016		FY 2017		FY 2018 Base		FY 2018 OCO		FY 2018 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Non Traditional SIGINT Tech Development	Various	Multiple : Various	-	9.918	Jan 2016	8.049	Jan 2017	17.163	Jan 2018	0.000		17.163	Continuing	Continuing	-
Subtotal			-	9.918		8.049		17.163		0.000		17.163	-	-	-
Remarks															
On an annual basis, the SIGINT Capabilities Working Group reviews developmental technologies 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 for the coming fiscal year.															
Support (\$ in Millions)				FY 2016		FY 2017		FY 2018 Base		FY 2018 OCO		FY 2018 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-		-	-	-	-
Test and Evaluation (\$ in Millions)				FY 2016		FY 2017		FY 2018 Base		FY 2018 OCO		FY 2018 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-		-	-	-	-
Management Services (\$ in Millions)				FY 2016		FY 2017		FY 2018 Base		FY 2018 OCO		FY 2018 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
PMA	Various	Various : Various, OH	-	1.070	Oct 2015	0.826	Oct 2016	0.900	Oct 2017	0.000		0.900	Continuing	Continuing	-
Subtotal			-	1.070		0.826		0.900		0.000		0.900	-	-	-
			Prior Years	FY 2016		FY 2017		FY 2018 Base		FY 2018 OCO		FY 2018 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			-	10.988		8.875		18.063		0.000		18.063	-	-	-



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Exhibit R-3, RDT&E Project Cost Analysis: FY 2018 Air Force							Date: May 2017			
Appropriation/Budget Activity 3600 / 7				R-1 Program Element (Number/Name) PE 0304260F / Airborne SIGINT Enterprise		Project (Number/Name) 675185 / Non-Traditional SIGINT (NTS)				
	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	Cost To Complete	Total Cost	Target Value of Contract	
Remarks										

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Exhibit R-4, RDT&E Schedule Profile: FY 2018 Air Force										Date: May 2017			
Appropriation/Budget Activity					R-1 Program Element (Number/Name)					Project (Number/Name)			
3600 / 7					PE 0304260F / Airborne SIGINT Enterprise					675185 / Non-Traditional SIGINT (NTS)			

	FY 2016				FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
SIGINT Technologies																												
Ops Recce Efforts																												

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Exhibit R-4A, RDT&E Schedule Details: FY 2018 Air Force			Date: May 2017
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0304260F / Airborne SIGINT Enterprise	Project (Number/Name) 675185 / Non-Traditional SIGINT (NTS)	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
SIGINT Technologies	1	2016	4	2022
Ops Recce Efforts	1	2016	4	2022

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Exhibit R-2A, RDT&E Project Justification: FY 2018 Air Force										Date: May 2017		
Appropriation/Budget Activity 3600 / 7					R-1 Program Element (Number/Name) PE 0304260F / Airborne SIGINT Enterprise				Project (Number/Name) 675186 / Special Programs (Airborne SIGINT Development - Special Platforms)			
COST (\$ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
675186: Special Programs (Airborne SIGINT Development - Special Platforms)	-	2.930	3.352	24.694	0.000	24.694	4.950	7.425	7.555	7.709	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		
A. Mission Description and Budget Item Justification												
This project supports special Signals Intelligence (SIGINT) studies as well as the development and integration of advanced SIGINT capabilities for special programs including, but not limited to: quick reaction capability sensors, the processing, exploitation, and dissemination associated with these systems, and other efforts approved by the USAF SIGINT Capabilities Working Group. Development efforts will include, but are not limited to: new signal sets, antenna improvements, sensitivity upgrades, and data distribution upgrades, and new/advanced deployment capabilities. This project provides the warfighter with near term combat capabilities with increased capability improvements accomplished as technologies and risks achieve satisfactory levels. Sensors will be integrated and tested on various platforms including the MQ-1B/MQ-9A remotely piloted aircraft as funding permits.												
B. Accomplishments/Planned Programs (\$ in Millions)									FY 2016	FY 2017	FY 2018	
Title: SIGINT Development									2.930	3.352	24.694	
Description: Develop, update, and test SIGINT capabilities for quick reaction capability and normalized special programs SIGINT projects.												
FY 2016 Accomplishments: - Continued to modernize SIGINT systems used by the MQ-1B/9A RPA.												
FY 2017 Plans: - Continues to modernize SIGINT systems used by the MQ-1B/9A RPA.												
FY 2018 Plans: - Will continue to modernize SIGINT systems used by the MQ-1B/9A RPA.												
Accomplishments/Planned Programs Subtotals									2.930	3.352	24.694	
C. Other Program Funding Summary (\$ in Millions)												
Line Item	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost	
• APAF: BA05: Line Item #PRDTB2: MQ-9 Mods	184.051	141.929	261.740	0.000	261.740	382.191	177.759	190.615	163.115	Continuing	Continuing	

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> FY 2018 Air Force			<b>Date:</b> May 2017
<b>Appropriation/Budget Activity</b> 3600 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0304260F / Airborne SIGINT Enterprise	<b>Project (Number/Name)</b> 675186 / Special Programs (Airborne SIGINT Development - Special Platforms)	

**C. Other Program Funding Summary (\$ in Millions)**

<u>Line Item</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u> <u>Base</u>	<u>FY 2018</u> <u>OCO</u>	<u>FY 2018</u> <u>Total</u>	<u>FY 2019</u>	<u>FY 2020</u>	<u>FY 2021</u>	<u>FY 2022</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
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**Remarks**

Not all MQ-9 funds are associated with this Project.

**D. Acquisition Strategy**

SIGINT capabilities will be integrated to various classified platforms using an evolutionary acquisition approach. Capabilities and prototypes will be developed by Other Government Agencies and transitioned to select vendors as production needs develop.

**E. Performance Metrics**

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

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Exhibit R-3, RDT&E Project Cost Analysis: FY 2018 Air Force												Date: May 2017			
Appropriation/Budget Activity 3600 / 7						R-1 Program Element (Number/Name) PE 0304260F / Airborne SIGINT Enterprise				Project (Number/Name) 675186 / Special Programs (Airborne SIGINT Development - Special Platforms)					
Product Development (\$ in Millions)				FY 2016		FY 2017		FY 2018 Base		FY 2018 OCO		FY 2018 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Upgrades to SIGINT systems used by the MQ-1/9 Rremotely piloted aircraft	Various	Various : Various	-	0.700	Jan 2016	2.702	Jan 2017	23.914	Jan 2018	0.000		23.914	Continuing	Continuing	-
Subtotal			-	0.700		2.702		23.914		0.000		23.914	-	-	-
Remarks Upgrades the quick reaction capability sensors already on the MQ-1/9 fleet															
Support (\$ in Millions)				FY 2016		FY 2017		FY 2018 Base		FY 2018 OCO		FY 2018 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-		-	-	-	-
Test and Evaluation (\$ in Millions)				FY 2016		FY 2017		FY 2018 Base		FY 2018 OCO		FY 2018 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Flight Test	Various	Various : Various	-	2.230	Jan 2016	0.650	Oct 2016	0.780	May 2017	0.000		0.780	Continuing	Continuing	-
Subtotal			-	2.230		0.650		0.780		0.000		0.780	-	-	-
Management Services (\$ in Millions)				FY 2016		FY 2017		FY 2018 Base		FY 2018 OCO		FY 2018 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-		-	-	-	-
			Prior Years	FY 2016		FY 2017		FY 2018 Base		FY 2018 OCO		FY 2018 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			-	2.930		3.352		24.694		0.000		24.694	-	-	-

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Exhibit R-3, RDT&E Project Cost Analysis: FY 2018 Air Force							Date: May 2017			
Appropriation/Budget Activity 3600 / 7				R-1 Program Element (Number/Name) PE 0304260F / Airborne SIGINT Enterprise		Project (Number/Name) 675186 / Special Programs (Airborne SIGINT Development - Special Platforms)				
	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	Cost To Complete	Total Cost	Target Value of Contract	
Remarks										

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<b>Exhibit R-4, RDT&amp;E Schedule Profile: FY 2018 Air Force</b>			<b>Date: May 2017</b>		
<b>Appropriation/Budget Activity</b> 3600 / 7			<b>R-1 Program Element (Number/Name)</b> PE 0304260F / Airborne SIGINT Enterprise		
			<b>Project (Number/Name)</b> 675186 / Special Programs (Airborne SIGINT Development - Special Platforms)		

	FY 2016				FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
MQ-1/9 Sensor 1 Modernization																												
MQ-1/9 Sensor 2 Modernization																												
MQ-1/9 Sensor Upgrades																												



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Exhibit R-4A, RDT&E Schedule Details: FY 2018 Air Force			Date: May 2017
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0304260F / Airborne SIGINT Enterprise	Project (Number/Name) 675186 / Special Programs (Airborne SIGINT Development - Special Platforms)	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
MQ-1/9 Sensor 1 Modernization	1	2016	4	2022
MQ-1/9 Sensor 2 Modernization	1	2016	4	2022
MQ-1/9 Sensor Upgrades	1	2016	4	2022