Exhibit R-2, RDT&E Budget Item Justification: PB 2023 Air Force	Date: April 2022
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0207134F / *F-15E Squadrons*

COST ($ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
Total Program Element	0.000	230.299	239.616	213.272	0.000	213.272	51.969	41.609	41.627	31.306	Continuing	Continuing
676020: *F-15 Modernization*	0.000	230.299	239.616	213.272	0.000	213.272	51.969	41.609	41.627	31.306	Continuing	Continuing

A. Mission Description and Budget Item Justification

The F-15 is the most versatile fighter in the world today. The F-15C/D continues to provide air superiority with an undefeated and unmatched aerial combat record. The F-15E retains this air superiority capability and adds systems, such as advanced imaging and targeting systems, to meet the requirement for all-weather, deep-penetration, and night/under-the-weather, air-to-surface attack. Configured with conformal fuel tanks (CFTs), the F-15E deploys worldwide with minimal tanker support and arrives combat-ready. A mainstay in operations both domestic and abroad, a refresh of older F-15C/D aircraft with the F-15EX and upgrades to newer F-15C/D aircraft and F-15E aircraft (avionics, armament, airframe, and engines) are critical to maintaining combat viability (lethality, survivability, and supportability) in support of the 2022 National Defense Strategy. With the F-15E projected to remain in service past 2040, avionics modernization is key to long-term weapon system viability. This modernization is built on a foundation of technical and acquisition support studies (both internal to the Air Force and through outside contractors), forestalling obsolescence, exploiting proven technological advances, and leveraging new technology. Major avionics upgrades center around radar modernization (both hardware and software upgrades) and the exploitation of enhanced capability via precision timing, data delivery and processing technology, precision registration systems, cockpit Heads Up Display (HUD) and Heads Down Display, instrumentation digitization and modernization, central computer processing power increases, digital mission event recording systems and an infrared (IR)-based fire control system. The proliferation of fourth-generation enemy aircraft and sophisticated "double-digit" anti-aircraft missile systems pose a significant threat to F-15 survivability. A fully integrated electronic warfare suite holds the promise of providing survivability as well as expanded electronic attack capability. Nearly all improvements are linked to an aircraft operational flight program update schedule that works to integrate new capabilities with the airframe. These updates are a responsive way to increase the offensive and defensive capability and survivability of the F-15. Incorporation of corresponding spiral and/or phased technology/equipment improvements that include support equipment, mission planning systems, and training device upgrades will improve performance, supportability, and aircrew training. Funds may be used to resolve emerging safety of flight and diminishing manufacturing sources issues, accommodate technology insertion, and fulfill FAA or other mandates necessary to ensure continued aircrew safety and mission effectiveness. This includes technical and acquisition-related studies to ensure F-15E lethality and survivability beyond 2040.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such programs funds would be in addition to the civilian pay expenses budgeted in program element 0605831F. In FY21 $4.15M was expended for civilian pay expenses in this program element, and in FY22 $4.265M is forecasted for civilian pay expenses in this program element.

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.

Exhibit R-2, RDT&E Budget Item Justification: PB 2023 Air Force					Date: April 2022
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*		R-1 Program Element (Number/Name) PE 0207134F / *F-15E Squadrons*			
B. Program Change Summary ($ in Millions)	**FY 2021**	**FY 2022**	**FY 2023 Base**	**FY 2023 OCO**	**FY 2023 Total**
Previous President's Budget	288.381	239.616	0.000	0.000	0.000
Current President's Budget	230.299	239.616	213.272	0.000	213.272
Total Adjustments	-58.082	0.000	213.272	0.000	213.272
• 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	-58.082	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	0.000	0.000	213.272	0.000	213.272

Change Summary Explanation

FY2021 reductions on reprogramming packages FY21_16PA and FY22_05 PA.

The FY 2022 President's Budget submittal did not reflect FY 2023 through FY 2026 funding. Therefore, an explanation of the change between the two budget positions for FY2023 cannot be made in a relevant manner.

Exhibit R-2A, RDT&E Project Justification: PB 2023 Air Force			Date: April 2022
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207134F / *F-15E Squadrons*	Project (Number/Name) 676020 / *F-15 Modernization*	

COST ($ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
676020: *F-15 Modernization*	0.000	230.299	239.616	213.272	0.000	213.272	51.969	41.609	41.627	31.306	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

These development efforts include F-15 Radar Enhancements Electronic Protection (EP) capabilities, Operational Flight Program (OFP) upgrades, Flight Testing, Infrared Search and Track (IRST), Multifunctional Information Distribution System-Joint Technical Radio System (MIDS-JTRS) and Mobile User Objective System (MUOS)/Second Generation Anti-jam Tactical UHF Radio for NATO (SATURN). Funds may be used to resolve emerging safety of flight and diminishing manufacturing sources issues, accommodate technology insertion and fulfill FAA or other mandates necessary to ensure continued aircrew safety and mission effectiveness.

The Radar Enhancements (EP) will upgrade the digital Active Electronic Scanned Array (AESA) radar capabilities to counter sophisticated electronic threats. Prior OFP's introduced EP into the C/D-model fleet. Initial EP capability for APG-82(V)1 equipped E model aircraft took place in Suite 8E. Suite 9 and beyond will add additional EP capability to both the F-15E and F-15C.

For the F-15 to maintain operational effectiveness, the program must continuously provide the platforms with improved capabilities. To accomplish this there is an on-going need to develop software and hardware upgrades and to flight test new capabilities and systems. The OFP funding line is transitioning the Air Force to an annual software release to counter the speed of technology and maintain a competitive advantage. Additionally, the OFP provides the path for integration for other activities into operations. At any one time, there will normally be three OFP upgrades in work: one in requirements definition/pricing, one in code writing and test, and one in flight test and release preparation. The Flight Test funding line allows the Air Force to fund the on-going test effort.

Infrared Search and Track (IRST) system will provide air to air detection, tracking and ranging capability for F-15C/D/E in a radar-contested environment.

Mobile User Objective System (MUOS)/Second Generation Anti-jam Tactical UHF Radio for NATO (SATURN) will provide Satellite Communications (SATCOM) capable Air Force F-15C/D/E aircraft the ability to communicate on the Mobile User Objective System (MUOS) constellation in support of a NORTHCOM Airspace Control Alert (ACA) requirement. SATURN will replace the Have Quick II and comply with the NSA lease key mandated dates.

The Data Transfer Module II (DTM II) is an upgraded replacement to the current, low-memory data transfer system. Improves and supports mission planning capability and weapons employment, increases storage, replaces aging mapping system, updates interfaces, provides data encryption and delivers cyber security.

Modern high resolution Digital Color Displays will replace the current antiquated monochrome displays. These upgraded displays enable accurate distinction and identification of targets, decrease risk of fratricide/missed targeting, and enable full utilization of radar capability that significantly enhances situational awareness. Without new displays like the DCD program, F-15E will continue to operate with inadequate displays unable to take advantage of modernized radar and sensor capabilities to identify and engage targets. Without hi-res, color displays, F-15E aircrew operate with higher workloads and situational awareness limitations, which increase the risk of mission failure, aircraft loss, and fratricide caused by display targeting inaccuracies and threat depiction/Combat ID limitations.

Exhibit R-2A, RDT&E Project Justification: PB 2023 Air Force		Date: April 2022
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0207134F / *F-15E Squadrons*	**Project (Number/Name)** 676020 / *F-15 Modernization*

ALQ-128a will replace the legacy ALQ-128 design and includes development and integration of a re-designed ALQ-128a Electronic Warfare Warning Set (EWWS).

GPS M-Code will provide enhanced PNT capabilities and improved resistance to existing and emerging threats to GPS such as jamming and spoofing.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such programs funds would be in addition to the civilian pay expenses budgeted in program element 0605831F. In FY21 $4.15M was expended for civilian pay expenses in this program element, and in FY22 $4.265M is forecasted for civilian pay expenses in this program element.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Title: Operational Flight Program (OFP) Development Efforts	73.471	94.053	118.400
Description: Provides OFP program software and hardware updates to integrate new capabilities on all F-15 aircraft. This includes technical and acquisition related studies. ***FY 2022 Plans:*** Continue Suite development and integration of major line items, such as Data Transfer Module (DTM) II, Passive Attack Display (PAD), Eagle Passive/Active Warning Survivability System (EPAWSS), Multi-functional Information Distribution System (MIDS) - Joint Tactical Radio System (JTRS) MIDS-JTRS, implementing B61-12, F-15 EX, IRST (Infrared Search and track), etc.; all on the new Advanced Display Core Processor (ADCP) II mission computer. Continuation of radar updates being delivered along with continuation of organic software support and Special Projects development efforts and maintenance of developmental labs. Continuation of funding support for all F-15 trainers and ongoing Problem Report (PR) and Deficiency Report (DR) fixes. Continue work on Future OFP's and award the Continuous Development & Integration (CD&I) contract to take advantage of industries cutting edge knowledge and provide greater flexibility and resilience to the F-15. Perform technical and acquisition related studies to ensure F-15 lethality and survivability beyond 2040. Continue integration efforts to ensure system wide acceptance of new hardware/software and desired capabilities. Continue to support Program Management Activities in support of the OFP's and the F-15. ***FY 2023 Plans:*** Continue Suite development and integration of major line items, such as Data Transfer Module (DTM) II, Passive Attack Display (PAD), Eagle Passive/Active Warning Survivability System (EPAWSS), Multi-functional Information Distribution System (MIDS) - Joint Tactical Radio System (JTRS) MIDS-JTRS, implementing B61-12LEP, F-15 EX, IRST (Infrared Search and track); all on the new Advanced Display Core Processor (ADCP) II mission computer. Continuation of radar updates being delivered along with continuation of organic software support and Special Projects development efforts and maintenance of developmental labs. Continuation of funding support for all F-15 trainers and ongoing Problem Report (PR) and Deficiency Report (DR) fixes. Continue work on Future OFP's and award the Continuous Development & Integration (CD&I) contract to take advantage of industries cutting edge knowledge and provide greater flexibility and resilience to the F-15. Perform technical and acquisition related studies to ensure F-15 lethality and survivability beyond 2040. Continue integration efforts to ensure system wide acceptance of new			

Exhibit R-2A, RDT&E Project Justification: PB 2023 Air Force		Date: April 2022
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0207134F / *F-15E Squadrons*	**Project (Number/Name)** 676020 / *F-15 Modernization*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
hardware/software and desired capabilities. Continue to support Program Management Activities in support of the OFP's and the F-15. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding increase driven by S9.2 completion activities and the ramp up of the CD&I agile development program.			
Title: Flight Test ***Description:*** Flight Test Support improvements and sustainment. Baselined infrastructure and personnel support for F-15 Developmental Test (DT) and Operational Test (OT) operations. Purchase long-lead test support assets and unique lab and test aircraft instrumentation. ***FY 2022 Plans:*** F-15 Flight Test Support continues to provide contractor support cadre at Eglin and Nellis for DT/OT support, avionics integration, lab O&M, CTF O&M, and long lead test unique equipment; i.e., program specific aircraft instrumentation, weapons instrumentation kits, data reduction/handling equipment. Repair test aircraft data recording instrumentation. Continue procurement and replacement of test aircraft obsolete instrumentation. Continue Richter Lab modernization and sustainment provisions and acquisition of resources needed to maintain a robust test capability for the entire F-15 Test fleet. Continue support to 896 TSS to maintain manpower for F-15 Test fleet modernization activity. ***FY 2023 Plans:*** F-15 Flight Test Support continues to provide contractor support cadre at Eglin and Nellis for DT/OT support, avionics integration, lab O&M, CTF O&M, and long lead test unique equipment; i.e., program specific aircraft instrumentation, weapons instrumentation kits, data reduction/handling equipment. Repair test aircraft data recording instrumentation. Continue procurement and replacement of test aircraft obsolete instrumentation. Continue Richter Lab modernization and sustainment provisions and acquisition of resources needed to maintain a robust test capability for the entire F-15 Test fleet. Continue support to 896 TSS to maintain manpower for F-15 Test fleet modernization activity. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Nominal increase that maintains flight test activities	30.811	20.063	20.065
Title: F-15 Radar Enhancements ***Description:*** Improvements to F-15 Radar Enhancements (EP). This includes technical and acquisition related studies. ***FY 2022 Plans:*** Continue implementation of EP/Electronic Warfare (EW) into OFP's. Continue Special Projects testing support. Continue EP/ EW and Combat ID candidate risk reduction for future OFP integration. Continue to study and analyze F-15 radar performance and utilization against current and future threat baselines. Continue to develop and test radar technology candidates for future	57.958	71.166	10.000

Exhibit R-2A, RDT&E Project Justification: PB 2023 Air Force		Date: April 2022
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0207134F / *F-15E Squadrons*	**Project (Number/Name)** 676020 / *F-15 Modernization*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
integration in accordance with ACC's F-15 roadmap and threat analysis. This includes technical and acquisition-related studies as well as EP/EW candidates (e.g. ALQ-128). Continue integration efforts to ensure system wide acceptance of new hardware/ software and desired capabilities and maintain developmental labs with latest capabilities. ***FY 2023 Plans:*** Continue implementation of EP/Electronic Warfare (EW) into OFP's. Continue Special Projects testing support. Continue EP/ EW and Combat ID candidate risk reduction for future OFP integration. Continue to study and analyze F-15 radar performance and utilization against current and future threat baselines. Continue to develop and test radar technology candidates for future integration in accordance with ACC's F-15 roadmap and threat analysis. This includes technical and acquisition-related studies as well as EP/EW candidates (e.g. ALQ-128). Continue integration efforts to ensure system wide acceptance of new hardware/ software and desired capabilities and maintain developmental labs with latest capabilities. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding decrease driven by reduced efforts as a result of higher Air Force priorities.			
Title: F-15 Infrared Search and Track (IRST) ***Description:*** The Infrared Search and Track (IRST) system provides F-15C/D/E/EX's with the capability to detect and track objects by infrared radiation. This capability complements the radar to enhance survivability and lethality against air-to-air threats, air-to-ground targeting, provides a passive infrared sensor system that searches for and detects infrared radiation, and provides the aircraft mission computer track file data on infrared targets. The IRST system further adds capability for the F-15 as a 4th generation fighter by supporting 5th/6th generation fighters to increase their lethality and survivability. ***FY 2022 Plans:*** Continue integration of the Infrared Search and Track (IRST) system into 9.2 OFP and finalize documentation to support IRST system fielding. Continue integration of IRST with other F-15 advanced sensors. Continue efforts and planning to integrate future IRST capability into the next major block upgrade to ensure system wide acceptance of new hardware/software and desired capabilities. ***FY 2023 Plans:*** Continue integration of the Infrared Search and Track (IRST) system into 9.2 OFP and finalize documentation to support IRST system fielding. Continue integration of IRST with other F-15 advanced sensors. Continue efforts and planning to integrate future IRST capability into the next major block upgrade to ensure system wide acceptance of new hardware/software and desired capabilities. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding increase driven by requirement to align funds to completion of 9.2 OFP.	14.945	22.323	27.000
Title: Mobile User Objective System (MUOS)/Second Generation Anti-jam Tactical UHF Radio for NATO(SATURN)	29.093	11.660	-

Exhibit R-2A, RDT&E Project Justification: PB 2023 Air Force		Date: April 2022
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0207134F / *F-15E Squadrons*	**Project (Number/Name)** 676020 / *F-15 Modernization*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Description: Description: To enable F-15C/D/E's with MUOS/SATURN capability to replace the current UHF Follow-On (UFP) satellite system, the Have Quick II, and comply with the NSA Lease Key mandate dates. ***FY 2022 Plans:*** Continue MUOS ESIL testing/development activities under the Suite 9.2 program. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding decrease due to entering final stages of development and testing for S9.2 integration of the MUOS program.			
Title: F-15 Multifunctional Information Distribution System - Joint Tactical Radio System (MIDS JTRS) ***Description:*** This upgrade integrates and installs a new Link 16 system on the F-15C & F-15E that complies with an NSA mandate on cryptographic modernization and an FAA mandate on frequency remapping. The FAA mandate requires all fielded Link-16 terminals incorporate the frequency re-mapping capability by 2025. ***FY 2022 Plans:*** N/A ***FY 2022 to FY 2023 Increase/Decrease Statement:*** N/A	8.784	0.000	-
Title: F-15 Digital Color Displays ***Description:*** The DCD program replaces 1980s-era low-resolution color and monochrome analog F-15E displays with modern, high-resolution digital color displays. The new displays fully realize the potential of Air Force investments in current and future sensor capabilities to include: modern AESA radar, advanced targeting pod, ASQ-236 Reece pod, Link-16/MIDS-JTRS situational display, EPAWSS, and advanced Combat Identification systems. Enhanced sensor data display capabilities will significantly enhance aircrew situational awareness and vastly improve targeting effectiveness and threat warning. ***FY 2022 Plans:*** Continue risk reduction activities for group A hardware design, including technical and acquisition-related studies into all hardware and software changes needed to enable high-speed data transfer from weapons stations to the ADCP II, and high definition imagery on the upgraded displays and video recorder. Continue design of test facility upgrades and funding of software design and development activities with the Continuous Development & Integration (CD&I) effort in support of upgraded display capability integration. Fund EMD proposal development activities, to include competitively selecting a vendor for the Group B LRUs, and conduct strategy and document development and updating in support of an FY23 MS B decision. Begin test planning activities in support of DCD Phase 1 and Phase 2 lab, development, and operational testing, to include system security assessments. ***FY 2023 Plans:***	3.470	19.964	4.381

Exhibit R-2A, RDT&E Project Justification: PB 2023 Air Force		Date: April 2022
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0207134F / *F-15E Squadrons*	**Project (Number/Name)** 676020 / *F-15 Modernization*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Award EMD contract for continued Group A and Group B development, including continuing studies to identify opportunities for reducing program schedule and/or DCD lifecycle costs. Procure long-lead hardware items for test articles. Continue design and integration of test and training equipment and facilities. Continue funding CD&I software development, integration, and test activities in support of DCD Group A and Group B hardware integration. Continue planning for lab, development, and operational testing, to include system security assessments. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding decrease driven by reduced efforts as a result of higher Air Force priorities.			
Title: F-15E Data Transfer Module II ***Description:*** The Data Transfer Module II (DTM II) is an upgraded replacement to the current, low-memory data transfer system. Improves and supports mission planning capability and weapons employment, increases storage, replaces aging mapping system, updates interfaces, provides data encryption and delivers cyber security. ***FY 2022 Plans:*** Integration with S9.2 continues. ***FY 2023 Plans:*** This funding will enable completing DRs and updates resulting from the FCA/PCA/MRA and VAL/VER activities ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Increase due to completing DRs and updates resulting from the FCA/PCA/MRA and VAL/VER activities.	11.767	0.387	1.821
Title: GPS M-Code / R-EGI ***Description:*** Provide enhanced PNT capabilities and improved resistance to existing and emerging threats to GPS such as jamming and spoofing. Agile development with Open System Architecture (OSA) to work industry interfaces to allow for resilient PNT and cyber capabilities. Expand Government-owned engineering and design to provide a truly modular solution. ***FY 2022 Plans:*** Analyze and examine R-EGI white paper results accomplished through collaboration with EX platform. Consultation with leadership and ACC regarding development of requirements documents. Coordinate with EX platform and IPT to determine form factor and quantity needed for E model and EX model aircraft. Explore ability to capitalize on existing PNT IDIQ contracts to improve schedule. ***FY 2023 Plans:***	-	0.000	31.605

Exhibit R-2A, RDT&E Project Justification: PB 2023 Air Force		Date: April 2022
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0207134F / *F-15E Squadrons*	**Project (Number/Name)** 676020 / *F-15 Modernization*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Initiate Delivery Order on PNT IDIQ contract to reduce time to field solution. Discuss and review delta hardware and software components and requirements from analogous Government owned solutions. Mature capabilities and review designs to validate proposed solution meets requirements. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** GPS M-Code is an FY23 New start. No funding required for FY22.			
Accomplishments/Planned Programs Subtotals	230.299	239.616	213.272

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
• APAF 01 F015E0: *F-15EX*	-	-	-	-	-	-	-	-	-	0.000	0.000
• APAF 05 F015EX: *F-15EX*	1,403.347	1,346.022	-	-	-	-	-	-	-	Continuing	Continuing
• RDTE 07 0207146F: *F-15EX*	159.761	-	-	-	-	-	-	-	-	0.000	159.761
• APAF 05 Line Item F01500: *F-15 Modification of In-Service Aircraft, PEs 0207130, 0207134, 0207445, 0809731*	203.910	234.340	183.813	-	183.813	157.480	60.196	187.722	28.952	Continuing	Continuing
• APAF 06 Line Item 000999: *Initial Spares/Repair Parts (BP16)*	48.440	20.515	21.306	-	21.306	20.611	-	-	-	Continuing	Continuing
• APAF 07 Line Item F0150P: *F-15 Post Production Support*	2.632	2.324	2.679	-	2.679	-	-	-	-	Continuing	Continuing
• APAF 07 PE 0207040F: *Multi-Platform Electronic Warfare Equipment BPAC 190000*	-	-	-	-	-	-	-	-	-	0.000	0.000

Remarks

D. Acquisition Strategy

Program is a continuation of effort which includes the development of all F-15 models. Funds are executed organically in support of equipment improvement, study, analysis, and test. Acquisition and management strategies for each program are independently developed and use a variety of contract methods and types to accomplish program objectives.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Air Force		Date: April 2022
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0207134F / *F-15E Squadrons*	**Project (Number/Name)** 676020 / *F-15 Modernization*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Product Development	C/CPAF	Not specified. : TBD	0.000	-		-		-		-		-	0.000	0.000	-
OFP Suite 8/9/CD&I Development and Test	SS/ Various	Boeing : St. Louis, MO	0.000	70.365	Jun 2021	89.786	Jun 2022	114.805	Jun 2023	-		114.805	Continuing	Continuing	-
F-15 Radar Enhancement	SS/ Various	Boeing : St Louis, MO	0.000	54.853	Aug 2021	69.838	Aug 2022	10.000	Aug 2023	-		10.000	Continuing	Continuing	-
F-15 Infrared Search and Track	SS/ Various	Boeing : St Louis, MO	0.000	13.945	Feb 2021	20.323	Feb 2022	25.000	Feb 2023	-		25.000	Continuing	Continuing	-
Multifunctional Information Distribution System-Joint Technical Radio System (MIDS-JTRS)	SS/ Various	Boeing : St. Louis, MO	0.000	8.784	Feb 2021	-		-		-		-	Continuing	Continuing	-
Service Life Extension Program (SLEP) Wing Replacement	TBD	Not specified. : NV	0.000	-		-		-		-		-	0.000	0.000	-
Cabin Pressure Indicator	TBD	TBD : Various	0.000	-		-		-		-		-	0.000	0.000	-
Mobile User Objective System (MUOS) /Second Generation Anti-jam Tactical UHF Radio for NATO (SATURN)	C/CPAF	Boeing : St. Louis	0.000	28.709	Oct 2021	11.660		-		-		-	Continuing	Continuing	-
F-15E Digital Color Display	TBD	TBD : TBD	0.000	3.470	Oct 2020	19.964	Sep 2022	4.381	Sep 2023	-		4.381	Continuing	Continuing	-
F-15E Data Transfer Module II	TBD	TBD : TBD	0.000	11.767	Jan 2021	0.387	Jan 2022	1.821		-		1.821	Continuing	Continuing	-
ALQ-128a	TBD	TBD : TBD	0.000	-		-		-		-		-	0.000	0.000	-
JASSM ER	TBD	TBD : TBD	0.000	-		-		-		-		-	0.000	0.000	-
GPS M-Code	TBD	TBD : TBD	0.000	-		-		29.605	Dec 2022	-		29.605	0.000	29.605	-
		Subtotal	0.000	191.893		211.958		185.612		-		185.612	Continuing	Continuing	N/A

Remarks

The individual program reference to "various" contract methods addresses other government costs for trainers, test, hardware, special studies, telemetry kits, etc. that are required to meet each program's objectives. The execution vehicles between these DoD entities vary by effort.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Air Force		Date: April 2022
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0207134F / *F-15E Squadrons*	**Project (Number/Name)** 676020 / *F-15 Modernization*

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test and Evaluation	C/CPAF	Not specified. : TBD	0.000	-		-		-		-		-	0.000	0.000	-
Boeing (Contractor Test Support)	SS/CPFF	Boeing : St. Louis, MO	0.000	30.811	Aug 2021	20.063	Aug 2022	20.065	Aug 2023	-		20.065	Continuing	Continuing	-
		Subtotal	0.000	30.811		20.063		20.065		-		20.065	Continuing	Continuing	N/A

Remarks

The individual program reference to "various" contract methods addresses other government costs for trainers, test, hardware, special studies, telemetry kits, etc. that are required to meet each program's objectives. The execution vehicles between these DoD entities vary by effort.

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Management Services	C/CPAF	Not specified. : TBD	0.000	-		-		-		-		-	0.000	0.000	-
Program Mgt Support Costs	Various	Various : Various	0.000	7.595	Sep 2021	7.595	Sep 2022	7.595	Sep 2023	-		7.595	Continuing	Continuing	-
		Subtotal	0.000	7.595		7.595		7.595		-		7.595	Continuing	Continuing	N/A

Remarks

The individual program reference to "various" contract methods addresses other government costs for trainers, test, hardware, special studies, telemetry kits, etc. that are required to meet each program's objectives. The execution vehicles between these DoD entities vary by effort.

	Prior Years	FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	230.299		239.616		213.272		-		213.272	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Air Force		Date: April 2022
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0207134F / *F-15E Squadrons*	**Project (Number/Name)** 676020 / *F-15 Modernization*

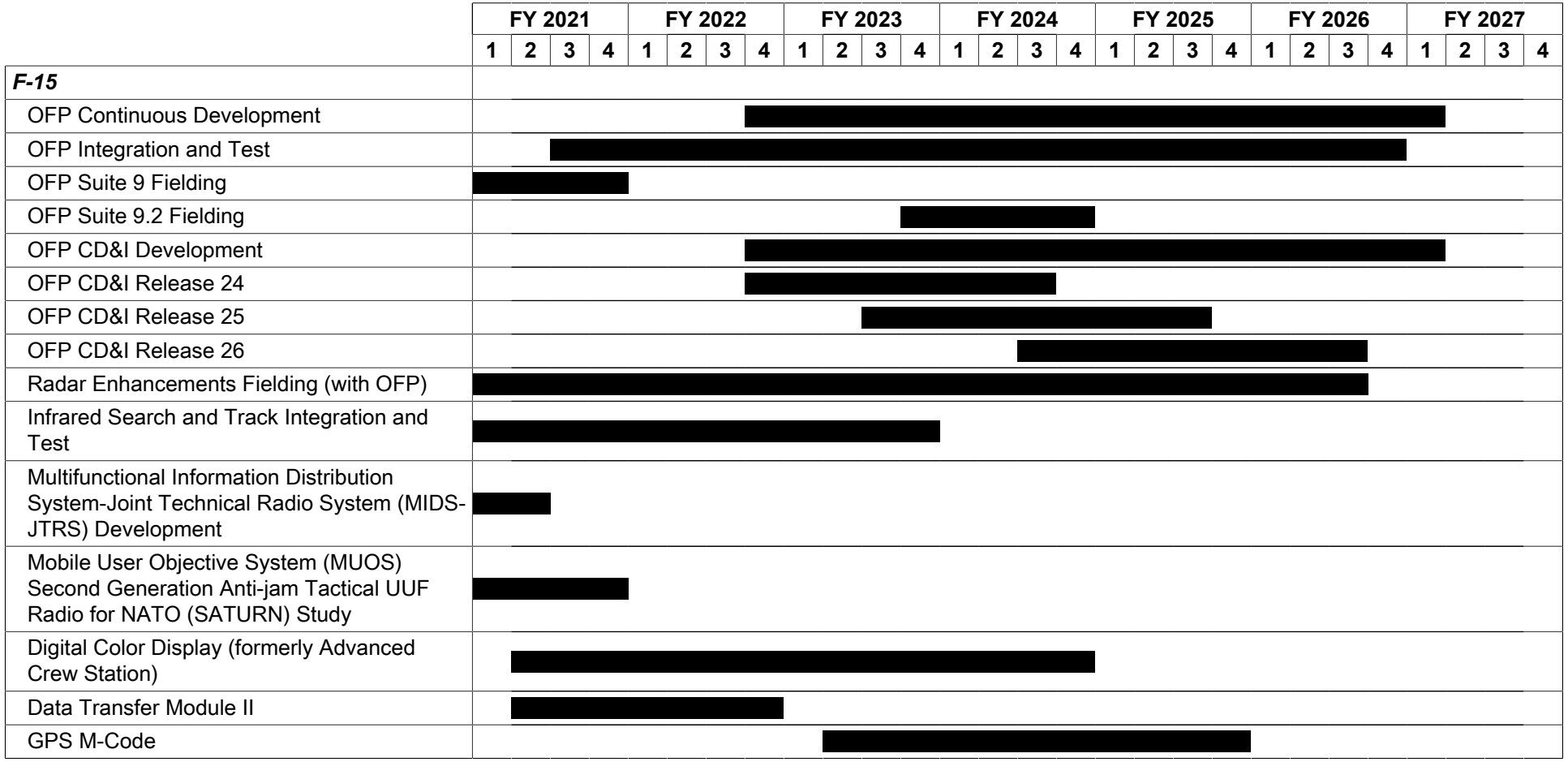

Exhibit R-4A, RDT&E Schedule Details: PB 2023 Air Force		Date: April 2022
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0207134F / *F-15E Squadrons*	**Project (Number/Name)** 676020 / *F-15 Modernization*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
F-15				
OFP Continuous Development	4	2022	1	2027
OFP Integration and Test	3	2021	4	2026
OFP Suite 9 Fielding	1	2021	4	2021
OFP Suite 9.2 Fielding	4	2023	4	2024
OFP CD&I Development	4	2022	1	2027
OFP CD&I Release 24	4	2022	3	2024
OFP CD&I Release 25	3	2023	3	2025
OFP CD&I Release 26	3	2024	3	2026
Radar Enhancements Fielding (with OFP)	1	2021	3	2026
Infrared Search and Track Integration and Test	1	2021	4	2023
Multifunctional Information Distribution System-Joint Technical Radio System (MIDS-JTRS) Development	1	2021	2	2021
Mobile User Objective System (MUOS) Second Generation Anti-jam Tactical UUF Radio for NATO (SATURN) Study	1	2021	4	2021
Digital Color Display (formerly Advanced Crew Station)	2	2021	4	2024
Data Transfer Module II	2	2021	4	2022
GPS M-Code	2	2023	4	2025