Exhibit R-2, RDT&E Budget Item Justification: PB 2019 Air Force											Date: February 2018	
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0207133F / *F-16 Squadrons*							
COST ($ in Millions)	**Prior Years**	**FY 2017**	**FY 2018**	**FY 2019 Base**	**FY 2019 OCO**	**FY 2019 Total**	**FY 2020**	**FY 2021**	**FY 2022**	**FY 2023**	**Cost To Complete**	**Total Cost**
Total Program Element	-	132.113	246.578	191.564	0.000	191.564	175.610	175.499	170.536	162.955	Continuing	Continuing
672671: *F-16 Squadrons*	-	132.113	246.578	191.564	0.000	191.564	175.610	175.499	170.536	162.955	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

In FY2019, PE 0207701F, F-16 Full Combat Mission Training project funds were transferred to PE 0207133F, F-16 Squadrons to align program responsibilities.

A. Mission Description and Budget Item Justification

The F-16 Fighting Falcon is the world's premier fixed-wing, high performance, single engine multi-mission fighter aircraft that comprises 50% of the AF fighter inventory. Operational since 1980, the F-16 has proven itself in combat in a variety of air-to-air and air-to-surface missions, such as, offensive and defensive counter-air, close air support, forward air control, air interdiction (day/night and all-weather) and Suppression of Enemy Air Defenses (SEAD)/destruction of enemy air defenses (DEAD). The F-16 remains the USAF's primary SEAD/DEAD platform. The aircraft has evolved its capabilities by capitalizing upon advancements made in computers, avionics systems, engines, and structures technologies to meet emerging warfighter requirements and combat current and evolving enemy threats.

Modification programs include: Operational Flight Program (OFP) development on OFPs required to integrate new precision weapons, advanced targeting pods, improved avionics, hardware (HW) and software (SW) mods to meet DoD mandates and keep the F-16, the respective training simulators, and other hardware subsystems current; Legacy Service Life Extension Program (SLEP), which is a two-phased RDT&E effort, includes a Full Scale Durability Test (FSDT) and Engineering, Manufacturing and Development (EMD) to support structural modifications to increase Certified Service Life (CSL) from 8,000 Equivalent Flight Hours (EFH) to 10,000 EFH (Threshold), or 12,000 EFH (Objective); EMD Hardware/Advanced capability improvements require funding to develop, test, and qualify, weapon systems, aircraft subsystems replaced or modified due to requirements changes, pre-planned product improvements (P3I), Diminishing Manufacturing Sources (DMS) and parts obsolescence; Modular Mission Computer (MMC)Upgrade/Display Generator Upgrade resolves shortfalls in mission computer memory and throughput brought on by the addition of incremental combat capability addresses cyber-security and includes Non-Recurring Engineering (NRE), design, development, integration, and ground/ flight test for fielding; F-16 Training Simulator updates enable the USAF to exercise/train using the most current F-16 OFP available to all block configurations, to include both aircrew and maintenance trainers; Joint Air-to-Surface Standoff Missile-Extended Range (JASSM-ER) on F-16 aircraft, and includes NRE, test assets, SEEK EAGLE, integration, and flight test; Comm Suite Radio Upgrade (CSU) improved satellite communication (SATCOM) radio upgrade with Mobile User Objective System (MUOS) capability to meet next-gen tactical narrowband SATCOM with better crypto capabilities; an active electronically scanned array (AESA) radar capable on all blocks that offers advanced electronic protection capabilities as well as improved reliability and maintainability on F-16 aircraft that perform the aerospace control alert mission; MIDS JTRS provides a real-time, jam resistant and secure information system for the transfer of combat data, voice and navigation information between widely dispersed battle elements; Hybrid Flight Control Computer (HFLCC) Auto Ground Collision Avoidance System (AGCAS) development and integration prevents most controlled flight into terrain (CFIT) accidents using terrain database and prediction algorithms for aircraft trajectory recovery and executes an automated fly up maneuver to avoid collision; Automatic Dependent Surveillance - Broadcast (ADS-B) Out on F-16 aircraft provides improved altitude, airspeed and location info to ground stations and other equipped aircraft in vicinity; Digital Radar Warning Receiver improves on existing radar warning receiver performance and improves Electronic Warfare (EW) threat detection range, azimuth, detection time, and allows reduction of radio frequency compatibility issues with other on board transmitters.

Exhibit R-2, RDT&E Budget Item Justification: PB 2019 Air Force	Date: February 2018
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This program element may include necessary civilian pay expenses required to manage, execute, and deliver F-16 weapon system capability. The use of such program funds would be in addition to the civilian pay expenses budgeted in program elements 0605826F, 0605827F, 0605828F, 0605829F, 0605830F, 0605831F, 0605832F, and 0605898F.

This program is 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 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Previous President's Budget	147.795	246.578	213.296	0.000	213.296
Current President's Budget	132.113	246.578	191.564	0.000	191.564
Total Adjustments	-15.682	0.000	-21.732	0.000	-21.732
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	-12.600	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	-0.531	0.000			
• SBIR/STTR Transfer	-2.551	0.000			
• Other Adjustments	0.000	0.000	-21.732	0.000	-21.732

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2017	FY 2018
Project: 672671: *F-16 Squadrons*		
Congressional Add: *AESA Radars*	15.000	0.000
Congressional Add Subtotals for Project: 672671	15.000	0.000
Congressional Add Totals for all Projects	15.000	0.000

Change Summary Explanation

FY17 reduction of $12.6M for a Congressional mark due to Operational Flight Test Program funding as well as Small Business Innovative Research for -$2.551M and a -.531M reprogramming action

FY19 consists of rephasing of AESA; accelerating MID-J and transfer of F-16 Mission Training Centers (MTC) into PE27133F

Exhibit R-2, RDT&E Budget Item Justification: PB 2019 Air Force	Date: February 2018
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0207133F / *F-16 Squadrons*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Title: OFP Updates on all F-16 aircraft	75.393	76.882	98.613	0.000	98.613
Description: OFP tapes are updated continually to integrate new weapons, targeting pods, and improved avionics. M7.1+ is the first OFP developed by the 309th SMG at Hill AFB includes AIM-9X Block II updates and fielded in Mar 2017. M7.2+ OFP is in SW development phase and will incorporate DoD mandates and is scheduled to field in 2019. M8 is in the early stages of planning and will incorporate the MMC upgrade architecture and Display Generator Upgrade and is scheduled to field in 2022. The OFP effort also contains Program Management Administration (PMA) support activities to include travel, office supplies, training courses, Video Teleconferencing (VTC) and support contractors. The Software Capability Upgrade (SCU) program enables the design and coding of software for integration efforts. SCU is required to integrate new precision weapons, advanced targeting pods, improved avionics, and hardware and software modifications to meet DoD mandates and keep the F-16 current. SCU is developed by the 309th SMXG at Hill AFB, Utah. ***FY 2018 Plans:*** Continue M7.2+ combined Developmental Flight and Operational Flight test and initiate dedicated Operational Test & Evaluation (OT&E). Conduct M8.1 System Functional Review (SFR) of baseline candidates, start software design and code for re-hosting MMC Upgrade architecture and Programmable Display Generator (PDG) Upgrade and High Speed Date Network (HSDN). SCU9.1 continues developmental and operational flight test. Finalize procurement of SCU9.1 test assets to meet OFP mandates. SCU10 will conduct an Avionics System Requirements Review Council (ASRRC) 4Q FY17 to baseline candidates and begin designing and coding of those candidates in FY18. ***FY 2019 Base Plans:*** Complete dedicated OT&E, Functional Configuration Audit (FCA), and field M7.2+ OFP. Begin M8.1 System Integration Lab (SIL) testing. Conduct M8.2 Requirements Working Group (RWG) meeting to baseline M8.2 candidates and start M8.2 SW design and code. Begin early assessment for M9 requirements. Continue SCU9.1 and SCU10 design and code of selected candidates. Finalize developmental and operational flight test for SCU9.1 and field late 1Q FY19. SCU10 will continue to design and code and will field in 2020. ***FY 2019 OCO Plans:*** N/A ***FY 2018 to FY 2019 Increase/Decrease Statement:*** $22.471M change from FY18 to FY19. See above for details.					
Title: Flight Test	7.774	16.692	17.404	-	17.404

Exhibit R-2, RDT&E Budget Item Justification: PB 2019 Air Force		Date: February 2018
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0207133F / *F-16 Squadrons*	

C. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Description: Development Test and Evaluation (DTE) at Edwards AFB and Development Test/Operational Test (DT/OT) at Eglin AFB, Edwards AFB, Nellis AFB, and Air National Guard Air Force Reserve Test Center (AATC), including integration test of associated subsystems and weapons as well as maintain test schedule for F-16 MMC OFPs, weapons integration, Radio Frequency (RF) compatibility, and sub-systems to ensure capabilities meet CAF's fielding schedule. ***FY 2018 Plans:*** Continue support of DTE infrastructure. Initiate M7.2+ test planning for AESA JEON, M7.2+ and AESA begin developmental flight test, support out-of-cycle regression testing. ***FY 2019 Base Plans:*** Continue AESA development flight test with M7.2+ OFP, continue M7.2+ combined developmental flight and Operational flight test, initiate dedicated OTE, continue support of DTE infrastructure, support out-of- cycle regression testing. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Increase due to inflation and current estimate.					
Title: Legacy Service Life Extension Program (SLEP) Structures	4.783	0.000	0.000	-	0.000
Description: F-16 Legacy Service Life Extension Program (SLEP): A two-phased RDT&E effort which includes Full Scale Durability Test (FSDT) and Engineering, Manufacturing and Development (EMD) to support structural modifications to F-16 aircraft to increase service life. FSDT is required to prove finite element models and to develop the airworthiness certification basis to extend the current Certified Service Life from 8,000 Equivalent Flight Hours (EFH) to 10,000 EFH (Threshold), or 12,000 EFH (Objective). SLEP EMD develops the engineering solutions necessary to resolve the life-limiting structural issues defined in FSDT and develop the airworthiness certification recommendation. ***FY 2018 Plans:*** N/A ***FY 2019 Base Plans:*** N/A ***FY 2018 to FY 2019 Increase/Decrease Statement:***					

Exhibit R-2, RDT&E Budget Item Justification: PB 2019 Air Force	Date: February 2018
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C. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
N/A; no efforts planned for FY18					
Title: EMD HW/Advanced Capabilities Improvements ***Description:*** Advanced Capability Improvements includes, but not limited to sensor upgrades, Radar updates and other self-protection/electronic protection (EP) enhancements, 4th/5th gen fighter network communications, Radio Frequency (RF) compatibility, requirements analysis and studies analysis, lab and/or on-aircraft evaluation of potential subsystem changes/capability improvements. ***FY 2018 Plans:*** Continue support to develop, test, and qualify aircraft weapons systems including F-16 subsystems replaced or modified due to requirements changes, P3I, DMS and/or parts obsolescence. ***FY 2019 Base Plans:*** Continue support to develop, test, and qualify aircraft weapons systems including F-16 subsystems replaced or modified due to requirements changes, P3I, DMS and/or parts obsolescence. ***FY 2019 OCO Plans:*** N/A ***FY 2018 to FY 2019 Increase/Decrease Statement:*** N/A	13.657	0.200	0.200	0.000	0.200
Title: MMC Upgrade / Display Generator Upgrade on F-16 aircraft ***Description:*** The MMC upgrade on the F-16 post-block aircraft, Blk 40, 42, 50, 52 resolves shortfalls in mission computer memory and throughput. Funding includes NRE, design, development, integration, and ground/flight test for fielding with the M8.1 OFP. The addition of an Ethernet High Speed Data Network (HSDN) facilitates future increments of combat capability with the OFP and system compatibility/interoperability (e.g., digital targeting pod video). The Programmable Display Generator (PDG)upgrade allows a fully integrated Multifunction Display solution including Hands On Throttle and Stick (HOTAS) integration with Sensor of Interest (SOI), format swapping and high definition video on 4x4 displays; provides improved display formats during dynamic maneuvers; resolves symbol freezing issues due to throughput constraints; and provides a sustainable approach to address growing DMS concerns with the current Programmable Display Generator. ***FY 2018 Plans:***	8.921	20.942	11.858	0.000	11.858

Exhibit R-2, RDT&E Budget Item Justification: PB 2019 Air Force		Date: February 2018
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C. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Continue NRE activities for HSDN, MMC Upgrade and PDG Upgrade for design, development, integration, and ground/flight test for fielding with the M8 OFP. ***FY 2019 Base Plans:*** Continue NRE activities for HSDN, MMC Upgrade and PDG Upgrade for design, development, integration, deliver test assets for SIL and flight test for fielding with the M8 OFP. ***FY 2019 OCO Plans:*** N/A ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Decrease due to current cost estimate and development schedule.					
Title: Simulator Trainers ***Description:*** F-16 Simulator Training Programs (Simulators) supports the development, acquisition, fielding and integration of F-16 Simulators. Enables the USAF to exercise and train using the latest F-16 capabilities available to multiple aircraft configurations, while reducing the overall cost of maintenance and aircrew training. In order to maintain concurrency with the aircraft OFP, this funding support development, test and integration of simulator upgrades. Funds may be used to address emerging and short notice Diminishing Manufacturing and Material Shortage (DMSMS) issues. DMS efforts to include removal of end-of-life software/hardware within simulators systems and move to a modular, common open system architecture that is sustainable and cyber-resilient. Implement requirements and standards defined under the Simulator Common Architecture Requirements and Standards (SCARS) initiative. This program element may include necessary civilian pay expenses required to manage, execute, and deliver F-16 weapon system capability. ***FY 2018 Plans:*** Continue contract efforts for managing and maintaining F-16 simulator trainers, to include tech order development. This funding also supports development, test, and integration of simulator upgrades to include new aircraft OFPs. ***FY 2019 Base Plans:*** Continue contract efforts for managing and maintaining F-16 simulator trainers, to include tech order development. This funding also supports development, test, and integration of simulator upgrades to include new aircraft OFPs. Begin supporting development efforts for the F-16 MTC trainer. ***FY 2019 OCO Plans:***	3.400	2.049	14.625	0.000	14.625

Exhibit R-2, RDT&E Budget Item Justification: PB 2019 Air Force	Date: February 2018
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C. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
N/A ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Increase of $12.686M due to MTC program being added to F-16 BPAC 672671 in FY19.					
Title: AESA Radar ***Description:*** This is a continuation of the Active Electronically Scanned Array(AESA) Radar congressional add funding line in FY16 and FY17. The AESA Program provides an upgrade from the current APG-68 system to an AESA radar that offers advanced electronic protection capabilities as well as improved reliability and maintainability to support the Aerospace Control Alert (ACA) mission for Homeland Defense (HLD)and includes the Phase III development for full capability development document (CDD) implementation, as well as Radio Frequency (RF) compatibility with other systems. ***FY 2018 Plans:*** Completes EMD development and initiates flight testing for JEON aircraft. Also begins Phase III Full CDD radar development for CAF aircraft. ***FY 2019 Base Plans:*** Continues Phase III development efforts for full CDD radar development including flight testing and TO development. ***FY 2019 OCO Plans:*** N/A ***FY 2018 to FY 2019 Increase/Decrease Statement:*** FY19 decreased due to re-phase of funding to FY20/FY21 for radar software and radome development needed in FY20 for continuation of Phase III development efforts.	0.209	40.766	3.542	0.000	3.542
Title: Comm Suite Radio Upgrade Aircraft ***Description:*** Provides updates to the ARC-210 satellite communication (SATCOM) radios on F-16 aircraft including Second Generation Anti-Jam Tactical radio for NATO (SATURN) with Mobile User Objective System (MUOS) and improved crypto capability. ***FY 2018 Plans:***	2.976	12.416	5.670	0.000	5.670

Exhibit R-2, RDT&E Budget Item Justification: PB 2019 Air Force		Date: February 2018
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C. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Continue NRE efforts, procure Group B test assets ***FY 2019 Base Plans:*** Continue NRE efforts, procure Group B test assets ***FY 2019 OCO Plans:*** N/A ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Decrease due to current estimate.					
Title: Hybrid Flight Control Computer (HFLCC) Auto Ground Collision Avoidance System (AGCAS) ***Description:*** Development for Hybrid Flight Control Computer (HFLCC) Auto Ground Collision Avoidance System (AGCAS). ***FY 2018 Plans:*** Initiate development on Hybrid Flight Control Computer (HFLCC) Auto Ground Collision Avoidance System (AGCAS), ensure associated OFP effort development and begin Algorithm design development for integration with Advanced Data Transfer Equipment (ADTE) for the AGCAS solution. ***FY 2019 Base Plans:*** N/A ***FY 2019 OCO Plans:*** N/A ***FY 2018 to FY 2019 Increase/Decrease Statement:*** N/A	0.000	18.962	0.000	0.000	0.000
Title: Digital Radar Warning Receiver ***Description:*** Digital Radar Warning Receiver improves on existing radar warning receiver performance and improves Electronic Warfare (EW) threat detection range. The DRWR program also facilitates Radio Frequency (RF) compatibility with associated systems. ***FY 2018 Plans:***	0.000	54.587	36.067	0.000	36.067

Exhibit R-2, RDT&E Budget Item Justification: PB 2019 Air Force		Date: February 2018
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C. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Initiate contract efforts for Digital Radar Warning Receiver, begin NRE efforts for Group A and Group B Hardware, begin Digital RWR Software and any associated OFP updates. ***FY 2019 Base Plans:*** Continue efforts for Digital Radar Warning Receiver, continue NRE efforts for Group A and Group B Hardware, continue Digital RWR Software and any associated OFP updates. ***FY 2019 OCO Plans:*** N/A ***FY 2018 to FY 2019 Increase/Decrease Statement:*** FY19 decreased due to re-phase of funding to FY20/FY21 for continued developmental efforts needed in FY20/FY21.					
Title: Multifunctional Information Distribution System Joint Tactical Radio System (MIDS-JTRS) ***Description:*** Multifunctional Information Distribution System Joint Tactical Radio System (MIDS JTRS) provides real time, jam-resistant and secure information system for the transfer of combat data, voice and navigation information between widely dispersed battle elements. Enhances situational awareness by exchanging digital data over a common communication link that is continuously and automatically updated in real time. Additionally MIDS JTRS enhanced capabilities provide concurrent multinetting which enhances Link 16 by adding capability to receive four messages in a single time slot and allows for greater network design flexibility along with concurrent contention receive capabilities and J-voice. The F-16 MIDS JTRS effort is developing Ethernet connectivity within the terminal. ***FY 2018 Plans:*** N/A ***FY 2019 Base Plans:*** Provide funding to the USN MPO development of the F-16 firmware build along with Ethernet capabilities. Fund the creation of technical data/orders. Fund remaining trial vehicle installations (TVIs) for test as well as kit proofing efforts. Fund group A IDIQ contracts required for TVIs and Kit proofing. Fund studies to explore expansion of additional/future MIDS JTRS capabilities including ICAS. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** N/A	-	0.000	3.585	-	3.585
Title: Automatic Dependent Surveillance - Broadcast (ADS-B) Out	0.000	3.082	0.000	0.000	0.000

Exhibit R-2, RDT&E Budget Item Justification: PB 2019 Air Force	Date: February 2018
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C. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Description: Automatic Dependent Surveillance - Broadcast (ADS-B) Out provides improved altitude, airspeed and location information to ground stations and other appropriate receiving equipped aircraft in vicinity. Funds are included to accommodate the FAA mandate for ADS-B as outlined throughout previous AF and DoD budget exhibits. ***FY 2018 Plans:*** Initiate development efforts and contract award for hardware and software updates to the Combined Interrogator Transponder (CIT) and GPS card on F-16 aircraft. Funds are included to accommodate the FAA mandate for ADS-B as outlined throughout previous AF and DoD budget exhibits. ***FY 2019 Base Plans:*** N/A ***FY 2019 OCO Plans:*** N/A ***FY 2018 to FY 2019 Increase/Decrease Statement:*** N/A					
Accomplishments/Planned Programs Subtotals	117.113	246.578	191.564	0.000	191.564

	FY 2017	FY 2018
Congressional Add: AESA Radars	15.000	0.000
FY 2017 Accomplishments: N/A		
FY 2018 Plans: N/A		
Congressional Adds Subtotals	15.000	0.000

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
• APAF 05 Line Item F01600: *F-16 Aircraft Modifications*	274.331	203.864	326.975	-	326.975	315.723	773.461	612.781	621.682	Continuing	Continuing
• APAF 07 Line Item F0160P: *F-16 Post Production Support*	15.155	18.051	11.813	-	11.813	22.021	25.611	19.873	20.232	Continuing	Continuing

Exhibit R-2, RDT&E Budget Item Justification: PB 2019 Air Force	Date: February 2018
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D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
• APAF 06 Line Item	2.059	14.417	11.327	-	11.327	30.705	25.609	15.980	16.157	Continuing	Continuing
F01600: *F-16 Initial Spares*											

Remarks

E. Acquisition Strategy

The F-16 Program acquisition strategy is to improve capability, maintenance and safety mods through OFP development/flight test, enhanced weapons integration, structural upgrades, and simulator concurrency.

F-16 OFP SW updates will continually bring new capabilities to the warfighter. OFP SW development effort is now completely developed at Hill AFB (309 SMXG). Numerous Integration contracts (CPFF, FFP) are required to allow for Improved Avionics, Weapon, ADS-B, MIDS JTRS integration to successfully field with each OFP.

The Legacy SLEP program uses various contracts supporting Full Scale Durability Test (FSDT) and feeds the EMD effort to develop mod test kits and airworthiness certification recommendation. The prime contractor providing the majority of EMD is Lockheed Martin.

MMC Upgrade awarded to Raytheon on 22 Nov 2016. PDG Upgrade awarded to General Dynamics Mission Systems on 17 Apr 2017.

The EMD HW/Advanced capability improvements will develop, test, and qualify aircraft weapons systems, including subsystems and uses various contract types (Cost Plus and Fixed Price)

The Active Electronically Scanned Array (AESA) Joint Emergent Operational Need (JEON) contract for development and production of the APG-83 radar was awarded to Northrop Grumman 31 May 2017. The US Government is the prime integrator and a separate contract is in work for Lockheed Martin to provide integration support.

The new start programs in FY18; Digital Radar Warning Receiver, ADS-B Out and Auto-GCAS are all in acquisition development prior to entering source selection.

Flight Test requires both organic test range support and various contract support for integration test of F-16 subsystems to ensure capabilities meet CAF fielding schedule, which includes Radio Frequency (RF) compatibility.

F. 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 2019 Air Force		Date: February 2018
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0207133F / *F-16 Squadrons*	**Project (Number/Name)** 672671 / *F-16 Squadrons*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
OFP Updates on F-16 aircraft	Various	309th SMG : Hill AFB, UT	-	66.397	Nov 2016	65.765	Nov 2017	90.413	Nov 2018	-		90.413	Continuing	Continuing	-
Legacy Service Life Extension Program (SLEP) Structures	Various	Various : Various	-	4.783	Nov 2017	-		-		-		-	Continuing	Continuing	-
MMC Upgrade / Display Generator Upgrade	Various	Various : Various	-	8.921	Jan 2017	20.942	Jan 2018	11.858	Jan 2018	-		11.858	Continuing	Continuing	-
EMD HW / Advanced Capabilities	Various	Various : Various	-	13.657	Aug 2017	0.200	Aug 2018	0.200	Aug 2019	-		0.200	Continuing	Continuing	-
Simulator Trainers	Various	Various : Various	-	3.400	Mar 2017	2.049	Mar 2018	14.625	Mar 2019	-		14.625	Continuing	Continuing	-
AESA Radars	Various	Various : Various	-	15.209	Mar 2018	40.766	Jun 2018	3.542	May 2019	-		3.542	Continuing	Continuing	-
Digital Radar Warning Receiver	Various	Various : Various	-	-		54.587	Apr 2018	36.067	Aug 2019	-		36.067	Continuing	Continuing	-
Comm Suite Radio Upgrade	Various	Various : Various	-	2.976	Aug 2017	12.416	Feb 2018	5.670	Feb 2019	-		5.670	Continuing	Continuing	-
Hybrid Flight Control Computer (HFLCC) AGCAS	Various	Various : Various, UT	-	-		18.962	Mar 2018	-		-		-	Continuing	Continuing	-
Automatic Dependent Surveillance - Broadcast (ADS-B) Out	Various	Various : Various	-	-		3.082	Mar 2018	-		-		-	Continuing	Continuing	-
MIDS JTRS	Various	Various : Various	-	-		-		3.585	Nov 2018	-		3.585	Continuing	Continuing	-
		Subtotal	-	115.343		218.769		165.960		-		165.960	Continuing	Continuing	N/A

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Flight Tests	Various	Various : Various	-	7.774	Nov 2016	16.692	Nov 2017	17.404	Nov 2018	-		17.404	Continuing	Continuing	-
		Subtotal	-	7.774		16.692		17.404		-		17.404	Continuing	Continuing	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 Air Force			Date: February 2018
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207133F / *F-16 Squadrons*	Project (Number/Name) 672671 / *F-16 Squadrons*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Mgmt Administrative (PMA) Support	Various	Various : Various	-	8.996	Apr 2017	11.117	Apr 2018	8.200	Apr 2018	-		8.200	Continuing	Continuing	-
		Subtotal	-	8.996		11.117		8.200		-		8.200	Continuing	Continuing	N/A

	Prior Years	FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	132.113		246.578		191.564		-		191.564	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2019 Air Force		Date: February 2018
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0207133F / *F-16 Squadrons*	**Project (Number/Name)** 672671 / *F-16 Squadrons*

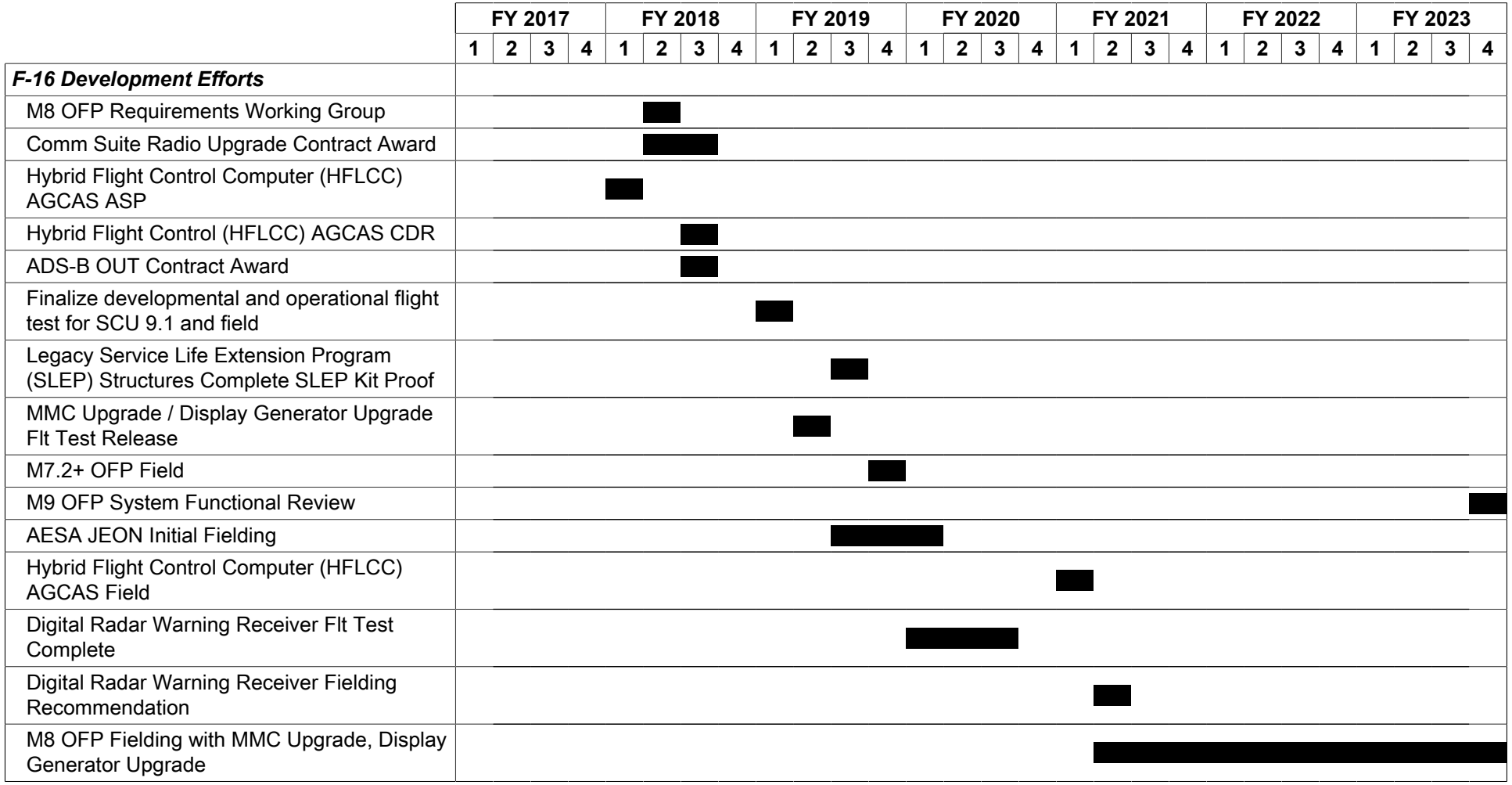

Exhibit R-4A, RDT&E Schedule Details: PB 2019 Air Force		Date: February 2018
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0207133F / *F-16 Squadrons*	**Project (Number/Name)** 672671 / *F-16 Squadrons*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
F-16 Development Efforts				
M8 OFP Requirements Working Group	2	2018	2	2018
Comm Suite Radio Upgrade Contract Award	2	2018	3	2018
Hybrid Flight Control Computer (HFLCC) AGCAS ASP	1	2018	1	2018
Hybrid Flight Control (HFLCC) AGCAS CDR	3	2018	3	2018
ADS-B OUT Contract Award	3	2018	3	2018
Finalize developmental and operational flight test for SCU 9.1 and field	1	2019	1	2019
Legacy Service Life Extension Program (SLEP) Structures Complete SLEP Kit Proof	3	2019	3	2019
MMC Upgrade / Display Generator Upgrade Flt Test Release	2	2019	2	2019
M7.2+ OFP Field	4	2019	4	2019
M9 OFP System Functional Review	4	2023	4	2023
AESA JEON Initial Fielding	3	2019	1	2020
Hybrid Flight Control Computer (HFLCC) AGCAS Field	1	2021	1	2021
Digital Radar Warning Receiver Flt Test Complete	1	2020	3	2020
Digital Radar Warning Receiver Fielding Recommendation	2	2021	2	2021
M8 OFP Fielding with MMC Upgrade, Display Generator Upgrade	2	2021	4	2023