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Exhibit R-2, RDT&E Budget Item Justification: PB 2021 Air Force **Date:** February 2020

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0207133F / <i>F-16 Squadrons</i>
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COST (\$ in Millions)	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	Cost To Complete	Total Cost
Total Program Element	-	182.190	193.013	223.437	0.000	223.437	229.066	157.064	128.717	127.869	Continuing	Continuing
672671: <i>F-16 Squadrons</i>	-	182.190	193.013	223.437	0.000	223.437	229.066	157.064	128.717	127.869	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

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 48% 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. These computer processing and avionics upgrades are critical to building a modernized architecture that promotes current open, agile, and digital concepts to enable future technological growth of the F-16's capabilities well into the 2040s and beyond. Furthermore, the F-16 provides the capacity called for in the NDS by supplying the USAF the highest readiness rates at the lowest operating costs of any US fighter. The F-16 programs listed below also support the NDS's call to strengthen alliances by being the DoD's largest Foreign Military Sales (FMS) program servicing over 26 countries and growing. The funding described in this document directly maps to the NDS as it provides upgrades to the F-16 platform enabling the delivery of joint lethality in contested environments in the coming decades. The specific modification programs listed below directly contribute to accomplishing the mission objectives as described in the NDS.

Modification programs include: Operational Flight Program (OFP) development required to integrate new precision weapons, advanced targeting pods, improved avionics, hardware (HW) and software (SW) mods to meet Home Land Defense (HLD) Mission, DoD mandates, and maintain updates on the respective F-16 training simulators, and other hardware subsystems; 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 narrow band SATCOM with better crypto capabilities; an Active Electronically Scanned Array (AESA) Radar capable on all blocks that offers enhanced lethality, advanced electronic protection capabilities, as well as, improved reliability and maintainability on F-16 aircraft; Multi-functional Information Distribution System-Joint Tactical Radio System (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; Advanced Identification Friend or Foe (AIFF-Mode5) on F-16 aircraft provides improved

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airspeed and location info to ground stations and other equipped aircraft in vicinity; Digital Radar Warning Receiver (DRWR) improves existing radar warning receiver performance and Electronic Warfare (EW) threat detection range, azimuth, detection time, and allows reduction of radio frequency compatibility (RFC) issues with other on board transmitters.

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 element 0605831F

As directed in the FY 2018 NDAA, Sec 825, amendment to PL 114-92 FY 2016 NDAA, Sec 828 Penalty for Cost Overruns, the FY 2019 Air Force penalty total is \$50.0M. The calculated percentage reduction to each research, development, test and evaluation and procurement account will be allocated proportionally from all programs, projects, or activities under such account.

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 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Previous President's Budget	185.864	193.013	186.850	0.000	186.850
Current President's Budget	182.190	193.013	223.437	0.000	223.437
Total Adjustments	-3.674	0.000	36.587	0.000	36.587
• 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	-3.674	0.000			
• Other Adjustments	0.000	0.000	36.587	0.000	36.587

Change Summary Explanation

FY19: \$3.674M net decrease, SBIR reduction.

FY21: \$36.587M net increase, including +\$70.376M DRWR, +\$0.171M Comm Suite, -\$9.844M Simulator Training Program Re-Phase, -\$2.247M Flight Test, -\$17.445M AESA Radar, -\$4.263M MMC/PDG, and -\$0.161M OFF.

C. Accomplishments/Planned Programs (\$ in Millions)	FY 2019	FY 2020	FY 2021
Title: OFP Updates on all F-16 aircraft	99.283	86.110	87.858
Description: OFP tapes are updated continually to integrate new weapons, targeting pods, and improved avionics.			

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C. Accomplishments/Planned Programs (\$ in Millions)		FY 2019	FY 2020	FY 2021
<p>Both M-Series and Software Capability Upgrade (SCU) programs enable the design and coding of software for integration efforts. OFPs are required to integrate new precision weapons, advanced targeting pods, improved avionics, and hardware and software modifications to meet DoD mandates and build a modern avionics architecture in order to keep the F-16 current. OFP enhancements enable the F-16's ability to operate in contested environments and defend the homeland, which directly maps to NDS requirements. The OFPs are developed organically by the 309th Software Engineering Group (SWEG) at Hill AFB, UT. Systems Integration Labs (SIL) are required to integrate software into the host hardware and validate user requirements and check out system safety and security prior to release to flight test.</p> <p>The OFP effort also contains Program Management Administration (PMA) support activities to include travel, office supplies, training courses, Video Teleconferencing (VTC) and support contractors.</p> <p>FY 2020 Plans: Per approved OFP Inc I ADM (29 Apr 19), OFPs will be released at a cadence not to exceed 30 months, providing greater flexibility to release on demand working with the customers. With this in place, the following is the projected release schedule for F-16 OFPs. Release M7.2+ to field in early CY2020. Begin M7.3/M8.03 SIL & combined Developmental Flight and Operational Flight test. Continue M8.1 software development. Continue to update M-Series requirements for future OFPs through Warfighter Council. SCU10 will field late CY2020. M/SCU are continuing to pursue Agile Software Development Transformation to improve software delivery to the warfighter.</p> <p>FY 2021 Plans: Field M7.3/M8.0.3 and continue development of M8.1 and SCU 11.</p> <p>FY 2020 to FY 2021 Increase/Decrease Statement: Increase based on cost estimate/inflation.</p>				
<p>Title: Flight Test</p> <p>Description: Development Test and Evaluation (DT&E) 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 tests of associated subsystems and weapons, as well as, maintain test schedule for F-16 MMC OFPs, weapons integration, Radio Frequency compatibility (RFC), and sub-systems to ensure capabilities meet CAF's fielding schedule.</p> <p>FY 2020 Plans: Increase support of DT&E infrastructure to account for growing test requirements from new modification programs.</p>		16.845	14.613	15.675

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C. Accomplishments/Planned Programs (\$ in Millions)		FY 2019	FY 2020	FY 2021
<p>Initiate combined Developmental flight and Operational flight test with M7.3/M8.03 OFP (M7.2+ baseline running on MMCU legacy cards with basic Ethernet load, MIDS-JTRS (if not fielded with M7.2+) and SCU OFP, Correlation (small fixes), and AESA. Phase 3 - Step 1, SATURN and RFC, and support out-of-cycle regression testing.</p> <p>FY 2021 Plans: Increase support of DT&E infrastructure to account for growing test requirements from new modification programs. Initiate combined Developmental flight and Operational flight test with M7.3/M8.03 OFP (M7.2+ baseline running on MMCU legacy cards with basic Ethernet load, MIDS-JTRS (if not fielded with M7.2+) and SCU OFP, Correlation (small fixes), AESA. Phase 3 - Step 1, SATURN and RF Compatibility), and support out-of-cycle regression testing.</p> <p>FY 2020 to FY 2021 Increase/Decrease Statement: Increase due to cost estimate/inflation.</p>				
<p>Title: EMD HW/Advanced Capabilities Improvements</p> <p>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.</p> <p>FY 2020 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. Radio Frequency Compatibility (RFC) development efforts to minimize and understand the EMI on the F-16.</p> <p>FY 2021 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. Radio Frequency Compatibility (RFC) development efforts to minimize and understand the EMI on the F-16.</p> <p>FY 2020 to FY 2021 Increase/Decrease Statement: Increase due to re-phasing of requirements.</p>		0.000	0.010	0.200
<p>Title: MMC Upgrade / Display Generator Upgrade on F-16 aircraft</p> <p>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 of improved MMC capabilities with the M8.0.3 OFP and fielding of PDG upgrade with the M8.1 OFP. The addition of an Ethernet High Speed</p>		14.298	11.587	5.846

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C. Accomplishments/Planned Programs (\$ in Millions)		FY 2019	FY 2020	FY 2021
<p>Data Network (HSDN) facilitates future increments of combat capability with the OFP and system compatibility/interoperability (e.g., digital targeting pod video).</p> <p>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.</p> <p>Both the MMC and PDG directly map to the NDS as critical enabling technologies required for the F-16 to operate in contested environments and defend the homeland. Additionally, MMC upgrade, PDG upgrade, and High Speed Data Network make up critical elements to building a modern F-16 avionics architecture while promoting current technology concepts of open, agile, and digital.</p> <p>FY 2020 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 M8.0.3 and 8.1 OFPs.</p> <p>FY 2021 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 M8.0.3 and 8.1 OFPs.</p> <p>FY 2020 to FY 2021 Increase/Decrease Statement: Decrease based on re-phase of requirements.</p>				
<p>Title: Simulator Trainers Program</p> <p>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.</p> <p>FY 2020 Plans:</p>		13.323	9.894	4.469

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C. Accomplishments/Planned Programs (\$ in Millions)		FY 2019	FY 2020	FY 2021
<p>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.</p> <p>FY 2021 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. Supporting development efforts for the F-16 STP trainers.</p> <p>FY 2020 to FY 2021 Increase/Decrease Statement: Decrease based on re-phase of requirements.</p>				
<p>Title: AIFF Mode 5</p> <p>Description: Modify Pre-Block F-16's with Advanced Identification Friend or Foe (AIFF) to comply with DOD Mode 5 mandate. AIFF system provides positive identification for Air Traffic Control reporting, combat targeting, and fratricide prevention</p> <p>FY 2020 Plans: Initiate development and testing efforts and contract award for hardware, software, and firmware updates to the Combined Interrogator Transponder (CIT) and GPS card on F-16 aircraft to resolve DMS issues.</p> <p>FY 2021 Plans: N/A</p> <p>FY 2020 to FY 2021 Increase/Decrease Statement: Decrease based on phasing of requirements.</p>		-	2.250	0.000
<p>Title: AESA Radar</p> <p>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. This program directly maps to the NDS as it provides the most critical upgrade to the F-16's ability to successfully defend the homeland against attack.</p> <p>FY 2020 Plans:</p>		1.994	59.149	38.842

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C. Accomplishments/Planned Programs (\$ in Millions)		FY 2019	FY 2020	FY 2021
Continue Phase I & II JEON fielding; continue Phase III development efforts for full CDD radar capabilities. FY 2021 Plans: Conclude Phase I & II JEON fielding; continue Phase III development efforts for full CDD radar capabilities. (Increase Statement): Increase based on warfighter addition of 150 radars to Phase III plan. FY 2020 to FY 2021 Increase/Decrease Statement: Decrease based on phasing of Phase 3 full CDD development and test asset buy schedule				
Title: Comm Suite Radio Upgrade Aircraft Description: Provides mandatory CJCS 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 and the addition of a Cockpit Communication Control Panel (C3PO), and Digital Comm Matrix (DCM). FY 2020 Plans: Continue NRE efforts for integration and Group A development, procure Group B test assets. FY 2021 Plans: Continue NRE efforts, procure Group B test assets. FY 2020 to FY 2021 Increase/Decrease Statement: Funding decreased due to cost estimate/program phasing and ramp down of development.		0.000	3.899	0.171
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 Compatibility (RFC) with associated systems. This program includes execution of a Section 804 Rapid Prototyping effort to evaluate next-gen electronic warfare options that meet the DRWR requirements as part of a DRWR performance risk mitigation effort. This program is necessary for the F-16 to meet the NDS requirement of operating in current and future contested environments. This digital radar warning receiver upgrade provides improved radio frequency threat situational awareness to aircrew, and increases the performance in dense signal areas of operation as seen within contested environments. FY 2020 Plans: Continue efforts for Digital Radar Warning Receiver, continue NRE efforts for Group A and Group B Hardware for all components of the DRWR which includes millimeter wave (mmW), continue DRWR Software and any associated OFP updates. Seek CDR approval. Prepare for Trial Vehicle Install (TVI) on Blk 50C. Initiate Force Development Evaluation (FDE) Flight testing. Build kits for TVI installs. Expand mission data file (MDF) lab and complete test bench. RFC will have prototype hardware, F-16 SIL		32.719	3.001	70.376

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C. Accomplishments/Planned Programs (\$ in Millions)		FY 2019	FY 2020	FY 2021
testing with DRWR and AESA and Blk 42C aircraft TVI and flight testing. Section 804 will have prototype hardware available to complete Integrated Defense Avionics Laboratory (IDAL) and Electronic Warfare Avionics Integrated Support Facility (EWAISF) demonstrations. FY 2021 Plans: Continue NRE efforts to complete remaining Group A (Blk 40/42C, All D models, Blk 25C & D) designs and finalize Group B Hardware (EMI CE-102 & DMS ECP). DRWR Software and associated OFPs to be released upon successful FDE. Blk 30/32C and Blk 50/52C Kit-proofs. Receive Milestone C approval. Section 804 will have prototype hardware available to complete a Chamber test. FY 2020 to FY 2021 Increase/Decrease Statement: Increase due to cost estimate/rephrase of program requirements.				
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. MIDS-JTRS enhances situational awareness by exchanging digital data over a common communication link that is continuously and automatically updated in real time. Additionally MIDS-JTRS's enhanced capabilities provide concurrent multi-netting which enables 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. This program maps to the NDS by providing crypto modernization for tactical networks and more secure command and control, which enable increased interoperable communications across the joint force. This critical communications capability generates a more lethal force to defeat enemies and achieve sustainable outcomes that protect the American people and vital US interests. FY 2020 Plans: N/A FY 2021 Plans: N/A FY 2020 to FY 2021 Increase/Decrease Statement: Funding decreased due to cost estimate/program phasing and completion of development.		3.728	2.500	0.000
Accomplishments/Planned Programs Subtotals		182.190	193.013	223.437

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D. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2019</u>	<u>FY 2020</u>	<u>FY 2021</u> <u>Base</u>	<u>FY 2021</u> <u>OCO</u>	<u>FY 2021</u> <u>Total</u>	<u>FY 2022</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• APAF 05 Line Item F01600: <i>F-16 Aircraft Modifications</i>	267.424	281.476	615.760	-	615.760	625.394	640.375	567.791	636.898	Continuing	Continuing
• APAF 07 Line Item F0160P: <i>F-16 Post Production Support</i>	4.918	11.402	14.163	-	14.163	10.664	9.128	9.611	10.285	Continuing	Continuing
• APAF 06 Line Item <i>F01600: F-16 Initial Spares</i>	11.223	30.463	27.930	-	27.930	41.796	17.534	21.076	21.648	Continuing	Continuing

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 SWEG). Numerous Integration contracts (CPFF, FFP) are required to allow for Improved Avionics, Weapon, AIFF Mode 5, MIDS-JTRS integration to successfully field with each OFP.

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 awarded to Northrop Grumman on 31 May 2017. The US Government is the prime integrator and a separate contract is established for Lockheed Martin to provide integration support.

AIFF Mode 5 program uses numerous contracts for DMS resolution, integration, production, support and installs. Funding will be awarded on the following contracts: Harness IDIQ, Bracket IDIQ, Falcon 2020, Mode 5 IDIQ, and SASSM/EGI IDIQ.

Automatic Ground Collision Avoidance System (AGCAS) development will accomplish test and evaluation of the AGCAS system on F-16 Block 25/30/32 aircraft. Contracts with LM, flight test, and engineering contractor were awarded in 2018.

DRWR is organically being integrated on the F-16 by F-16 System Program Office (AFLCMC/WWM) and the Electronic Warfare and Avionics (EW&A) System Program Office (AFLCMC/ WNY) at Robins AFB, GA. The ALR-69A production contract (managed by AFLCMC/WNY) was awarded on 30 March 2018 to Raytheon, Goleta, CA (CAGE CD 06129).

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The ALR-69A software is organically managed by AFLCMC/WNY utilizing the 579 SWES (Software Maintenance) team and the OEM Raytheon, Goleta, CA. The ALR-69A hardware is sustained by the 408 SCMS (Supply Chain) and 402 AMXG (Hardware Maintenance) at Robins AFB, GA.

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 Compatibility (RFC).

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2021 Air Force **Date:** February 2020

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Product Development (\$ in Millions)				FY 2019		FY 2020		FY 2021 Base		FY 2021 OCO		FY 2021 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
Product Development	C/CPAF	Not specified. : TBD	-	-		-		-		-		-	Continuing	Continuing	-
OFP Updates on F-16 aircraft	Various	309th SMG : Hill AFB, UT	-	86.221	Oct 2018	73.369	Oct 2019	74.484	Oct 2020	-		74.484	Continuing	Continuing	-
MMC Upgrade / Display Generator Upgrade	Various	Various : Various	-	14.298	Dec 2018	3.837	Nov 2019	5.846	Nov 2020	-		5.846	Continuing	Continuing	-
EMD HW / Advanced Capabilities	Various	Various : Various	-	-		0.200	Aug 2020	0.200	Aug 2021	-		0.200	Continuing	Continuing	-
Simulator Trainers	Various	Various : Various	-	13.323	Jan 2019	14.594	Nov 2019	4.469	Nov 2020	-		4.469	Continuing	Continuing	-
AESA Radars	Various	Various : Various	-	1.994	Feb 2019	65.149	Nov 2019	38.842	Nov 2020	-		38.842	Continuing	Continuing	-
Digital Radar Warning Receiver	Various	Various : Various	-	32.719	Sep 2019	0.001	Mar 2020	70.376	Mar 2021	-		70.376	Continuing	Continuing	-
Comm Suite Radio Upgrade	Various	Various : Various	-	-		5.099	Jan 2020	0.171	Jan 2021	-		0.171	Continuing	Continuing	-
MIDS JTRS	Various	Various : Various	-	3.728	Sep 2019	-		-		-		-	Continuing	Continuing	-
Subtotal			-	152.283		162.249		194.388		-		194.388	Continuing	Continuing	N/A

Test and Evaluation (\$ in Millions)				FY 2019		FY 2020		FY 2021 Base		FY 2021 OCO		FY 2021 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	C/CPAF	Not specified. : TBD	-	-		-		-		-		-	Continuing	Continuing	-
Flight Tests	Various	Various : Various	-	16.845	Nov 2018	17.613	Jan 2020	15.675	Jan 2021	-		15.675	Continuing	Continuing	-
Subtotal			-	16.845		17.613		15.675		-		15.675	Continuing	Continuing	N/A

Management Services (\$ in Millions)				FY 2019		FY 2020		FY 2021 Base		FY 2021 OCO		FY 2021 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
Management Services	C/CPAF	Not specified. : TBD	-	-		-		-		-		-	Continuing	Continuing	-

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Exhibit R-4, RDT&E Schedule Profile: PB 2021 Air Force **Date:** February 2020

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207133F / <i>F-16 Squadrons</i>	Project (Number/Name) 672671 / <i>F-16 Squadrons</i>
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FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025			
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

	FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025			
<i>F-16 Development Efforts</i>																												
MMC Upgrade Trial Vehicle Install C Model								■																				
M7.2 OFP Field			■	■																								
Communication Suite Upgrade Pre-block Fielding																												
AESA JEON Initial Fielding			■	■																								
Digital Radar Warning Receiver Flt Test Complete								■																				
SCU 11 OFP Fielding			■	■																								
Digital Radar Warning Receiver Fielding Recommendation																■												
M7.3/8.03 OFP Fielding												■																
M8.1 OFP Fielding																												■

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Exhibit R-4A, RDT&E Schedule Details: PB 2021 Air Force **Date:** February 2020

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207133F / <i>F-16 Squadrons</i>	Project (Number/Name) 672671 / <i>F-16 Squadrons</i>
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Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>F-16 Development Efforts</i>				
MMC Upgrade Trial Vehicle Install C Model	3	2020	3	2020
M7.2 OFP Field	3	2019	1	2020
Communication Suite Upgrade Pre-block Fielding	4	2021	4	2025
AESA JEON Initial Fielding	4	2019	4	2021
Digital Radar Warning Receiver Flt Test Complete	3	2020	1	2021
SCU 11 OFP Fielding	1	2020	2	2023
Digital Radar Warning Receiver Fielding Recommendation	2	2022	2	2022
M7.3/8.03 OFP Fielding	3	2021	4	2021
M8.1 OFP Fielding	4	2024	4	2024