Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Air Force											Date: February 2015	
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 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
Total Program Element	713.828	104.000	148.598	123.439	-	123.439	141.969	149.301	144.523	157.023	-	1,682.681
675246: *MQ-9 Development and Fielding*	713.828	104.000	148.598	123.439	-	123.439	141.969	149.301	144.523	157.023	-	1,682.681
Quantity of RDT&E Articles	3	-	-	-	-	-	-	-	-	-		
Program MDAP/MAIS Code: 424												

A. Mission Description and Budget Item Justification

The basic MQ-9 Reaper system consists of the aircraft, sensors, a 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 control station 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 primarily to prosecute critical, emerging Time-Sensitive-Targets (TSTs) as a radar, 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). In the hunter-killer role, the aircraft employs fused multi-spectral sensor information to find, fix, and track ground targets and assesses post-strike results using Automatic Target Cueing (ATC), high definition EO/IR, Synthetic Aperture Radar and other sensor capabilities. The MQ-9 system is continuing to develop and field capabilities through incremental upgrades. Future capability development activity includes airframe and airframe system improvements such as: increasing the maximum gross takeoff weight capability from 10,500 to 11,700lbs; increasing the operational range and endurance of the baseline MQ-9 aircraft (adding external fuel tanks and/or airframe modifications such as wing extensions); incorporating an anti-ice/de-ice capability to transit light icing conditions (involves wing/tail modifications as well as turbine inlet heating); propulsion system improvements; enhancing MQ-9 systems to include Automatic Takeoff and Landing Capability (ATLC); integrated redundant avionics; modifying the system to include provisions for a Foreign Military Sales (FMS) exportable version of the weapon system; Predator Primary Data Link (PPDL) communication system upgrades and communications upgrades to include data link encryption, Internet Protocol (IP) networking, secure voice and data communications, including SATCOM Beyond Line-of-Sight (BLOS) comm upgrades; navigation system upgrades; electrical system upgrades; incorporation of Elevated Temperature Wet (ETW) materials; sensor/stores management computer improvement; MIL-STD-1760 advanced weapons data bus; Universal Armament and Sensor Interface and Miniature Munitions/Store Interface; advanced sensor and weapon payloads; improved human-machine interface (HMI); integrating precision weapons (e.g. AGM-114 Hellfire missile variants, GBU-12/38/49/54 guided bombs, and Small Diameter Bomb (SDB) variants); hardware and software upgrades to the ground control station for MQ-9 operations; completing airworthiness certification; weapon system certification and accreditation; and producing applicable training devices that emulate weapon system functionality and capabilities. The MQ-9 program will continue to support other payload and capability development activities funded in other program elements (e.g. SIGINT, communications, Wide Area Motion Imagery (WAMI) and Near Vertical Direction Finding (NVDF), leveraging Gorgon Stare Quick Reaction Capability, advanced Counter-Improvised Explosive Device (C-IED), missile defense, hyperspectral, and other required sensors and weapons) and address reliability, maintainability, sustainability, and safety issues. Activities also include 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.

The GCS, common with the MQ-1 Predator, 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; provides a means for manual control; enables personnel to launch, recover, and monitor aircraft, payloads, and system communications status; 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) allows 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 line-of-sight range of the LRGCS. GCS upgrades will be developed and fielded in coordination with improvements to MQ-9 system capabilities and in response to evolving operational and information assurance/certification and accreditation requirements. Key efforts include GCS upgrades that add new LINUX processors, high definition monitors, ergonomic improvements, improved human-machine interfaces, open systems architecture, and improved crew habitability. In addition, the GCS development efforts also include upgrade of communciation nodes for data flow between GCSs and the rest of the MQ-9 system enterprise and development/integration of the Unmanned Aircraft Systems (UAS) Command and Control (C2) Initiative (UCI) government-owned standard to enable improved capabilities for situational awareness and multi-mission management monitoring and oversight in the GCS. This project will also increase interoperability among developed systems by developing common standards and tools.

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 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	107.338	170.396	124.260	-	124.260
Current President's Budget	104.000	148.598	123.439	-	123.439
Total Adjustments	-3.338	-21.798	-0.821	-	-0.821
• Congressional General Reductions	-	-0.498			
• Congressional Directed Reductions	-	-21.300			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-3.338	-			
• Other Adjustments	-	-	-0.821	-	-0.821

Change Summary Explanation

Reduction of $21.3 million in FY15 due to FY15 Appropriation Act with comment, "Maintain Program Affordability: System Development and Demonstration."
Reduction of $0.821 million in FY16 due to higher AF priorities.

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Air Force	Date: February 2015
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*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: MQ-9 System Development and Demonstration (SDD)	31.891	36.243	46.372	-	46.372
Description: Complete development to meet MQ-9 Capabilities Production Document (CPD) requirements. ***FY 2014 Accomplishments:*** Continued MQ-9 Block 5 Remotely Piloted Aircraft (RPA) system capability development to include: Developmental test for High Capacity Starter-Generator, Predator Primary Data Link (PPDL)that will lead to Common Data Link (CDL) compliance, Two ARC-210 Radios, Redesigned Forward Avionics Bay, Dashboard w/ Integrated Sensor Control System (ISCS), Mission Control Module/Payload Control Computer, Improved BRU-71/A Bomb Rack, Improved Stores Management System, High-Definition Multi-sprectral Targeting System (MTS-B), Improved Heavyweight Landing Gear, integration and productionization, Automatic Take-off and Landing, and 904.6 software development. ***FY 2015 Plans:*** Continue MQ-9 Block 5 Remotely Piloted Aircraft (RPA) system capability development to include: Developmental test for High Capacity Starter-Generator, Predator Primary Data Link (PPDL) that will lead to CDL compliance, Two ARC-210 Radios, Redesigned Forward Avionics Bay, Dashboard w/ Integrated Sensor Control System (ISCS), Mission Control Module/Payload Control Computer, Improved BRU-71/A Bomb Rack, Improved Stores Management System, High-Definition Multi-spectral Targeting System (MTS-B), Improved Heavyweight Landing Gear, integration and productionization, Automatic Take-off and Landing, and 904.6 software development. Complete Follow on Operational Test and Evaluation (FOT&E) as required to field Block 5 aircraft and 904.6 software. FY15 also includes the following software development activities: Video Orientented Transceiver for EXchange of Information (VORTEX) Phase 1 data link that will lead to CDL compliance, integration of High Definition Electro-optical Infra-red sensor upgrades, and integration and testing of other communications, sensors and weapons capabilities. ***FY 2016 Base Plans:*** Will continue MQ-9 Block 5 Remotely Piloted Aircraft (RPA) system capability development to include: Developmental test for High Capacity Starter-Generator, Predator Primary Data Link (PPDL) that will lead to CDL compliance, Two ARC-210 Radios, Redesigned Forward Avionics Bay, Dashboard w/ Integrated Sensor Control System (ISCS), Mission Control Module/Payload Control Computer, Improved BRU-71/A Bomb Rack, Improved Stores Management System, High-Definition Multi-spectral Targeting System (MTS-B), Improved					

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Air Force		Date: February 2015
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*	

C. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Heavyweight Landing Gear, integration and productionization, and 904.6 software development to include integration of numerous approved Software Change Requests (SCRs). Complete Follow on Operational Test and Evaluation (FOT&E) as required to field Block 5 aircraft and 904.6 software following the successful DT completion, Technical Order (Flight Manual and Maintenance Manual development), and training completion. FY16 also includes continuation of the new hybrid strategy software development: Video Orientented Transceiver for EXchange of Information (VORTEX) Phase 1 data link that will lead to CDL compliance, integration of High Definition Electro-optical Infra-red sensor upgrades, and integration and testing of other communications, sensors and weapons capabilities. ***FY 2016 OCO Plans:*** N/A					
Title: Ground Control Station (GCS) Development ***Description:*** Develop Ground Control Station (GCS) capabilities. Major capabilities include payload separation, open system architecture, multi-level security, ergonomic cockpit design, and reducing or eliminating known deficiencies in legacy GCS. ***FY 2014 Accomplishments:*** Began Block 50 GCS design/development and manufacturing. Events in FY14 included upgrading the system software and completing a Cockpit Evaluation Team event. Reduced and eliminated known deficiencies in legacy GCS. ***FY 2015 Plans:*** Continue Block 50 GCS design/development and manufacturing. Events in FY15 will include the hardware and software integration, an Integrated Baseline Review, a Systems Requirement Review, and a Preliminary Design Review. Reduce or eliminate any known deficiencies in legacy GCS. Payload separation will incorporate the required Block 50 GCS architecture. ***FY 2016 Base Plans:*** Will continue Block 50 design / development, manufacturing and test. Events in FY16 include Software Development and Test, A Critical Design Review and completion of 7 GCS assets. ***FY 2016 OCO Plans:***	39.977	37.048	51.295	-	51.295

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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*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
N/A					
Title: MQ-9 Electro-Optic / Infrared (EO/IR) Sensor	0.063	10.740	0.367	-	0.367
Description: Develop improved Multi-Spectral Targeting System (MTS-B) modes of operation and upgrade full motion video capability to include an all digital architecture employing High-Definition (HD) camera formats, imagery improvements across all multi-spectral bands (color and infrared) and Target Location Accuracy (TLA) enhancements to support future use of coordinate seeking weapons. ***FY 2014 Accomplishments:*** Continued development at reduced level of effort MTS-B all digital High Definition (HD) Target Location Accuracy (TLA) architecture including mechanical electrical design, hardware and software fabrication, integration, and manned flight test/unmanned flight test of prototypes to achieve production readiness. Updated MTS-B production representative software to facilitate integration of MTS-B HD TLA on the MQ-9 aircraft to include software lab test. Continued system qualification and extended reliability testing. Formally released all MTS-B HD design and interface control documents. Prepared and delivered technical order source data and required training materials to facilitate fielding of HD TLA MTS-B. $63K added in FY14 to provide funding for safety evaluation to accomodate AF Laser System Safety Review Board approval of eye safe laser upgrade that is part to the MTS-B TLA upgrade. ***FY 2015 Plans:*** Conduct test readiness review to assure system is ready for production. Complete HD TLA MTS-B system qualification and extended reliability testing. Support backwards compatibility integration and test of completed HD TLA MTS-B system on MQ-9 platform. ***FY 2016 Base Plans:*** Obsolescence management of HD TLA MTS-B system parts. Support final integration and test of all functions of HD TLA MTS-B system on MQ-9 Block 5. ***FY 2016 OCO Plans:*** N/A					
Title: Operator Simulator	2.046	11.520	7.415	-	7.415
Description: Develop operator simulators for training and updates to keep Operator Simulator current with upgrades to aircraft and Ground Control Station (GCS) to include Joint Urgent Operational Need (JUON) supported emerging Air Force Special Operations Command (AFSOC) configurations. Note: Funding and					

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Air Force		Date: February 2015
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*	

C. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
contracting for this effort is not required every year but is required periodically as changes to aircraft and Ground Control Station hardware/software is developed and fielded. ***FY 2014 Accomplishments:*** Continued updates to Operator Simulator with upgrades to trainers, hi-definition electro-optical/infra-red (EO/IR), Lynx Synthetic Aperture Radar (SAR) enhancements, and Ground Control Station (GCS) Block 50. ***FY 2015 Plans:*** Continue to implement updates which will keep the Operator Simulator current with the aircraft and Ground Control Station. These updates will include, but are not limited to, sensor, databases and weapons upgrades. ***FY 2016 Base Plans:*** Will continue to implement updates which will keep the Operator Simulator current with the aircraft and Ground Control Station. These updates will include, but are not limited to, sensor, databases and weapons upgrades. ***FY 2016 OCO Plans:*** N/A					
Title: Synthetic Aperture Radar (SAR) Enhancements ***Description:*** Improvements in MQ-9 capability to disseminate SAR data via a fleet-wide common architecture, improve Ground Moving Target Indicator (GMTI) tracking, automation of data exploitation via Continuous Look Attack Management for Predator (CLAMP) and improvement of GPS targeting. ***FY 2014 Accomplishments:*** Completed Dismount Moving Target Indication development. Completed Feature Aided Tracker development. Completed Ground Moving Target Indication development. Began development of SAR Stationary Targeting Improvements for GPS-based weapons. Began development for MQ-9 data dissemination common architecture using dual firewall architecture. ***FY 2015 Plans:*** Continue development and begin integration/test for MQ-9 data dissemination common architecture using dual firewall capability. Continue development for SAR Stationary Targeting Improvements for GPS-based weapons. ***FY 2016 Base Plans:***	3.882	8.513	2.751	-	2.751

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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*	

C. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Will complete development of MQ-9 data dissemination common architecture using dual firewall capability. Will complete development of SAR Stationary Targeting Improvements for GPS-based weapons. ***FY 2016 OCO Plans:*** N/A					
Title: Test Support ***Description:*** Provides Other Government Agency 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 Reliability and Maintainability (R&M) upgrades. Air Force Test Center executes Flight Operations Authority responsibilities and provides Combined Test Force support, Edwards AFB controlled airspace range time and assets, test scheduling, frequency management and test related munitions support. Naval Air Warfare Center (NAWC) China Lake provides on-site facilities support, controlled airspace range time, assets, and ground targets for weapons testing. Joint Interoperability Test Command provides standards conformance testing and interoperability certification. NAWC Patuxent River provides Electromagnetic Environmental Effects testing. ***FY 2014 Accomplishments:*** Continued test support. ***FY 2015 Plans:*** Continue test support. ***FY 2016 Base Plans:*** Will continue test support. ***FY 2016 OCO Plans:*** N/A	1.565	2.176	1.003	-	1.003
Title: Communications ***Description:*** Develop MQ-9 communications capabilities including encrypted and improved Line of Sight (LoS) data links to ROVER terminals (VORTEX) and Bandwidth Efficient (BE) Common Data Link (CDL) for Command and Control (C2) and Intelligence, Surveillance, and Reconnaissance (ISR) transmission to Ground Control Stations (GCS), as well as improved (including BE) Beyond LoS (BLOS) military SATCOM usage. Development and integration of an IP-based Remote Split Operations (RSO) network/infrastructure to include: Improvements to Ground Data Terminals (GDT), Design, development, and test of IP-based network interfaces, Improved	2.269	3.420	0.953	-	0.953

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Air Force		Date: February 2015
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*	

C. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Predator Primary Data Link (PPDL) capabilities, network systems managers, SATCOM and relay site capabilities upgrades, drafting Technical Orders (TO) and support documentation, training materials, production drawings, and retrofit acceptance plans. ***FY 2014 Accomplishments:*** Continued the development of communications capabilities including Fixed Site Satellite Terminals (FSSTs)/ Satellite Earth Terminal Sub-Systems (SETSS) and their respective Technical Order (TO) updates, RSO TO development, training course development and various logistics support analysis. Integration of IP-based RSO network infrastructure, and Ground Data Terminals (GDT). ***FY 2015 Plans:*** Continue development of Fixed Site Satellite Terminal (FSST) and Satellite Earth Terminal Sub-Systems (SETSS) and relay site equipment, Technical Orders, training course development, logistics support analysis and integration of Internet Protocol (IP)-based Remote Split Operations (RSO) network infrastructure. Development of advance PPDL and SATCOM capabilities. ***FY 2016 Base Plans:*** Will continue the development of Fixed Site Satellite Terminal (FSST) and Satellite Earth Terminal Sub-System (SETSS) and relay site equipment, TO development, BE-CDL and BE-SATCOM development, RSO TO development, training course development, logistics support analysis, and IP-base network equipment development. ***FY 2016 OCO Plans:*** N/A					
Title: Counter-IED Development and Demonstration ***Description:*** Adding "Step Stare" (converts motion video imagery into still frame imagery for change detection analysis) mode capability to the MTS-B EO/IR sensor; also includes associated GCS development and testing. ***FY 2014 Accomplishments:*** Completed final integration and test of MTS-B Step Stare mode. Completed preparation and execution of Operational Utility Evaluation and 6 month Quick Reaction Capability (QRC) Initial Fielding phase. ***FY 2015 Plans:***	3.530	-	-	-	-

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Air Force		Date: February 2015
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*	

C. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
N/A ***FY 2016 Base Plans:*** N/A ***FY 2016 OCO Plans:*** N/A					
Title: Multi-aircraft Transit Operations (MTO) ***Description:*** Multi-aircraft transit operation is to develop a core functionality to enable one pilot to safely control multiple RPA in non-segregated airspace on an instrument flight rules (IFR) flight plan between airfield and mission area(s) ***FY 2014 Accomplishments:*** Continued development of multi-aircraft transit operations engineering prototype to define and implement needed functionality and associated user interface elements; complete initial integration of prototype with Block 50 Lite GCS to demonstrate control and handoff of MQ-9 aircraft. ***FY 2015 Plans:*** Continue development of multi-aircraft transit operations engineering prototype to fully develop functionality and associated user interface elements to support finalized ACC Functional CONEMP; develop associated systems engineering artifacts to support technology transition to acquisition program of record; begin work with prime contractor to mature prototype for hardware-in-the-loop testing with the MQ-9. ***FY 2016 Base Plans:*** Will continue development of multi-aircraft operations engineering prototype to flight testable system; complete systems engineering artifacts and transition to acquisition program of record. ***FY 2016 OCO Plans:*** N/A	1.327	3.843	1.638	-	1.638
Title: MQ-9 Technology Insertion ***Description:*** Develop program protection Technology Insertion capabilities and functionality for the MQ-9 Weapon System. ***FY 2014 Accomplishments:***	3.731	18.555	11.645	-	11.645

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Air Force		Date: February 2015
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*	

C. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Continued development of program protection, Technology Insertion capabilities and functionality for the MQ-9 Weapon System including aircraft, sensors, and Ground Control Station documentation and drawings. ***FY 2015 Plans:*** Continue development of program protection Technology Insertion capabilities and functionality for the MQ-9 Weapon System including aircraft, sensors, and Ground Control Station documentation and drawings. ***FY 2016 Base Plans:*** Will continue development of program protection Technology Insertion capabilities and functionality for the MQ-9 Weapon System including aircraft, sensors, and Ground Control Station documentation and drawings. ***FY 2016 OCO Plans:*** N/A					
Title: Reliability and Maintainability ***Description:*** Develop MQ-9 modification improvements for aircraft and ground base infrastructure. ***FY 2014 Accomplishments:*** N/A ***FY 2015 Plans:*** Continue development of MQ-9 modification improvements for aircraft and ground based infrastructure to improve mission capable rates and reduce reliability and maintainability cost. ***FY 2016 Base Plans:*** Will continue development of MQ-9 modification improvements for aircraft and ground based infrastructure to improve mission capable rates and reduce reliability and maintainability cost. ***FY 2016 OCO Plans:*** N/A	-	1.118	-	-	-
Title: Extended Range ***Description:*** Develop Extended Range capability to increase operational range and endurance of the baseline MQ-9. ***FY 2014 Accomplishments:***	8.387	15.422	-	-	-

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Air Force		Date: February 2015
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*	

C. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Continued development of Extended Range capability to increase operational range and endurance of the baseline MQ-9. Technical solutions included modified wings and incorporating external fuel tanks. Also included were Non-Recurring Engineering, development of technical data (flight manual, maintenance manual, technical orders, and flight test), and addressing any deficiency reports resulting from developmental or operational testing to support fielding recommendations and airworthiness. ***FY 2015 Plans:*** Continue development of Extended Range capability to increase operational range and endurance of the baseline MQ-9. Technical solutions included modified wings and incorporating external fuel tanks. Also included were Non-Recurring Engineering, development of technical data (flight manual, maintenance manual, technical orders, and flight test), and addressing any deficiency reports resulting from developmental or operational testing to support fielding recommendations and airworthiness. ***FY 2016 Base Plans:*** N/A ***FY 2016 OCO Plans:*** N/A					
Title: Urgent Services ***Description:*** Urgent services, engineering change orders, program office support, studies and general research, and other higher level iniatives directed by the Air Force. ***FY 2014 Accomplishments:*** Continued urgent services, engineering change orders, studies and general research, and other higher level iniatives directed by the Air Force. ***FY 2015 Plans:*** N/A ***FY 2016 Base Plans:*** N/A ***FY 2016 OCO Plans:*** N/A	4.795	-	-	-	-
Title: Afghan Enablers Development	0.537	-	-	-	-

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Air Force	Date: February 2015
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*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Description: Support Joint Urgent Operational Need (JUON) requirements to rapidly field sensor cross cue (slew-to-cue) functionality to improve track through clouds capability, advanced weapons, and high definition full motion video. ***FY 2014 Accomplishments:*** Completed development, testing, and upgrades to field an initial increment of capability with MQ-9 weapon system sensor cross-cue functionality, integration of GBU-49 weapon with specialized warhead and high definition FMV capability. ***FY 2015 Plans:*** N/A ***FY 2016 Base Plans:*** N/A ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	104.000	148.598	123.439	-	123.439

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• APAF: BA04: Line Item # PRDTB1: *MQ-9*	349.217	385.218	552.527	13.500	566.027	496.456	513.061	301.378	143.768	84.637	2,839.762
• APAF: BA06:Line Item # PRDTB1: *MQ-9*	17.711	76.629	134.393	-	134.393	171.179	132.500	114.849	68.089	111.963	827.311
• APAF: BA05: Line Item # PRDTB2: *MQ-9 Mods*	58.970	155.445	115.226	69.000	184.226	207.894	213.038	249.849	252.153	1,164.842	2,486.417
• APAF: BA07: Line Item # PRDTB1: *MQ-9*	87.440	101.020	5.000	-	5.000	43.768	36.601	26.092	26.562	-	326.483
• RDTE: BA07: PE 0305206F: *Airborne Reconnaissance Systems*	10.000	-	-	-	-	-	-	-	-	-	-
• APAF: BA06: PRDTB3: *MQ-9 UAS Payloads*	8.256	6.790	5.554	-	5.554	3.575	0.218	-	-	-	-

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Air Force	Date: February 2015
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*

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost

Remarks

E. Acquisition Strategy

The MQ-9 Reaper system will be acquired via sole-source contracts with General Atomics-ASI, L3Comm, and Raytheon as the prime contractors. GA-ASI is the prime contractor for aircraft and ground control stations. L3Comm is the prime contractor for the Predator Satellite Link. Raytheon is the prime contractor for the MTS-B EO/IR sensor system.

F. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Air Force			Date: February 2015
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 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
MQ-9 System Development and Demonstration (SDD)	SS/CPIF	GA-ASI : Poway, CA	283.701	29.363	Jan 2014	33.761	Nov 2014	42.583	Nov 2015	-		42.583	353.081	742.489	742.489
Ground Control Station (GCS) Development	SS/CPFF	GA-ASI : Poway, CA	87.890	36.812	Apr 2014	34.510	Nov 2014	47.105	Nov 2015	-		47.105	109.747	316.064	316.064
MQ-9 Electro-Optical / Infrared (EO/IR) Sensor	SS/CPFF	Raytheon : McKinney, TX	98.228	0.058	Apr 2014	10.004	Oct 2014	0.337	Oct 2015	-		0.337	0.723	109.350	109.350
Operator Simulator	SS/CPIF	L3 Comm : Salt Lake City, UT	19.746	2.046	Aug 2014	11.520	Feb 2015	7.415	Jan 2016	-		7.415	43.016	83.743	83.743
Synthetic Aperture Radar (SAR) Enhancements	SS/CPFF	GA-RSG : Poway, CA	36.431	3.575	Mar 2014	7.930	Oct 2014	2.527	Oct 2015	-		2.527	-	50.463	50.463
Communication	SS/CPFF	GA-ASI : Poway, CA	10.508	2.269	Jul 2014	3.420	Jan 2015	0.953	Jan 2016	-		0.953	0.835	17.985	17.985
Counter-IED Development and Demonstration	SS/CPIF	Various : Various,	27.485	3.530	Dec 2013	-		-		-		-	-	31.015	31.015
GCS Multi Transit Ops	SS/CPFF	GA-ASI : Poway, CA	7.377	1.327	Apr 2014	3.843	Feb 2015	1.638	Feb 2016	-		1.638	12.967	27.152	27.152
MQ-9 Program Protection Technology Insertion	SS/CPFF	GA-ASI : Poway, CA	13.753	3.436	Apr 2014	17.283	Oct 2014	10.693	Oct 2015	-		10.693	4.245	49.410	49.410
Reliability and Maintainability	SS/CPFF	GA-ASI : Poway, CA	2.891	-		1.118	Jan 2015	-		-		-	16.867	20.876	20.876
Extended Range	SS/CPFF	GA-ASI : Poway, CA	14.598	7.723	Mar 2014	14.366	Jan 2015	-		-		-	-	36.687	36.687
Urgent Services/Misc Prior	SS/CPFF	GA-ASI : Poway, CA	66.737	4.795	Mar 2014	-		-		-		-	6.538	78.070	78.070
Afghan Enablers Development	SS/CPFF	GA-ASI : Poway, CA	2.500	0.537	Mar 2014	-		-		-		-	-	3.037	3.037
		Subtotal	671.845	95.471		137.755		113.251		-		113.251	548.019	1,566.341	1,566.341

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	-	-		-		-		-		-	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Air Force			Date: February 2015
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*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test Support	Various	Various, Various : ,	15.903	1.565	Apr 2014	2.176	Nov 2014	1.003	Nov 2015	-		1.003	5.084	25.731	25.731
		Subtotal	15.903	1.565		2.176		1.003		-		1.003	5.084	25.731	25.731

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Other Government Costs	Various	Various : Various, CA	26.080	6.964	Dec 2013	8.667	Nov 2014	9.185	Nov 2015	-		9.185	39.713	90.609	90.609
		Subtotal	26.080	6.964		8.667		9.185		-		9.185	39.713	90.609	90.609

	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	713.828	104.000		148.598		123.439		-		123.439	592.816	1,682.681	1,682.681

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Air Force		Date: February 2015
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*

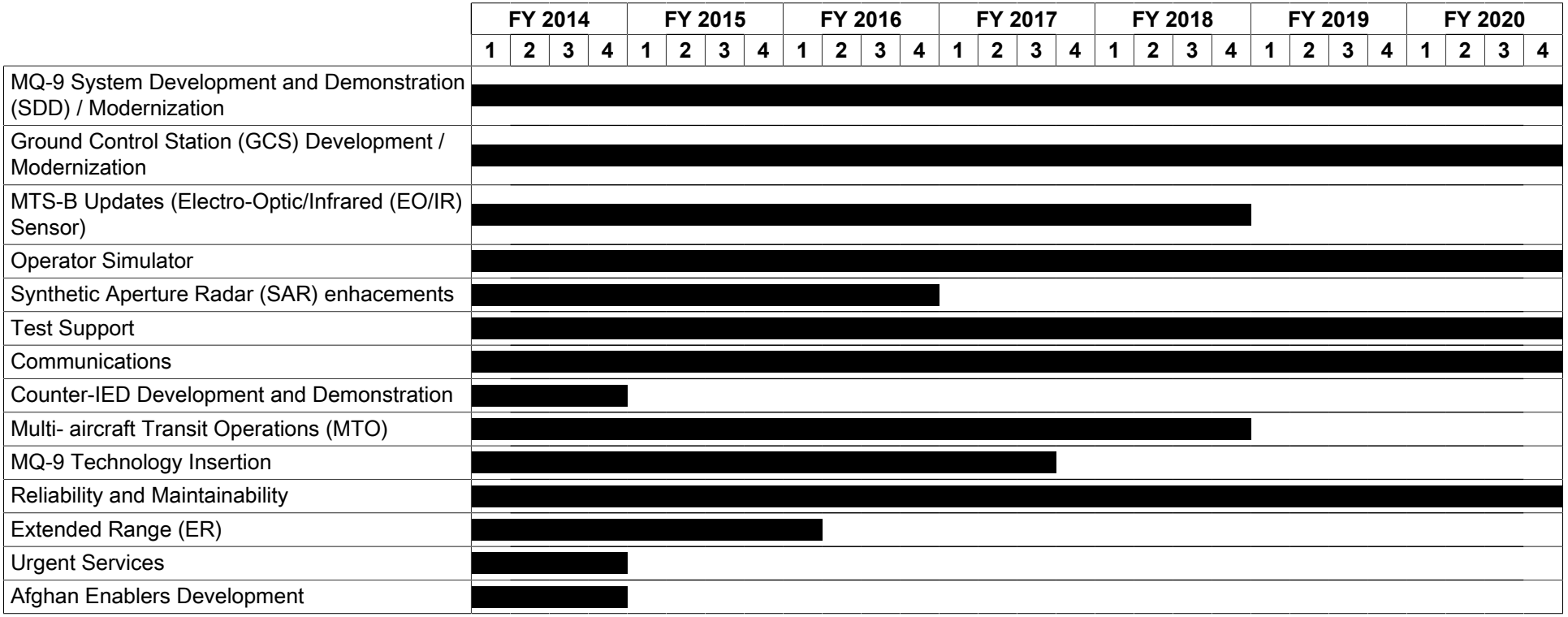

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Air Force		Date: February 2015
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0205219F / *MQ-9 UAV*	**Project (Number/Name)** 675246 / *MQ-9 Development and Fielding*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
MQ-9 System Development and Demonstration (SDD) / Modernization	1	2014	4	2020
Ground Control Station (GCS) Development / Modernization	1	2014	4	2020
MTS-B Updates (Electro-Optic/Infrared (EO/IR) Sensor)	1	2014	4	2018
Operator Simulator	1	2014	4	2020
Synthetic Aperture Radar (SAR) enhacements	1	2014	4	2016
Test Support	1	2014	4	2020
Communications	1	2014	4	2020
Counter-IED Development and Demonstration	1	2014	4	2014
Multi- aircraft Transit Operations (MTO)	1	2014	4	2018
MQ-9 Technology Insertion	1	2014	3	2017
Reliability and Maintainability	1	2014	4	2020
Extended Range (ER)	1	2014	1	2016
Urgent Services	1	2014	4	2014
Afghan Enablers Development	1	2014	4	2014