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 0205219F / *MQ-9 UAV*							
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	103.245	79.121	98.499	0.000	98.499	80.940	44.674	45.606	46.621	278.285	776.991
675212: *MQ-9 SLAM*	0.000	24.628	38.327	61.358	0.000	61.358	80.663	44.417	45.313	46.321	242.071	583.098
675246: *MQ-9 Development and Fielding*	0.000	4.144	1.680	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	5.824
675247: *Squadron Operations Centers (SOC)*	0.000	0.000	0.251	0.268	0.000	0.268	0.277	0.257	0.293	0.300	1.053	2.699
675249: *MQ-9 Upgrade*	0.000	74.473	38.863	36.873	0.000	36.873	0.000	0.000	0.000	0.000	35.161	185.370
Program MDAP/MAIS Code: 424												

A. Mission Description and Budget Item Justification

The basic MQ-9 Reaper system consists of the aircraft, sensors, Ground Control Station (GCS), communications equipment, weapon kits, support equipment, simulator and training devices, Readiness Spares Packages (RSP), technical data/training, and personnel required to operate, maintain, and sustain the system. The system is designed to be modular and open-ended. Mission-specific equipment is employed in a plug-and-play mission kit concept allowing specific aircraft and GCS configurations to be tailored to fit mission needs.

The MQ-9 Reaper system has four separate development programs. This PE includes:
1. MQ-9 System Lifecycle Agile Modernization (SLAM). This effort is to develop improvements for existing systems and to field new capabilities for the baseline MQ-9 fleet using an Agile Acquisition Strategy to include concept exploration for Torrential Apex, a Next-Gen Multi-Role UAS.
2. MQ-9 Development and Fielding. This effort is for development and fielding of the baseline MQ-9 aircraft and GCSs and associated communications systems, sensors, payloads, simulators, support equipment, and resolving Diminishing Manufacturing Sources (DMS) issues.
3. Squadron Operations Centers (SOC). This effort is for development and fielding of standardized operations centers. SOCs contain the equipment necessary for remote split operations, to provide mission data and tasking information to aircrew, and to disseminate and/or exchange mission data with decision-makers and the intelligence community.
4. MQ-9 Upgrade. This effort is to develop improvements for existing systems and to field new capabilities for the baseline MQ-9 fleet using an Agile Acquisition Strategy.

The Air Force established the MQ-9 Multi-Domain Operation (M2DO) aircraft configuration which consisted of multiple projects intended to keep the platform viable in the wide-spectrum of armed conflict. The configuration included Anti-Jam Global Positioning System, Enhanced Power, Link 16, Open Mission System/Stellar Relay, Signal Excision, Digital Spread Spectrum Signal, Enhanced Line of Site, Enhanced Auto-Takeoff and Landing, Enhanced Autonomy (including Intelligence Electronic Units). The number of M2DO aircraft, and final capabilities within this configuration, are subject to change as requirements evolve.

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 0205219F / *MQ-9 UAV*

MQ-9 Development funding also supports innovation activities to include studies, analyses, requirements definition, and quick-reaction capability prototypes/ demonstrations to accelerate planning for technology transition, technology insertion and future acquisition programs.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver MQ-9 WEAPON SYSTEM capabilities. The use of such program funds would be in addition to the civilian pay expenses budgeted in program element 0605831F. In PY $1.336M and in CY $2.268M 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.

B. Program Change Summary ($ in Millions)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Previous President's Budget	106.885	85.135	0.000	0.000	0.000
Current President's Budget	103.245	79.121	98.499	0.000	98.499
Total Adjustments	-3.640	-6.014	98.499	0.000	98.499
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	-6.014			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	-0.001	0.000			
• SBIR/STTR Transfer	-3.639	0.000			
• Other Adjustments	0.000	0.000	98.499	0.000	98.499

Change Summary Explanation

FY23 Base

- 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. Change in FY2021 President's Budget reprogramming is due to an unpaid bill, and the SBIR/SBTTR is due to small business taxes.

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 0205219F / *MQ-9 UAV*	Project (Number/Name) 675212 / *MQ-9 SLAM*	

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
675212: *MQ-9 SLAM*	0.000	24.628	38.327	61.358	0.000	61.358	80.663	44.417	45.313	46.321	242.071	583.098
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The MQ-9 System Lifecycle Agile Modernization (SLAM) Program develops and integrates improvements for existing systems and fields new capabilities for the MQ-9 fleet through an Agile Acquisition Strategy to meet evolving mission needs. SLAM includes concept exploration for Torrential Apex.

The objective is to enable rapid fielding of new software, hardware, and sustainability for integration into the MQ-9 fleet with requirements from the Candidate Capability List (CCL) that may include, but are not limited to, efforts to reduce system configurations; perform technology upgrades; increase pilot awareness and usability; improve reconnaissance targeting and exploitation; expand weapons system selection and lethality; enlarge suitability to varying operational theaters; improve security and self-protection; reduce logistics footprint; train the warfighter, and prototype.

Activities also include, but are not limited to, studies, analysis, simulations, demonstrations, prototyping and testing, use of subject matter experts agencies to develop and test all current and follow-on MQ-9 system capabilities which include, but are not limited to System Integration Laboratory (SIL)/ Hardware in the Loop Laboratory (HILL) and Detachment 3 (Det 3) improvements.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver MQ-9 WEAPON SYSTEM capability. The use of such program funds would be in addition to the civilian pay expenses budgeted in program element 0605831F.

Funding may be used to address Diminishing Manufacturing Source (DMS) and Non-Recurring Engineering issues.

Where appropriate, the MQ-9 Program of Record (PoR) and Air Force Special Operations Command (AFSOC) will cost share on joint efforts that are required by both programs to support new capabilities.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Title: MQ-9 SLAM	21.037	34.441	51.058
Description: Develops and integrates upgrade capabilities to support the MQ-9 modernization strategy. Development combines the rigor of an event driven development process (referred to as Technology Maturation Effort (TME)) with the expedited delivery of a schedule driven integration and fielding process. New capabilities include, but are not be limited to, upgrades of existing aircraft, Ground Control Station (GCS), communication, payload systems, software updates, and the resolution of Diminishing Manufacturing Sources (DMS) issues.			

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 0205219F / *MQ-9 UAV*	**Project (Number/Name)** 675212 / *MQ-9 SLAM*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Candidate Capabilities are determined by ACC and AFSOC direction and inputs that include Joint Urgent Operational Need (JUON) and Urgent Operational Need (UON) requests. Activities also include, but are not limited to, operator simulators, reliability and maintainability, test support, communications, and urgent services. During development, MQ-9 PoR and AFSOC will cost share on joint efforts that are required by both programs to support the new capabilities. Includes but is not limited to, program planning for Torrential Apex which explores Multi-Role UAS capabilities in a contested environment. ***FY 2022 Plans:*** Continue TME developing upgrade capabilities in conjunction with the CCL to include, but not limited to: • Weapons usability improvements • Unified Tactical Situational Awareness • Mode 5 • Ku or Global Positioning System (GPS) jamming • Data encryption, Identification Friend or Foe (IFF) ***FY 2023 Plans:*** M2DO capability upgrades for resilient C2, Open Mission System, and autonomy. Resolve DMS issues and continue upgrading mandated capabilities to include, but not limited to, Mode 5, data encryption, and weapons usability improvements. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding increased to support M2DO configuration and continuation of modernization efforts.			
Title: Reliability and Maintainability ***Description:*** Develops MQ-9 Reliability and Maintainability (R&M) improvements for aircraft and ground based infrastructure. Includes engineering change orders, studies, and general research. Addresses and resolves DMS issues. Funding was approved for this R&M effort in the FY20 appropriation. ***FY 2022 Plans:***	0.100	0.100	0.100

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 0205219F / *MQ-9 UAV*	**Project (Number/Name)** 675212 / *MQ-9 SLAM*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Continue to develop aircraft and ground based infrastructure to improve mission capable rates and reduce reliability and maintainability costs. Includes addressing and resolving DMS issues. ***FY 2023 Plans:*** Continue to develop aircraft and ground based infrastructure to improve mission capable rates and reduce reliability and maintainability costs. Includes addressing and resolving DMS issues. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Continue reliability and maintainability efforts.			
Title: Test Support ***Description:*** Provides support for, but is not limited to, activities for MQ-9 testing of weapon system hardware/software testing in accordance with (IAW) contract standards, developmental testing of new capabilities, and R&M upgrades. ***FY 2022 Plans:*** Continues to provide government agencies support for MQ-9 testing to include continued acceptance testing of weapon system hardware/software IAW with contract standards, developmental testing of new capabilities, and R&M improvements. ***FY 2023 Plans:*** Continues to provide government agencies support for MQ-9 testing to include continued acceptance testing of weapon system hardware/software IAW with contract standards, developmental testing of new capabilities, and R&M improvements. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding decreased with ramp down for MQ-9 SLAM test support	0.100	0.200	0.100
Title: Communications ***Description:*** Develops communications capabilities such as, but not limited to, network systems managers, SATCOM, and relay site upgrades. Includes drafting technical orders and support documentation, training materials, production drawings, and retrofit acceptance plans (e.g., Bandwidth Efficient Common Data Link (BE-CDL) Secure Voice Multi Level Security (MLS), ARC-210 Guard Squelch, and Secure Communications). ***FY 2022 Plans:*** Continue to develop communications capabilities on encrypted data links, terminal, command and control, ISR transmission, GCS communications, SATCOM, integrated IP-based network interfaces, primary data links, network system managers, operational durability, remote split operations, and support equipment. Also includes associated technical orders and flight manuals. ***FY 2023 Plans:***	0.100	0.100	0.100

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 0205219F / *MQ-9 UAV*	**Project (Number/Name)** 675212 / *MQ-9 SLAM*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Continue to develop communications capabilities on encrypted data links, terminal, command and control, ISR transmission, GCS communications, SATCOM, integrated IP-based network interfaces, primary data links, network system managers, operational durability, remote split operations, and support equipment. Also includes associated technical orders and flight manuals. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Continue development of communications capabilities.			
Title: Concept Exploration for Torrential Apex, a Next-Generation Multi-Role UAS. ***Description:*** Includes but is not limited to, program planning for Torrential Apex which explores Multi-Role UAS capabilities in a contested environment. ***FY 2022 Plans:*** Explores concepts for a potential next-generation Multi-Role UAS. Includes program planning; analysis of requirements, threat environments, and existing capability shortfalls; may include risk reduction studies and development to include assessments or prototype development. This effort does not establish a new UAS Program of Record. ***FY 2023 Plans:*** Explores concepts for a potential next-generation Multi-Role UAS. Includes program planning; analysis of requirements, threat environments, and existing capability shortfalls; may include risk reduction studies and development to include assessments or prototype development. This effort does not establish a new UAS Program of Record. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Development activities increased for studies, analysis, and prototyping Multi-Role UAS operations in a contested environment.	3.291	3.486	10.000
Accomplishments/Planned Programs Subtotals	24.628	38.327	61.358

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 06 PRDTB1: *MQ-9*	47.396	28.182	14.778	-	14.778	0.000	0.000	0.000	0.000	0.000	90.356
• APAF 05 PRDTB2: *MQ-9 Mods*	155.011	144.287	64.370	-	64.370	64.778	12.240	12.077	28.961	0.000	481.724

Remarks

PMA costs are included in Other Government Costs.

D. Acquisition Strategy

Acquisition of MQ-9 SLAM is accomplished via sole-source contracts with General Atomics-ASI, Raytheon, and L-3 Communications, prime contractors, and United States Government (USG) Labs. Management of development and fielding of new capabilities will be through an Agile Acquisition Strategy that combines the rigor of

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 0205219F / *MQ-9 UAV*	**Project (Number/Name)** 675212 / *MQ-9 SLAM*

an event driven development process (referred to as a Technology Maturation Effort (TME)) with the expedited delivery of a schedule driven integration and fielding process. This will allow continued baseline improvements while rapidly integrating limited urgent needs.

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 0205219F / *MQ-9 UAV*	**Project (Number/Name)** 675212 / *MQ-9 SLAM*

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
MQ-9 SLAM	SS/CPAF	GA-ASI : Poway, CA	0.000	20.133	Nov 2020	26.807	Nov 2021	45.598	Nov 2022	-		45.598	196.236	288.774	-
Reliability and Maintainability	SS/CPAF	GA-ASI : Poway, CA	0.000	0.100	Nov 2020	0.100	Nov 2021	0.100	Nov 2022	-		0.100	2.722	3.022	-
Communications	SS/CPAF	GA-ASI : Poway, CA	0.000	0.100	Jan 2021	0.100	Jan 2022	0.100	Jan 2023	-		0.100	0.934	1.234	-
Concept Exploration for Torrential Apex, a Next Generation Multi-Role UAS	Various	Various : Various	0.000	3.291	Jul 2021	3.486	Mar 2022	10.000	Mar 2023	-		10.000	0.000	16.777	-
		Subtotal	0.000	23.624		30.493		55.798		-		55.798	199.892	309.807	N/A

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 Support	Various	Various : Various	0.000	0.100	Jun 2021	0.200	Jun 2022	0.100	Jun 2023	-		0.100	1.655	2.055	-
		Subtotal	0.000	0.100		0.200		0.100		-		0.100	1.655	2.055	N/A

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
Other Government Costs	Various	Various : Various	0.000	0.904	Apr 2021	7.634	Apr 2022	5.460	Apr 2023	-		5.460	40.524	54.522	-
		Subtotal	0.000	0.904		7.634		5.460		-		5.460	40.524	54.522	N/A

	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	24.628		38.327		61.358		-		61.358	242.071	366.384	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 0205219F / *MQ-9 UAV*	**Project (Number/Name)** 675212 / *MQ-9 SLAM*

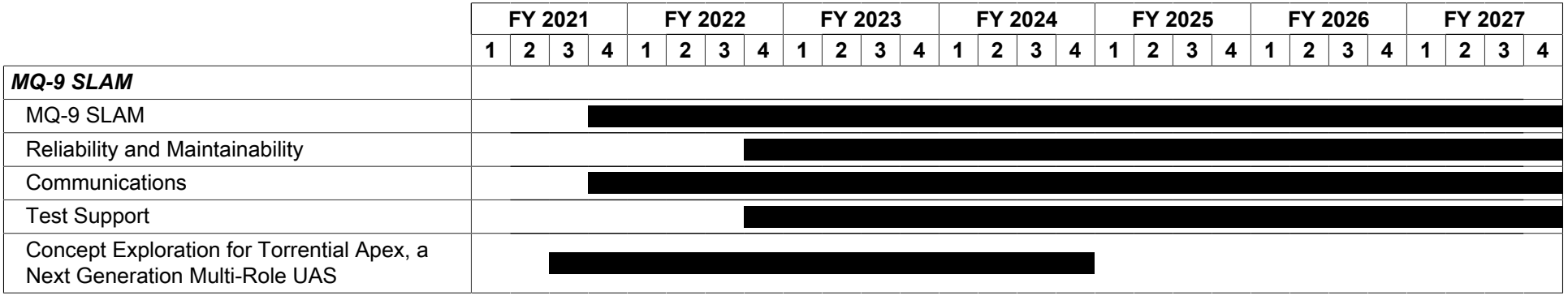

Exhibit R-4A, RDT&E Schedule Details: PB 2023 Air Force		Date: April 2022
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0205219F / *MQ-9 UAV*	**Project (Number/Name)** 675212 / *MQ-9 SLAM*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
MQ-9 SLAM				
MQ-9 SLAM	4	2021	4	2027
Reliability and Maintainability	4	2022	4	2027
Communications	4	2021	4	2027
Test Support	4	2022	4	2027
Concept Exploration for Torrential Apex, a Next Generation Multi-Role UAS	3	2021	4	2024

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 0205219F / *MQ-9 UAV*	Project (Number/Name) 675246 / *MQ-9 Development and Fielding*	

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
675246: *MQ-9 Development and Fielding*	0.000	4.144	1.680	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	5.824
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

Quantity of RDT&E Articles refers only to test aircraft.

In FY2023 Project "MQ-9 Development and Fielding" was completed.

A. Mission Description and Budget Item Justification

The basic MQ-9 Reaper system consists of the aircraft, sensors, Ground Control Station (GCS), communications equipment, weapon kits, support equipment, simulator and training devices, Readiness Spares Packages (RSP), technical data/training, and personnel required to operate, maintain, and sustain the system. The system is designed to be modular and open-ended. Mission-specific equipment is employed in a plug-and-play mission kit concept allowing specific aircraft and GCS configurations to be tailored to fit mission needs.

The MQ-9 Reaper aircraft is a single-engine, turbo-prop Remotely Piloted Aircraft (RPA) designed to operate over-the-horizon at medium-to-high altitude for long endurance sorties. The aircraft is designed to primarily prosecute critical emerging Time-Sensitive-Targets (TSTs) using a Synthetic Aperture Radar (SAR), Electro-optical/Infrared (EO/IR), and laser designator-based attack asset with on-board hard-kill weapon capability (hunter-killer). It also performs Intelligence, Surveillance, Reconnaissance, and Target Acquisition (ISR TA).

The MQ-9 system is continuing to develop and field capabilities to meet evolving mission needs through incremental upgrades, including but not limited to, increasing the maximum gross takeoff and landing weight; increasing operational range and endurance; propulsion system improvements; integrated redundant avionics; incorporating provisions for a Foreign Military Sales (FMS) exportable version of the weapon system; communications upgrades to include but not limited to datalink encryption, Internet Protocol (IP) networking, secure voice and data communications; navigation system upgrades; electrical system upgrades; sensor/stores management computer improvement; MIL STD-1760 advanced weapons data bus; advanced sensor and weapon payloads; improved human-machine interface (HMI); software updates needed to support new configurations and development; integrating additional precision weapons; and hardware and software upgrades to the GCS. The program will also complete airworthiness and weapon system certification and accreditation; produce applicable training for payloads funded in other program elements (e.g. SIGINT, communications, Wide Area Motion Imagery (WAMI), Near Vertical Direction Finding (NVDF), Gorgon Stare Quick Reaction Capability, advanced Counter-Improvised Explosive Device (C-IED), missile defense, hyperspectral, and other sensors and weapons). Development efforts will address reliability, maintainability, sustainability, Diminishing Manufacturing Sources (DMS), and safety issues. Activities also include, but are not limited to, trade studies, analyses, preliminary systems engineering, system and subsystem level testing in accordance with DoD and military standards, and specification development in support of both current program planning and execution, and studies supporting analysis and investment in future MQ-9 program planning.

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 0205219F / *MQ-9 UAV*	**Project (Number/Name)** 675246 / *MQ-9 Development and Fielding*

The GCS functions as the aircraft cockpit and can control the aircraft either within Line-of-Sight (LOS) or Beyond Line-of-Sight (BLOS) via a combination of satellite relay and terrestrial communication architectures. The GCS is either mobile to support forward operating locations or fixed at a facility to support reach back Remote Split Operations (RSO). The GCS has the capability to perform mission planning; provide a means for manual control; and enable personnel to launch, recover, and monitor aircraft, payloads, and system communications status. It incorporates secure data links to send aircraft and payload commands and receive system telemetry and payload data; monitors threats to the aircraft; displays the common operational picture; and provides support functions. Launch and Recovery GCS (LRGCS) is used for servicing, systems checks, maintenance, launch and recovery of aircraft under LOS control for hand-off to a mobile or fixed facility GCS, and conducting operations within LOS range of the LRGCS. GCS upgrades will be developed and fielded in coordination with improvements to other MQ-9 system capabilities and in response to evolving operational and information assurance/certification and accreditation requirements.

This project will also increase interoperability among developed systems by developing common standards and tools.

MQ-9 Program of Record (PoR) and Air Force Special Operations Command (AFSOC) will cost share during development, where appropriate, on joint efforts that are required by both programs to support the new capabilities.

Funding may be used to address DMS and Non-Recurring Engineering (NRE) issues.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver MQ-9 WEAPON SYSTEM capability. The use of such program funds would be in addition to the civilian pay expenses budgeted in program element 0605831F.

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. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Title: Ground Control Station (GCS) Development	0.042	0.000	0.000
Description: Develop GCS capabilities. Major capabilities include, but are not limited to, flight payload separation, open system architecture, processors, multi-level security, ergonomic cockpit design, single seat operations, reducing or eliminating known deficiencies in legacy GCS, and updates to facilitate single software. ***FY 2022 Plans:*** Will continue GCS design/development, manufacturing and testing to include, but not limited to: • Hardware/Software Development • Integration and test • Continue GCS Development Test assets • Continue Contractor test build • Maintenance evaluation team event • Military Flight Release			

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 0205219F / *MQ-9 UAV*	**Project (Number/Name)** 675246 / *MQ-9 Development and Fielding*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
• Resolution of DMS issues • Field Service Representative (FSR) support during IOT&E • Block 30 Articulating Arm • Block 30 Monitor • Processor(s) ***FY 2023 Plans:*** GCS Development is complete.			
Title: Release 1 and Release 2	4.102	1.680	0.000
Description: Release 1 and Release 2 continue execution of a subset of work previously performed under the System Developmemt and Demonstration (SDD) effort, while rapidly integrating upgrades or improvements (including limited urgent needs) fleet-wide. Development will combine the rigor of an event driven development process (referred to as a Technology Maturation Effort (TME)) with the expeditious delivery of a schedule driven integration and fielding process (referred to as a Release). These efforts may include, but are not limited to: Cryptographic Core Module (CCM), MTS-B Integration, Ground Control Station (GCS), Internet Protocol (IP) Migration, Synthetic Aperture Radar (SAR) Development, Extended Range, Station 1 & 7, Enablers Development, Multi Transit Ops, weapons integration, and testing on MQ-9 platform for capabilities such as rockets, missiles, bombs, guns and direct energy weapons, as well as software development required to support new capabilities. MQ-9 PoR and AFSOC will cost share during development, where appropriate, on joint efforts that are required by both programs to support the new capabilities. ***FY 2022 Plans:*** Continue developing and integrating the software and data to update the MQ-9 Block 5 UAS capabilities including, but not limited to: • Resolution of DMS issues • Cryptographic Core Module (CCM) • Expeditionary Line of Sight (E-LoS) System • System supportability analysis • Evaluation of design code software ***FY 2023 Plans:*** Release 1 and Release 2 Development is complete. ***FY 2022 to FY 2023 Increase/Decrease Statement:***			

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 0205219F / *MQ-9 UAV*	**Project (Number/Name)** 675246 / *MQ-9 Development and Fielding*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Release 1 and Release 2 Development is complete.			
Accomplishments/Planned Programs Subtotals	4.144	1.680	0.000

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 04 Line Item PRDTB1: *MQ-9*	338.120	3.288	17.041	-	17.041	-	-	-	-	0.000	358.449
• APAF 06 Line Item PRDTB1: *MQ-9 Spares*	47.396	28.182	14.778	-	14.778	-	-	-	-	0.000	90.356
• APAF 05 Line Item PRDTB2: *MQ-9 Mods*	155.011	144.287	64.370	-	64.370	64.778	12.240	12.077	28.961	0.000	481.724
• APAF 07 Line Item PRDTB1: *MQ-9*	26.585	26.596	7.074	-	7.074	0.000	0.000	0.000	-	0.000	60.255

Remarks

D. Acquisition Strategy

The MQ-9 Reaper system will be acquired via sole-source contracts with General Atomics Aeronautical Systems Inc. (GA-ASI), L3Comm, and Raytheon as the prime contractors. GA-ASI is the prime contractor for aircraft and ground control stations. GA-Mission Systems (GA-MS) is the prime contractor for Lynx SAR. L3Comm is the prime contractor for the Predator Satellite Link. Raytheon is the prime contractor for the MTS-B EO/IR sensor system. Management of development and fielding of new capabilities will be through an acquisition strategy that combines the rigor of an event driven development process (referred to as a Technology Maturation Effort (TME)) with the expeditious delivery of a schedule driven integration and fielding process. This will allow continued baseline improvements while rapidly integrating limited urgent needs fleet-wide.

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 0205219F / *MQ-9 UAV*	**Project (Number/Name)** 675246 / *MQ-9 Development and Fielding*

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
Ground Control Station (GCS) Development	SS/CPFF	GA-ASI : Poway, CA	0.000	0.042	Mar 2021	-		-		-		-	0.000	0.042	-
Release1 and Release 2	SS/CPFF	GA-ASI : Poway, CA	0.000	1.945	Mar 2021	1.680	Jun 2022	-		-		-	0.000	3.625	-
		Subtotal	0.000	1.987		1.680		-		-		-	0.000	3.667	N/A

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
Other Government Costs	Various	Various : Various	0.000	2.157	Apr 2021	0.000	Apr 2022	-		-		-	0.000	2.157	119.924
		Subtotal	0.000	2.157		0.000		-		-		-	0.000	2.157	N/A

	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	4.144		1.680		-		-		-	0.000	5.824	N/A

Remarks

PMA costs are included in Other Government Costs.

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 0205219F / *MQ-9 UAV*	**Project (Number/Name)** 675246 / *MQ-9 Development and Fielding*

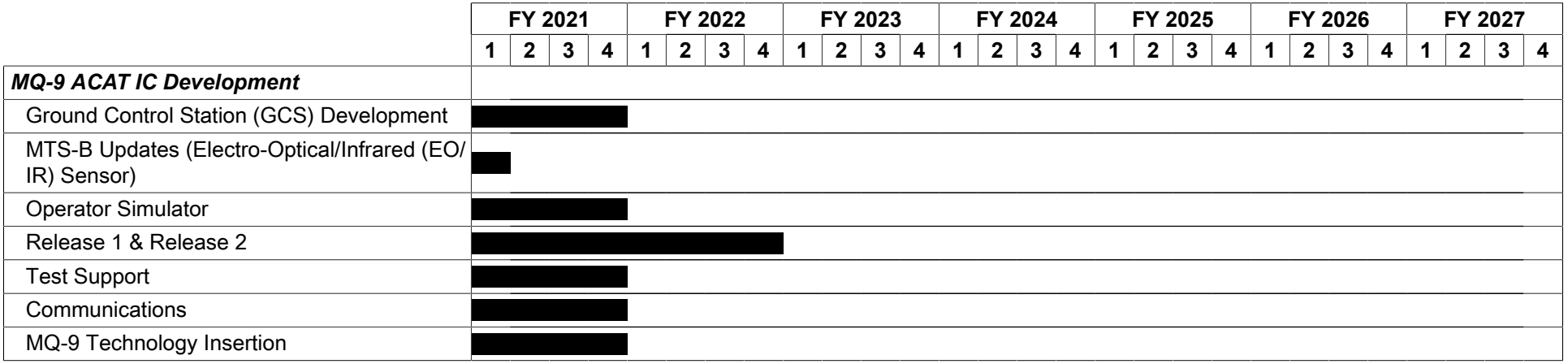

Exhibit R-4A, RDT&E Schedule Details: PB 2023 Air Force		Date: April 2022
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0205219F / *MQ-9 UAV*	**Project (Number/Name)** 675246 / *MQ-9 Development and Fielding*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
MQ-9 ACAT IC Development				
Ground Control Station (GCS) Development	1	2021	4	2021
MTS-B Updates (Electro-Optical/Infrared (EO/IR) Sensor)	1	2021	1	2021
Operator Simulator	1	2021	4	2021
Release 1 & Release 2	1	2021	4	2022
Test Support	1	2021	4	2021
Communications	1	2021	4	2021
MQ-9 Technology Insertion	1	2021	4	2021

Note

PMA costs are included in Other Government Costs.

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 0205219F / *MQ-9 UAV*	Project (Number/Name) 675247 / *Squadron Operations Centers (SOC)*	

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
675247: *Squadron Operations Centers (SOC)*	0.000	0.000	0.251	0.268	0.000	0.268	0.277	0.257	0.293	0.300	1.053	2.699
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The SOC is required to employ Remote Split Operations (RSO). It provides the communications, network, aircraft control and sensor distribution circuits to effectively execute RSO missions. The SOC provides CONUS-based aircrews mission data, tasking, and ability to disseminate and exchange mission data with decision-makers and intelligence entities. This effort defines component standards, develops and stands up a SOC Systems Integration Lab (SIL), and integrates new technologies to maintain currency with technological and platform advancements.

RPA SOC RDT&E funding also supports innovation activities to include studies, analyses, requirements definition, and quick-reaction capability prototypes/ demonstrations to accelerate planning for technology transition, technology insertion and future acquisition programs.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver MQ-9 WEAPON SYSTEM capability. The use of such program funds would be in addition to the civilian pay expenses budgeted in program element 0605831F.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Title: Squadron Operations Center	0.000	0.251	0.268
Description: Development of a SOC common to Air Combat Command (ACC), Air Force Special Operations Command (AFSOC), and Air National Guard (ANG). Major capabilities include secure mission communications; data reception, recording, editing, analysis, dissemination, and exchange; mission planning, preparation, and support; mission execution (e.g., updates to threat tracking and targeting, weather tracking, mission status and capability; tactical situational awareness; etc.); and mission reconstruction and debriefing.			
FY 2022 Plans: Necessary for Developmental/Operational Testing of DT/OT SOC which is required to develop and test new technologies to remain up to date with technological and platform advancements.			
FY 2023 Plans: Necessary for Developmental/Operational Testing of DT/OT SOC which is required to develop and test new technologies to remain up to date with technological and platform advancements.			
FY 2022 to FY 2023 Increase/Decrease Statement:			

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 0205219F / *MQ-9 UAV*	**Project (Number/Name)** 675247 / *Squadron Operations Centers (SOC)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Funding is stable for sustainment requirements for the DT/OT SOC.			
Accomplishments/Planned Programs Subtotals	0.000	0.251	0.268

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
• OPAF 03 Line Item 837300: *Base Communications Infrastructure*	82.160	70.370	6.401	-	6.401	0.000	0.000	0.000	-	0.000	158.931

Remarks

Since 2004, MQ-1/MQ-9 squadrons have acquired equipment, on an ad hoc basis, to provide the communications, network, aircraft control, and sensor distribution circuits needed to execute RSO missions. OPAF funding will be used to standardize and modernize existing RPA SOC capability, which is required to reduce security vulnerabilities, as well as address end of life/end of support issues of existing RPA SOC equipment. The Developmental Testing (DT) SOC will be used to further enhance the program's ability to update future RPA-SOC modernization efforts.

D. Acquisition Strategy

AFLCMC/WII manages the SOC Program for ACC, AFSOC, and ANG through organic development at the 577 SWES, and hardware/software procurement utilizing the installation contractor.

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 0205219F / *MQ-9 UAV*	**Project (Number/Name)** 675247 / *Squadron Operations Centers (SOC)*

Support ($ 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
RPA SOC Support	TBD	NTEK : TBD	0.000	-		0.251	Mar 2022	0.268	Mar 2023	-		0.268	1.053	1.572	-
		Subtotal	0.000	-		0.251		0.268		-		0.268	1.053	1.572	N/A

	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	-		0.251		0.268		-		0.268	1.053	1.572	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 0205219F / *MQ-9 UAV*	**Project (Number/Name)** 675247 / *Squadron Operations Centers (SOC)*

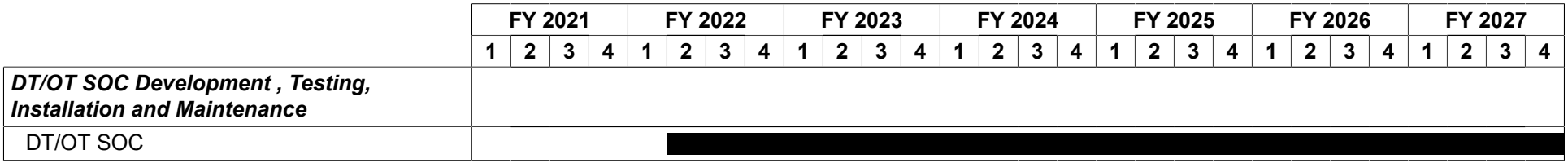

Exhibit R-4A, RDT&E Schedule Details: PB 2023 Air Force		Date: April 2022
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0205219F / *MQ-9 UAV*	**Project (Number/Name)** 675247 / *Squadron Operations Centers (SOC)*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
DT/OT SOC Development , Testing, Installation and Maintenance				
DT/OT SOC	2	2022	4	2027

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 0205219F / *MQ-9 UAV*	Project (Number/Name) 675249 / *MQ-9 Upgrade*	

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
675249: *MQ-9 Upgrade*	0.000	74.473	38.863	36.873	0.000	36.873	0.000	0.000	0.000	0.000	35.161	185.370
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The MQ-9 Upgrade Program develops and integrates improvements for existing systems and fields new capabilities for the MQ-9 fleet through an Agile Acquisition Strategy.

The objective is to enable rapid fielding of new software, hardware, and sustainability measures for integration into the MQ-9 fleet. Per the Candidate Capability List (CCL) signed on 01 November 2019, capabilities may include, but are not limited to, efforts to reduce system configurations; enable battlespace integration; implement open architecture; enable mission resiliency; mitigate Diminishing Manufacturing Sources and Material Shortages (DMSMS) through planned technology upgrades; enable airspace integration; increase weather tolerance; enable airborne situational awareness; enable operations in a contested environment; build open architecture; improve cybersecurity resilience; improve reliability and maintainability; increase lethality; improve the human machine interface to enhance the user experience; and improve readiness.

Activities also include studies, analysis, simulations, demonstrations, prototyping, and testing. The Upgrade Program may use subject matter experts and agencies to develop and test MQ-9 system capabilities and make improvements to System Integration Laboratory (SIL)/ Hardware in the Loop Laboratory (HILL) and Detachment 3 (Det 3).

This program element may include necessary civilian pay expenses required to manage, execute, and deliver MQ-9 WEAPON SYSTEM capability. The use of such program funds would be in addition to the civilian pay expenses budgeted in program element 0605831F.

Funding may be used to address Diminishing Manufacturing Source (DMS) and Non-Recurring Engineering issues.

MQ-9 Program of Record (PoR) and Air Force Special Operations Command (AFSOC) will cost share on joint efforts that are required by both programs to support the new capabilities.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Title: MQ-9 Upgrade	68.944	35.966	36.673
Description: Develop and integrate upgrade capabilities in support of the MQ-9 Upgrade Strategy. Development will combine the rigor of an event driven development process (referred to as Technology Maturation Effort (TME)) with the expeditious delivery of a schedule driven integration and fielding process. New capabilities include, but are not limited to, upgrades of existing aircraft, Ground Control Stations (GCSs), communication capabilities, payload systems, and the Multi-Spectral Targeting System (MTS-B).			

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 0205219F / *MQ-9 UAV*	**Project (Number/Name)** 675249 / *MQ-9 Upgrade*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Upgrade capabilities also include software updates, the addition of new capabilities and subsystems, and the resolution of DMS issues. Candidate capabilities are determined by Major Command (Air Combat Command (ACC), Air Force Special Operations Command (AFSOC)) direction and inputs that included Joint Urgent Operational Need (JUON) and Urgent Operational Need (UON) requests. Activities also include, but are not limited to, operator simulators, reliability and maintainability, test support, communications, and urgent services. MQ-9 PoR and AFSOC will cost share development, where appropriate, on joint efforts that are required by both programs to support the new capabilities. ***FY 2022 Plans:*** Continue TME developing upgrade capabilities in conjunction with the CCL to include, but not limited to: • Unified Tactical Situational Awareness • Design, development, and integration of Moving Target Indicator (MTI) capability on medium altitude air vehicles • Automated Takeoff and Landing Capability (ATLC) • Weapons usability improvements (i.e., auto-lockout, JAGM, and four rail) • Reconnaissance, targeting, and technology improvements in MTS-B, Synthetic Aperture Radar, sensors, sensor upgrades, and GPS • System corrections, technology upgrades within the GCS, Unmanned Aerial Vehicle communications, and ground support (i.e., batteries, engine, BE-CDL, and Beyond Line of Sight (BLOS)) • Expansion of theater capabilities with Mode 5 • MTS-B High-Definition Short Wave Infrared/Pulse Repetition Frequency, two-color laser system, inertial measurement unit/ autoloader • Secure communications • Improvements to system security and the ability to self-protect through Ku or GPS jamming, data encryption, and IFF • Link-16 (Airborne Mission Networking) capability • Gorgon Stare ***FY 2023 Plans:*** M2DO capability upgrades for resilient C2, Link-16, and autonomy. Continue TME developing upgrade capabilities in conjunction with the CCL to include, but not limited to: • Secure communications			

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 0205219F / *MQ-9 UAV*	**Project (Number/Name)** 675249 / *MQ-9 Upgrade*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
• Improvements to system security and the ability to self-protect through Ku or GPS jamming, data encryption, and IFF ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding increased for inflation			
Title: Operator Simulator ***Description:*** Develop operator simulators for training and perform updates to keep operator simulators current with the aircraft and GCSs. Operator Simulator also includes, but is not limited to: JUONs, UONs, and support for emerging AFSOC configurations. ***FY 2022 Plans:*** Continue implementing updates to keep the operator simulator current with the aircraft and GCSs. ***FY 2023 Plans:*** Continue implementing updates to keep the operator simulator current with the aircraft and GCSs. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding decreased as operator simulator development efforts ramp down.	2.140	1.100	0.100
Title: Test Support ***Description:*** MQ-9 Upgrade testing provides support including, but not limited to: activities for MQ-9 testing of weapon system hardware and software IAW contract standards, developmental testing of new capabilities, and R&M upgrades. ***FY 2022 Plans:*** Continue providing government agencies support for MQ-9 testing to include continued acceptance testing of weapon system hardware and software IAW with contract standards, developmental testing of new capabilities, and R&M improvements. ***FY 2023 Plans:*** Continue implementing updates to keep the operator simulator current with the aircraft and GCSs. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding decreased as test support efforts ramp down.	2.225	1.697	0.100
Title: Communications ***Description:*** Develop MQ-9 communications capabilities including, but not limited to: network system managers, SATCOM, and relay site upgrades. MQ-9 Upgrade Communications also includes drafting technical orders, support documentation, training materials, production drawings, and retrofit acceptance plans (i.e., BE CDL, Secure Voice Multi-Level Security (MLS), ARC-210 Guard Squelch, and Secure Communications).	1.164	0.100	0.000

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 0205219F / *MQ-9 UAV*	**Project (Number/Name)** 675249 / *MQ-9 Upgrade*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
FY 2022 Plans: MQ-9 Upgrade communications capabilities development will continue. ***FY 2023 Plans:*** MQ-9 Upgrade communications capabilities development is complete. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** MQ-9 Upgrade communications capabilities development is complete.			
Accomplishments/Planned Programs Subtotals	74.473	38.863	36.873

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 06 PRDTB1: *MQ-9 UAV*	47.396	28.182	14.778	-	14.778	-	-	-	-	0.000	90.356
• APAF 05 PRDTB2: *MQ-9 Mods*	155.011	144.287	64.370	-	64.370	64.778	12.240	12.077	28.961	0.000	481.724

Remarks

PMA costs are included in Other Government Costs.

D. Acquisition Strategy

Acquisition of MQ-9 Upgrade is accomplished via sole-source contracts with General Atomics-ASI, Raytheon, and L-3 Communications, prime contractors, and Other Government Agencies. Management of development and fielding of new capabilities will be through an Agile Acquisition Strategy that combines the rigor of an event driven development process (referred to as a Technology Maturation Effort (TME)) with the expedited delivery of a schedule driven integration and fielding process. This will allow continued baseline improvements while rapidly integrating limited urgent needs fleet-wide.

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 0205219F / *MQ-9 UAV*	**Project (Number/Name)** 675249 / *MQ-9 Upgrade*

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	-
MQ-9 Upgrade	SS/CPFF	GA-ASI : Poway, CA	0.000	66.970	Jan 2021	35.966	Jan 2022	36.673	Jan 2023	-		36.673	35.161	174.770	-
Operator Simulator	MIPR	Various : Huntsville, AL	0.000	2.140	Apr 2021	1.100	Jan 2022	0.100	Jan 2023	-		0.100	0.000	3.340	-
Communications	SS/CPFF	GA-ASI : Poway, CA	0.000	1.164		0.100		0.000		-		0.000	0.000	1.264	-
		Subtotal	0.000	70.274		37.166		36.773		-		36.773	35.161	179.374	N/A

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 Support	Various	Various : Various	0.000	2.225	Nov 2020	1.697	Nov 2021	0.100	Nov 2022	-		0.100	0.000	4.022	-
		Subtotal	0.000	2.225		1.697		0.100		-		0.100	0.000	4.022	N/A

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
Other Government Costs	Various	Various : Various	0.000	1.974	May 2021	-		-		-		-	0.000	1.974	-
		Subtotal	0.000	1.974		-		-		-		-	0.000	1.974	N/A

	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
Project Cost Totals	0.000	74.473		38.863		36.873		-		36.873	35.161	185.370	N/A

Remarks

PMA costs are included in Other Government Costs.

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 0205219F / *MQ-9 UAV*	**Project (Number/Name)** 675249 / *MQ-9 Upgrade*

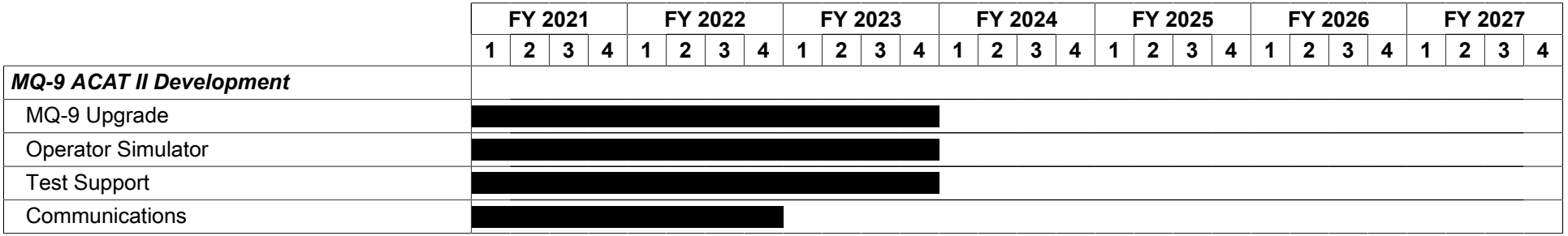

Exhibit R-4A, RDT&E Schedule Details: PB 2023 Air Force		Date: April 2022
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0205219F / *MQ-9 UAV*	**Project (Number/Name)** 675249 / *MQ-9 Upgrade*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
MQ-9 ACAT II Development				
MQ-9 Upgrade	1	2021	4	2023
Operator Simulator	1	2021	4	2023
Test Support	1	2021	4	2023
Communications	1	2021	4	2022