Exhibit R-2, RDT&E Budget Item Justification: FY 2018 Air Force											Date: May 2017	
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0401119F / *C-5 Airlift Squadrons (IF)*							
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**
Total Program Element	-	22.766	66.146	22.758	0.000	22.758	21.803	0.000	0.000	0.000	0.000	133.473
675358: *C-5 Mission Computer-Mission Sys Equip-Weather Radar*	-	7.403	11.837	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	19.240
675359: *CNS/ATM Mode5 Swift Broadband BLOS/LOS Radio*	-	15.363	54.309	22.758	0.000	22.758	21.803	0.000	0.000	0.000	0.000	114.233

A. Mission Description and Budget Item Justification

675358: The C-5 core mission computer (CMC)/Weather Radar modification project is a comprehensive sustainment modification to mitigate the obsolescence of the current CMC and weather radar. This effort centers on modifying the current mission computer by replacing core processing module (CPM) cards to obtain sufficient capacity to support integration of new system capabilities with margin for growth by upgrading module cards and correcting any mission essential deficiencies identified during development. Also, the effort includes replacement of the weather radar with a commercial off-the-shelf color weather radar. The modified mission computer will allow for current and future throughput growth of additional processing requirements to meet calendar year 2020 communication, navigation, surveillance/air traffic management mandates.

675359: The C-5 communication, navigation, surveillance/air traffic management (CNS/ATM) modification project is a comprehensive effort to ensure appropriate system design architectures are developed and equipment is installed on the C-5 to allow aircraft operation in accordance with civil airspace access mandates for both the US National Airspace System (NAS) and international civil airspace. Additionally, the program will add equipment to meet outstanding National Security Agency mandates for encryption of voice communications. The C-5 CNS/ATM program ensures systems standardization and interoperability with other DoD systems to the maximum extent possible and directly supports airworthiness certification of the C-5. CNS/ATM requirements include, but are not limited to, capabilities such as automatic dependent surveillance-broadcast out (ADS-B Out), identification friend or foe (IFF) Mode 5, satellite communication equipment replacement, and beyond line-of-sight voice radio replacement. It is anticipated equipment will be predominately commercial off-the-shelf or non-developmental items.

Automatic Dependent Surveillance-Broadcast Out (ADS-B Out) is a next generation surveillance technology that transitions key aspects of Air Traffic Control from terrestrial based technologies to satellite enabled technologies to provide controllers a more accurate picture of aircraft positioning.

The FY 2018 funding was reduced by $8 million for higher AF priorities. The C-5 CNS/ATM program also rephased $15.934 million of FY 2018 funds into FY 2019. Total adjustment in FY 2018 was $23.934 million.

In FY 2016 CNS/ATM was a new start.

Exhibit R-2, RDT&E Budget Item Justification: FY 2018 Air Force	Date: May 2017
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0401119F / *C-5 Airlift Squadrons (IF)*

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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Previous President's Budget	22.864	66.146	46.692	0.000	46.692
Current President's Budget	22.766	66.146	22.758	0.000	22.758
Total Adjustments	-0.098	0.000	-23.934	0.000	-23.934
• 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	0.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	-0.098	0.000	-23.934	0.000	-23.934

Change Summary Explanation

The FY 2018 funding was reduced by $8 million for higher AF priorities. The C-5 CNS/ATM program also rephased $15.934 million of FY 2018 funds into FY 2019. Total adjustment in FY 2018 was $23.934 million.

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 0401119F / *C-5 Airlift Squadrons (IF)*	Project (Number/Name) 675358 / *C-5 Mission Computer-Mission Sys Equip-Weather Radar*	

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
675358: *C-5 Mission Computer-Mission Sys Equip-Weather Radar*	-	7.403	11.837	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	19.240
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The C-5 core mission computer (CMC)/weather radar (WxRdr) program is a comprehensive sustainment modification to mitigate the obsolescence of the current CMC and WxRdr. This effort centers around modifying the current mission computer to obtain sufficient capacity/capability to support integration of new system capabilities with margin for growth by upgrading module cards and correcting any mission essential deficiencies identified during development. Also, the effort includes replacement of the weather radar with a commercial off-the-shelf weather radar. Mission systems equipment includes, but is not limited to, a redesign of the C-5 lavatory system. Examples of other mission systems equipment include troop seats, crew entry door and ladder, and interior trim.

The current C-5 CMC has reached maximum capacity and cannot integrate required aircraft systems and capabilities to include the weather radar; flight management system (FMS); and communication, navigation, surveillance (CNS)/air traffic management (ATM) requirements. These requirements include capabilities such as the automatic dependent surveillance-broadcast out (ADS-B Out), and identification, friend or foe (IFF) mode 5. The new CMC will allow for current and future throughput growth of additional processing requirements to meet calendar year 2020 CNS/ATM mandates.

The modification helps to maintain aircraft availability as the new weather radar replaces the current APS-133 weather radar system, which is experiencing severe diminishing manufacturing source (DMS) issues. Failure to upgrade the CMC to support calendar year 2020 CNS/ATM mandates and a new weather radar will create a significant operational impact. DMS issues will be resolved to support continued production and installation of requirements for the C-5 fleet. Further, DMS issues will be resolved to support continued operations through studies, bridge buys, life-of-type buys, development, and redesign efforts.

The C-5 mission systems equipment (MSE) program updates the lavatory system. The current lavatory system suffers inoperability and leakage of liquid sodium hypochlorite causing severe corrosion and burnt wires in the landing gear control panels. A redesign of the MSE will increase safety, mitigate risk, and reduce man-hours required to repair extensive damage.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2016	FY 2017	FY 2018
Title: C-5 Mission Computer / Weather Radar Program	7.403	11.837	-
Description: Core mission computer modification and weather radar replacement will enable the C-5 to achieve wartime mission requirements by maintaining fleet availability (mission capable rate) and program management administration (PMA).			
FY 2016 Accomplishments:			

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 0401119F / *C-5 Airlift Squadrons (IF)*	**Project (Number/Name)** 675358 / *C-5 Mission Computer-Mission Sys Equip-Weather Radar*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2016	FY 2017	FY 2018
Supported completion of formal qualification testing, installation and functional check of hardware, design and development of aircrew and maintenance training system modification, developmental test and evaluation, and operational test completing in FY17. ***FY 2017 Plans:*** Will support completion of formal qualification testing, installation and functional check of hardware, design and development of aircrew and maintenance training system modification, developmental test and evaluation, and operational test completing in FY17.			
Accomplishments/Planned Programs Subtotals	7.403	11.837	-

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 # C00500: *C-5*	0.000	19.814	30.460	0.000	30.460	40.212	36.709	5.040	0.000	0.000	132.235
• APAF: BA06: Line Item # 000999: *Initial Spares*	0.000	1.559	2.172	0.000	2.172	2.111	2.294	0.000	0.000	0.000	8.136
• APAF: BA07: Line Item # 000075: *Other Production*	0.000	0.694	5.067	0.000	5.067	4.551	0.000	0.000	0.000	0.000	10.312

Remarks

D. Acquisition Strategy

Core mission computer/weather radar program: Engineering, manufacturing, development (EMD) for the core mission computer and weather radar began in FY13. The acquisition strategy for this project considered every opportunity to use commercial components to modernize the C-5 core mission computer and weather radar and maintain aircraft availability in support of mobility missions worldwide. The strategy is for the prime contractor, Lockheed Martin Aero (LMA), to procure the core mission computer cards and weather radar, integrate and test those components, and install on two (2) EMD aircraft. LMA was placed on contract in March 2014. The sole-source contract is predominately CPIF (Cost Plus Incentive Fee) with some FFP (Firm Fixed Price) elements.

Mission Systems Equipment program: The mission systems equipment redesign requires RDT&E funding for commercial off-the-shelf (COTS) proofing. Funds are required for validation and verification of the lavatory design and installation. The Mission Systems Equipment contract method was competitive through the Defense Technical Information Center (DTIC). Wyle Science, Technical, and Engineering Group was the selected source, and the contract type is Cost Plus Fixed Fee (CPFF).

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 0401119F / *C-5 Airlift Squadrons (IF)*	**Project (Number/Name)** 675358 / *C-5 Mission Computer-Mission Sys Equip-Weather Radar*

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-2A, RDT&E Project Justification: FY 2018 Air Force			Date: May 2017
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0401119F / *C-5 Airlift Squadrons (IF)*	Project (Number/Name) 675359 / *CNS/ATM Mode5 Swift Broadband BLOS/LOS Radio*	

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
675359: *CNS/ATM Mode5 Swift Broadband BLOS/LOS Radio*	-	15.363	54.309	22.758	0.000	22.758	21.803	0.000	0.000	0.000	0.000	114.233
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

C-5 communication, navigation, surveillance/air traffic management (CNS/ATM) program is a comprehensive effort to ensure appropriate CNS/ATM system design architectures are developed and equipment is installed on the C-5 to allow aircraft operation in accordance with civil airspace access mandates for both the US national airspace system (NAS) and international civil airspace. Also, the program will add equipment to meet outstanding National Security Agency mandates for encryption of voice communications. The C-5 CNS/ATM program ensures system standardization and interoperability with other DoD systems to the maximum extent possible and directly supports airworthiness certification of the C-5. CNS/ATM requirements include, but are not limited to, capabilities such as automatic dependence surveillance-broadcast out (ADS-B Out), identification friend or foe (IFF) mode 5, satellite communication equipment replacement, and beyond line-of-sight voice radio replacement. It is anticipated equipment will be predominately commercial off-the-shelf or non-developmental items.

The current ARC-210 radio for VHF voice communications is facing diminishing manufacturing source (DMS) supply issues and additionally will no longer be capable of providing secure voice communications due to the development of new crypto algorithms. Addition of next generation ARC-210 radios and associated cryptologic equipment will enable the C-5 to meet NSA mandates for secure communications and allow aircrews to continue to communicate securely over VHF, UHF, HF, or MILSATCOM.

The current generation of satellites that support services used on the C-5 to provide oceanic controller/pilot data link communications (CPDLCs) to air traffic control and aircraft communications addressing and reporting system (ACARS) beyond-line-of-sight command and control messages will no longer be functional after 2016. The next generation of satellites will accommodate legacy C-5 SATCOM equipment for an interim period of time to allow for integration of upgraded SATCOM equipment compatible with this satellite constellation. Without this modification, the C-5 will be unable to fly oceanic tracks and will not be able to meet aircraft separation distance requirements for civil airspace access.

Automatic Dependent Surveillance-Broadcast Out (ADS-B Out) is a next generation surveillance technology that transitions key aspects of air traffic control from terrestrial based technologies to satellite enabled technologies to provide controllers a more accurate picture of aircraft positioning. ADS-B Out will allow aircraft to provide continuous broadcast of aircraft position to both controllers and other aircraft equipped with ADS-B In capable avionics. International mandates for ADS-B Out for civil airspace access call for equipage by 2020.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2016	FY 2017	FY 2018
Title: CNS/ATM	15.363	54.309	22.758

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 0401119F / *C-5 Airlift Squadrons (IF)*	**Project (Number/Name)** 675359 / *CNS/ATM Mode5 Swift Broadband BLOS/LOS Radio*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2016	FY 2017	FY 2018
Description: C-5 CNS/ATM program will install multiple aircraft avionic equipment pieces to enable the C-5 to meet multiple NSA encryption and international/national airspace access mandates while mitigating diminishing manufacturing source issues. ***FY 2016 Accomplishments:*** CNS/ATM system design supported incorporation of ARC-210 Gen V radios, SATCOM replacement equipment, ADS-B Out, and IFF mode 5 into the C-5. Efforts include software design as well as hardware analysis for compatibility with existing C-5 system architecture. FY16 funding supported software design of all the areas to incorporate the various requirements as well as hardware analysis for compatibility with existing systems. ***FY 2017 Plans:*** CNS/ATM system design supports incorporation of ARC-210 Gen V radios, SATCOM replacement equipment, ADS-B Out, and IFF mode 5 into the C-5. Efforts include software design as well as hardware analysis for compatibility with existing C-5 system architecture. FY17 funding supports software design of all the areas to incorporate the various requirements as well as hardware analysis for compatibility with existing systems. ***FY 2018 Plans:*** CNS/ATM system design supports incorporation of ARC-210 Gen V radios, SATCOM replacement equipment, ADS-B Out, and IFF mode 5 into the C-5. Efforts will include software design as well as hardware analysis for compatibility with existing C-5 system architecture. Ensure test cases are prepared and ready to support the start of qualification testing. FY18 funding supports formal qualification testing, software integration, equipment installation, and functional check of hardware.			
Accomplishments/Planned Programs Subtotals	15.363	54.309	22.758

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 # C00500: *C-5*	0.000	0.000	0.000	0.000	0.000	34.443	35.972	20.269	30.980	0.00	121.664
• APAF: BA06: Line Item # 000999: *Initial Spares*	0.000	0.789	0.000	0.000	0.000	6.015	5.457	8.046	0.000	0.00	20.307

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 0401119F / *C-5 Airlift Squadrons (IF)*	**Project (Number/Name)** 675359 / *CNS/ATM Mode5 Swift Broadband BLOS/LOS Radio*

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: BA07: Line Item # 000075: *Other Production*	0.000	0.000	0.000	0.000	0.000	0.012	3.052	3.102	3.206	0.00	9.372

Remarks

D. Acquisition Strategy

CNS/ATM program: Engineering and Manufacturing Development (EMD) for incorporation of the ARC-210 Gen V radio, SATCOM replacement equipment, ADS-B Out, and IFF mode 5 into the C-5 began in Dec 2016. The acquisition strategy for this program will consider every opportunity to use commercial components to modernize the C-5 CNS/ATM equipment to meet CY2020 mandates for global civil airspace access. The strategy is for the prime contractor, Lockheed Martin Aero (LMA), to procure CNS/ATM equipment, develop software, test and integrate those components, and install on two (2) EMD aircraft. The equipment integration will require RDT&E funding for commercial off-the-shelf and non-developmental item proofing.

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: FY 2018 Air Force		Date: May 2017
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0401119F / *C-5 Airlift Squadrons (IF)*	**Project (Number/Name)** 675359 / *CNS/ATM Mode5 Swift Broadband BLOS/LOS Radio*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2016 Cost	FY 2016 Award Date	FY 2017 Cost	FY 2017 Award Date	FY 2018 Base Cost	FY 2018 Base Award Date	FY 2018 OCO Cost	FY 2018 OCO Award Date	FY 2018 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
CNS/ATM hardware/ software design, development, integration, data management, technical data rights, systems engineering, program management, and spares	Various	Lockheed Martin Aero : Marietta, GA	-	13.649	Dec 2016	45.494	Dec 2016	15.108	Feb 2018	0.000		15.108	Continuing	Continuing	88.151
		Subtotal	-	13.649		45.494		15.108		0.000		15.108	-	-	88.151

Remarks

Total Cost and Target Value of Contract will not agree because cost to complete funds are not allowed as an input.

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2016 Cost	FY 2016 Award Date	FY 2017 Cost	FY 2017 Award Date	FY 2018 Base Cost	FY 2018 Base Award Date	FY 2018 OCO Cost	FY 2018 OCO Award Date	FY 2018 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
CNS/ATM Other Government Cost	Various	AFLCMC/WLS : Dayton, OH	-	0.024	Apr 2016	1.001	Jun 2017	1.342	Feb 2018	0.000		1.342	Continuing	Continuing	2.397
CNS/ATM Training	Various	Lockheed Martin Aero : Marietta, GA	-	0.000		0.009	Jun 2017	0.120	Feb 2018	0.000		0.120	Continuing	Continuing	0.255
CNS/ATM Peculiar Support Equipment	Various	Lockheed Martin Aero : Marietta, GA	-	0.000		0.000		0.009	Feb 2018	0.000		0.009	Continuing	Continuing	0.018
CNS/ATM Trainers & Simulators	Various	Various : Various	-	0.095	Dec 2016	2.855	Dec 2016	0.600	Feb 2018	0.000		0.600	Continuing	Continuing	4.175
		Subtotal	-	0.119		3.865		2.071		0.000		2.071	-	-	6.845

Remarks

Total Cost and Target Value of Contract will not agree because cost to complete funds are not allowed as an input.

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 0401119F / *C-5 Airlift Squadrons (IF)*	**Project (Number/Name)** 675359 / *CNS/ATM Mode5 Swift Broadband BLOS/LOS Radio*

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2016 Cost	FY 2016 Award Date	FY 2017 Cost	FY 2017 Award Date	FY 2018 Base Cost	FY 2018 Base Award Date	FY 2018 OCO Cost	FY 2018 OCO Award Date	FY 2018 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
CNS/ATM System Test/ Qual/SIL	Various	Lockheed Martin Aero : Marietta, GA	-	0.667	Dec 2016	4.174	Dec 2016	1.475	Feb 2018	0.000		1.475	Continuing	Continuing	7.901
CNS/ATM System Test - Government	Various	Edwards AFB : CA	-	0.025	May 2016	0.287	Apr 2017	1.000	Feb 2018	0.000		1.000	Continuing	Continuing	4.287
		Subtotal	-	0.692		4.461		2.475		0.000		2.475	-	-	12.188

Remarks

Total Cost and Target Value of Contract will not agree because cost to complete funds are not allowed as an input.

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2016 Cost	FY 2016 Award Date	FY 2017 Cost	FY 2017 Award Date	FY 2018 Base Cost	FY 2018 Base Award Date	FY 2018 OCO Cost	FY 2018 OCO Award Date	FY 2018 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
CNS/ATM Program Management Administration	Various	AFLCMC/WLS : Dayton, OH	-	0.902	Sep 2016	0.085	Jun 2017	2.700	Feb 2018	0.000		2.700	Continuing	Continuing	5.836
CNS/ATM Travel	Various	AFLCMC/WLS : Dayton, OH	-	0.001	Oct 2016	0.404	Oct 2016	0.404	Feb 2018	0.000		0.404	Continuing	Continuing	1.213
		Subtotal	-	0.903		0.489		3.104		0.000		3.104	-	-	7.049

Remarks

Total Cost and Target Value of Contract will not agree because cost to complete funds are not allowed as an input.

	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	-	15.363		54.309		22.758		0.000		22.758	-	-	-

Remarks

Total Cost and Target Value of Contract will not agree because cost to complete funds are not allowed as an input.

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 0401119F / *C-5 Airlift Squadrons (IF)*	**Project (Number/Name)** 675359 / *CNS/ATM Mode5 Swift Broadband BLOS/LOS Radio*

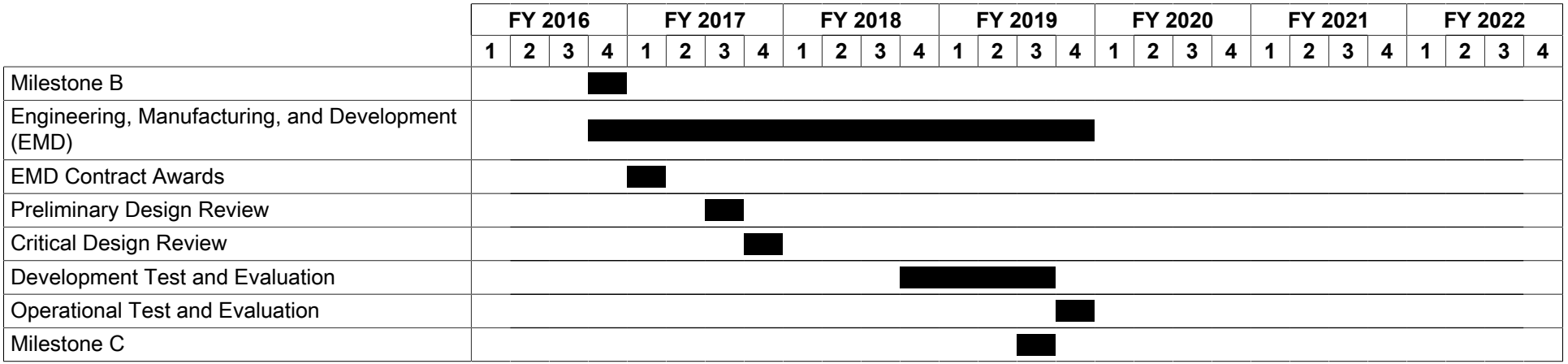

Exhibit R-4A, RDT&E Schedule Details: FY 2018 Air Force		Date: May 2017
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0401119F / *C-5 Airlift Squadrons (IF)*	**Project (Number/Name)** 675359 / *CNS/ATM Mode5 Swift Broadband BLOS/LOS Radio*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Milestone B	4	2016	4	2016
Engineering, Manufacturing, and Development (EMD)	4	2016	4	2019
EMD Contract Awards	1	2017	1	2017
Preliminary Design Review	3	2017	3	2017
Critical Design Review	4	2017	4	2017
Development Test and Evaluation	4	2018	3	2019
Operational Test and Evaluation	4	2019	4	2019
Milestone C	3	2019	3	2019

Note

CNS/ATM will support completion of formal qualification testing, installation and functional check of hardware, design and development of aircrew and maintenance training system modification, and developmental test and evaluation.