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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Air Force **Date:** May 2021

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0305220F / RQ-4 UAV
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
Total Program Element	1,175.698	191.733	163.291	83.124	0.000	83.124	-	-	-	-	-	-
675145: <i>RQ-4 Block 30</i>	551.869	30.761	0.000	0.000	0.000	0.000	-	-	-	-	-	-
675149: <i>RQ-4 Capability Enhancements</i>	379.035	160.472	163.291	83.124	0.000	83.124	-	-	-	-	-	-
67RTIP: <i>MP-RTIP</i>	244.794	0.500	0.000	0.000	0.000	0.000	-	-	-	-	-	-

Program MDAP/MAIS Code: 252
Project MDAP/MAIS Code(s): 293

Note

The sum of all Prior Years is actually \$2,291.016 million more than the represented total due to several projects ending.

A. Mission Description and Budget Item Justification

USAF plans to begin divestment of the Block 20 aircraft in FY21 and the Block 30 aircraft in FY22. To maximize value to the USAF and DoD, efforts will be pivoted to focus on supporting the Block 40 fleet and Block 30 closeout actions.

This program element funds related Air Force projects sharing the RQ-4 platform in common: the RQ-4 Block 30, the RQ-4 Block 40, RQ-4 Capability Enhancements, and Multi-Platform Radar Technology Insertion Program (MP-RTIP). The RQ-4 Block 30 and Block 40 projects support the development and testing of the ACAT 1C RQ-4 capability and the initiation of the major modification ACAT programs. The majority of the modernization funding was transferred to the Capability Enhancement project (675149) to support upgrades and modifications, including established ACAT I and II programs, to the fielded RQ-4 weapon system to meet evolving threats and warfighter requirements. The MP-RTIP project completes development and testing of the baseline MDAP MP-RTIP sensor capability.

When judged feasible and affordable, this program will participate in the development, testing, and implementation of international standards to enhance joint, allied, and coalition interoperability. Studies and activities may be initiated to further explore the utility of incorporating the emerging architectural standards such as the USAF Unmanned Aerial Systems (UAS) Command and Control Initiative (UCI) or the DoD's Unmanned Control Segment standards (UCS) and Open Mission Systems (OMS). Ground Segment Modernization Program (GSMP) will incorporate UCI and UCS standards.

Per direction of USD (AT&L), the RQ-4 program was restructured from the original project 675144 (Baseline) into multiple projects: (1) Block 30, (2) Block 40, (3) Ground Segment/Communications System, and (4) Common-Airborne Sense and Avoid (C-ABSAA). In FY17 the Ground Segment/Communications System project (675147) ended. In FY18 the RQ-4 Block 40 project (675146) ended. Prior year funds in the amount of 2,031.377M were accounted for in project 675144, 85.375M were accounted for in project 675147, and 174.264M were accounted for in project 675146.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Air Force	Date: May 2021
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Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0305220F / RQ-4 UAV
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This program element may include necessary civilian pay expenses required to manage, execute, and deliver RQ-4 UAV capabilities. The use of such program funds would be in addition to the civilian pay expenses budgeted in program element 0605831F. In FY20 4.165M expended and in FY21 4.891M 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 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Previous President's Budget	191.733	134.589	29.283	0.000	29.283
Current President's Budget	191.733	163.291	83.124	0.000	83.124
Total Adjustments	0.000	28.702	53.841	0.000	53.841
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	28.702			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	0.000	0.000	53.841	0.000	53.841

Change Summary Explanation

USAF plans to begin divestment of the Block 20 aircraft in FY21 and the Block 30 aircraft in FY22. To maximize value to the USAF and DoD, efforts will be pivoted to focus on supporting the Block 40 fleet and Block 30 closeout actions.

FY21 Congressional add of \$28.7M for Waypoint Modification solution.

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Air Force										Date: May 2021		
Appropriation/Budget Activity 3600 / 7					R-1 Program Element (Number/Name) PE 0305220F / RQ-4 UAV				Project (Number/Name) 675145 / RQ-4 Block 30			
COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
675145: RQ-4 Block 30	551.869	30.761	0.000	0.000	0.000	0.000	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

Note

The RQ-4 Block 30 Project was directed by an Acquisition Decision Memorandum (ADM) signed 14 Jun 2011 by USD (AT&L). At the time of the ADM signature, and subsequent designation of projects, budgets had already been finalized. Prior budgets for all projects are captured under the RQ-4 Baseline project, as its related Project (675144) was the core project for the RQ-4 program prior to the directed restructure.

In FY 2021, PE 0305220F, RQ-4 UAV, Project 675145, RQ-4 Block 30, efforts were transferred to PE 0305220F, RQ-4 UAV, Project 675149, RQ-4 Capability Enhancements, in order to close out Block 30 efforts and focus on supporting the Block 40 fleet.

A. Mission Description and Budget Item Justification

The RQ-4 Remotely Piloted Aircraft (RPA) provides a high altitude, deep look, long-endurance Intelligence, Surveillance, and Reconnaissance (ISR) capability that complements space and other airborne collectors during peacetime, crisis, and war-fighting scenarios. RDT&E funding in this project supports design, development, integration, and testing of capabilities needed to meet validated requirements for Block 30 aircraft, including continuing aircraft system upgrade for Enhanced Integrated Sensor Suite (EISS) sensors, the Airborne Signals Intelligence Payload (ASIP), and alternate sensor payloads.

This project supports system engineering/program management, test and evaluation, management services, and fielding support for all RQ-4 projects. This reflects contracting/acquisition strategy for these common elements within the Global Hawk program to provide efficiencies.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Title: RQ-4 Block 30 Development and Demonstration	11.800	0.000	0.000	0.000	0.000
Description: Global Hawk Unmanned Aerial Vehicle Development and Demonstration includes enterprise management, test and evaluation, software integration, and fielding support for all RQ-4 projects as well as periodic Operational Flight Program updates and releases, studies and analysis supporting future system enhancements.					
FY 2021 Plans: - N/A					
FY 2022 Base Plans: N/A					
FY 2022 OCO Plans:					

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Air Force				Date: May 2021	
Appropriation/Budget Activity 3600 / 7		R-1 Program Element (Number/Name) PE 0305220F / RQ-4 UAV		Project (Number/Name) 675145 / RQ-4 Block 30	
B. Accomplishments/Planned Programs (\$ in Millions)					
N/A					
FY 2021 to FY 2022 Increase/Decrease Statement:					
N/A					
Title: RQ-4 MS-177 Sensor Integration					
Description: Integration of MS-177 multispectral sensor into Block 30					
FY 2021 Plans:					
N/A					
FY 2022 Base Plans:					
N/A					
FY 2022 OCO Plans:					
N/A					
FY 2021 to FY 2022 Increase/Decrease Statement:					
N/A					
Title: RQ-4 Infrastructure					
Description: RQ-4 Infrastructure includes systems engineering, program management, test and evaluation, and fielding support for all RQ-4 projects as well as periodic Operational Flight Program updates and releases, studies, development testing, and Other Government Costs (OGC). This funding was previously included in the RQ-4 Block 30 Development and Demonstration and Block 30 Government Test and Non-Prime Support Accomplishments/Planned Programs, including funding for the 412 TW at Edwards AFB, AFOTEC, JTIC DCGS and other interoperability partners.					
FY 2021 Plans:					
- N/A					
FY 2022 Base Plans:					
N/A					
FY 2022 OCO Plans:					
N/A					
FY 2021 to FY 2022 Increase/Decrease Statement:					
	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
	0.000	0.000	0.000	0.000	0.000
	18.961	0.000	0.000	0.000	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Air Force		Date: May 2021
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305220F / RQ-4 UAV	Project (Number/Name) 675145 / RQ-4 Block 30

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Decrease in funding is due to BPAC 675145 ending					
Title: Block 30 Government Test and Non-Prime Support	0.000	0.000	0.000	0.000	0.000
Description: Government test, non-prime technical support and Other Government Costs (OGC) -- Funding supports RQ-4 development testing at the 412 Test Wing at Edwards AFB, CA as well as for support from Air Force Operational Test and Evaluation Center (AFOTEC), Joint Interoperability Test Command (JITC), Distributed Common Ground System (DCGS), other interoperability partners and OGC.					
FY 2021 Plans: - N/A					
FY 2022 Base Plans: N/A					
FY 2022 OCO Plans: N/A					
FY 2021 to FY 2022 Increase/Decrease Statement: N/A					
Accomplishments/Planned Programs Subtotals	30.761	0.000	0.000	0.000	0.000

C. Other Program Funding Summary (\$ in Millions)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
Line Item											
• APAF 05 Line Item HAWK00: RQ-4 Mods	1.704	0.000	0.000	-	0.000	-	-	-	-	-	-
• APAF 07 Line Item RQ4DIS: RQ-4 Post Production Support	47.246	0.000	0.000	-	0.000	-	-	-	-	-	-

Remarks

D. Acquisition Strategy

The RQ-4 program uses an evolutionary acquisition strategy to provide the warfighter with a near-term combat capability with increased time-phased capability improvements as technology and risk achieve satisfactory levels. Northrop Grumman Corporation is the prime contractor. A suite of contract vehicles is used for development efforts: primarily, Indefinite Delivery, Indefinite Quantity (IDIQ) contracts cover development, system upgrade, production, retrofit, fielding, and sustainment efforts. MS-177 Sensor Enhancement RDT&E is being contracted directly with the Original Equipment Manufacturer (OEM), Collins Aerospace.

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Air Force **Date:** May 2021

Appropriation/Budget Activity	R-1 Program Element (Number/Name)	Project (Number/Name)
3600 / 7	PE 0305220F / RQ-4 UAV	675145 / RQ-4 Block 30

The program successfully completed Milestone (MS) C in February 2015 and is transitioning core program activities to the Operations and Support phase of the Defense Acquisition System over the next several years. Future required capabilities beyond the core Acquisition Category (ACAT) IC RQ-4 program will be completed as separate ACAT II and ACAT III modification programs.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Air Force **Date:** May 2021

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305220F / RQ-4 UAV	Project (Number/Name) 675145 / RQ-4 Block 30
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Product Development (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Global Hawk Engineering Manufacturing and Development	SS/ Various	Northrop Grumman Integrated Systems : San Diego, CA	323.131	11.800	Jan 2020	-		-		-		-	-	-	346.557
RQ-4 MS-177 Sensor Integration	SS/ Various	Various : Various	149.237	0.000		0.000		0.000		0.000		0.000	-	-	212.033
RQ-4 Infrastructure	Various	Various : Various	18.806	13.961	Mar 2020	0.000		0.000		0.000		0.000	-	-	147.214
Subtotal			491.174	25.761		0.000		0.000		0.000		0.000	-	-	N/A

Remarks
 Target Value of the Global Hawk EMD, IDIQ, and EPIC Contracts are not segregated by Budget Project Number.
 Target Value of RQ-4 Infrastructure Contracts are not segregated by Budget Project Number.

Support (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Non Prime Technical Support	Various	Various : Dayton, OH	3.516	0.000		0.000		0.000		0.000		0.000	-	-	3.516
Subtotal			3.516	0.000		0.000		0.000		0.000		0.000	-	-	N/A

Remarks
 Target Value of the Global Hawk effort is not segregated by Budget Project Number.

Test and Evaluation (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Flight Test & Evaluation	MIPR	412 TW : Edwards AFB, CA	40.626	5.000	Jan 2020	0.000		0.000		0.000		0.000	-	-	50.789
Subtotal			40.626	5.000		0.000		0.000		0.000		0.000	-	-	N/A

Remarks
 Target Value of the Global Hawk effort is not segregated by Budget Project Number.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Air Force **Date:** May 2021

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305220F / RQ-4 UAV	Project (Number/Name) 675145 / RQ-4 Block 30
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Management Services (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
PMA: A&AS	Various	Various : Dayton, OH	12.526	0.000		0.000		0.000		0.000		0.000	-	-	12.526
PMA: Other Government Costs	Various	Various : Dayton, OH	4.027	0.000		0.000		0.000		0.000		0.000	-	-	6.060
Subtotal			16.553	0.000		0.000		0.000		0.000		0.000	-	-	N/A

Remarks
Target Value of the Global Hawk effort is not segregated by Budget Project Number.

	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	551.869	30.761	0.000	0.000	0.000	0.000	-	-	N/A

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 Air Force **Date:** May 2021

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305220F / RQ-4 UAV	Project (Number/Name) 675145 / RQ-4 Block 30
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	FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

RQ-4 Block 30	
Enhanced Weather Capability Development	
ASIP Inc 1 Development	
RQ-4 Infrastructure & Test	

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Exhibit R-4A, RDT&E Schedule Details: PB 2022 Air Force **Date:** May 2021

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305220F / RQ-4 UAV	Project (Number/Name) 675145 / RQ-4 Block 30
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Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
RQ-4 Block 30				
Enhanced Weather Capability Development	1	2020	2	2020
ASIP Inc 1 Development	1	2020	3	2020
RQ-4 Infrastructure & Test	1	2020	4	2020

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Air Force										Date: May 2021		
Appropriation/Budget Activity 3600 / 7					R-1 Program Element (Number/Name) PE 0305220F / RQ-4 UAV				Project (Number/Name) 675149 / RQ-4 Capability Enhancements			
COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
675149: RQ-4 Capability Enhancements	379.035	160.472	163.291	83.124	0.000	83.124	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The RQ-4 Remotely Piloted Aircraft (RPA) provides a high altitude, deep look, long-endurance Intelligence, Surveillance, and Reconnaissance (ISR) capability that complements space and other airborne collectors during peacetime, crisis, and war-fighting scenarios. RDT&E funding in this project supports design, development, integration, and testing of capabilities needed to meet validated requirements for RQ-4 aircraft, including continuing aircraft system upgrade for current and alternate sensor payloads.

This funding also supports aircraft systems upgrades to include continuing airframe updates, aircraft operations surety, cybersecurity, airspace and interoperability enhancements, information assurance, and mission critical repair of Government Furnished Equipment (GFE). This project will include systems engineering/ program management, configuration and data management, test and evaluation, management services, Deficiency Report (DR)/Military Intelligence Program (MIP) Investigations, studies and analysis and fielding support for Block 30, Block 40, and Ground Segment/Communication Systems.

Activities include airspace and interoperability and communication enhancements and updates, periodic Operational Flight Program updates and releases, airframe and software upgrades, effort to bring early production aircraft to current operational configurations, deficiency report resolution across RQ-4 fleet, sensor enhancements including data distribution and storage, and alternate sensor upgrades including the MS-177, ISR Payload Adapter, enhanced communications capabilities, support for demonstration and technology insertion, development and testing of ice protection system, enhanced mission flexibility to accommodate changes to mission objectives inflight, enhancements to support multi-domain contested environment operations, Authority to Operate surety enhancements, and studies and analysis supporting future system enhancements. Additionally, this project supports design, development, integration, and testing of items needed to meet validated requirements for Block 20/30/40 aircraft, including further development, mode creation, integration and test of the Multi-Platform Radar Technology Insertion Program (MP-RTIP) sensor capabilities, continued aircraft/communications systems upgrade, increased power generation, additional radar modes, reliability and maintainability improvements, Ground Segment Modernization Program (GSMP) efforts, as well as next-generation communications capabilities. GSMP resolves fleet grounding Diminishing Manufacturing Sources (DMS) and obsolescence issues associated with ground segment equipment and provides critical warfighter capabilities such as building-based multi-aircraft control. It will also enhance interoperability data dissemination as well as provide training capability. This funding also addresses DMS resolution for other mission critical equipment.

RDT&E funding in this project also supports design, development, integration and testing of the weapon system's legacy ground elements and communications capabilities to enhance functionality and maintain interoperability prior to GSMP fielding. The ground segment currently includes the Mission Control Elements (MCE), the Launch and Recovery Elements (LRE), and the networking resources required to simultaneously disseminate intelligence information while remaining compliant with DoD cybersecurity network requirements to operate in the DoD Information Network (DoDIN).

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Air Force	Date: May 2021
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Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305220F / RQ-4 UAV	Project (Number/Name) 675149 / RQ-4 Capability Enhancements
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This project supports system engineering/program management, test and evaluation, management services and fielding support for all RQ-4 projects. This reflects contracting/acquisition strategy for these common elements within the Global Hawk program to provide efficiencies.

The RQ-4 program will maintain and upgrade interoperability for Blocks 20/30/40 with system of systems partners and continue to incorporate applicable synergies with other platforms such as the U.S. Navy's Triton, other RPA weapon systems, and Processing, Exploitation & Dissemination (PED) elements. The networking capability for intelligence dissemination is required to provide the data transport interface between the Weapons System, Operations Centers, and external Intelligence Community customers.

USAF plans to begin divestment of the Block 20 aircraft in FY21 and the Block 30 aircraft in FY22. To maximize value to the USAF and DoD, efforts will be pivoted to focus on supporting the Block 40 fleet and Block 30 closeout actions.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver RQ-4 UAV weapon system capability. The use of such program funds would be in addition to the civilian pay expenses budgeted in program elements 0605831F. In FY20 \$4.165M expended and in FY21 \$4.891M is estimated for civilian pay expenses in this program element.

When judged feasible and affordable, this program will participate in the development, testing, and implementation of international standards to enhance joint, allied, and coalition interoperability. Studies and activities may be initiated to further explore the utility of incorporating the emerging architectural standards such as the USAF Unmanned Aerial Systems (UAS) Command and Control Initiative (UCI) or the DoD's Unmanned Control Segment standards (UCS) and Open Mission Systems (OMS). Ground Segment Modernization Program (GSMP) will incorporate UCI and UCS standards.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
<p>Title: RQ-4 Ground Segment Modernization Program (GSMP)</p> <p>Description: GSMP resolves fleet grounding DMS and obsolescence issues associated with ground segment equipment and provides critical warfighter capabilities such as building-based multi-aircraft control. It will also enhance interoperability data dissemination as well as provide training capability.</p> <p>FY 2021 Plans:</p> <ul style="list-style-type: none"> - Completing Developmental Test of 1st of 2 planned SW releases. - Will complete integration and begin DT of 2nd SW release. <p>FY 2022 Base Plans:</p> <ul style="list-style-type: none"> -Will complete Development Test of 2nd of 2 planned SW releases. -Will begin Operational Test and Evaluation of system. <p>FY 2022 OCO Plans:</p>	101.381	81.500	37.601	0.000	37.601

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Appropriation/Budget Activity 3600 / 7		R-1 Program Element (Number/Name) PE 0305220F / RQ-4 UAV		Project (Number/Name) 675149 / RQ-4 Capability Enhancements	
B. Accomplishments/Planned Programs (\$ in Millions)					
N/A					
FY 2021 to FY 2022 Increase/Decrease Statement: Funding decreased due to concluding developmental testing of GSMP.					
Title: RQ-4 MS-177 Sensor Integration					
Description: Integration of MS-177 multispectral sensor into Block 30					
FY 2021 Plans: -N/A					
FY 2022 Base Plans: -N/A					
FY 2022 OCO Plans: N/A					
FY 2021 to FY 2022 Increase/Decrease Statement: N/A					
Title: RQ-4 Infrastructure					
Description: RQ-4 Infrastructure includes system engineering, program management, test and evaluation, and fielding support for all RQ-4 projects as well as periodic Operational Flight Program (OFP) updates and releases, development testing, and Other Government Costs (OGC). This funding was previously included in the RQ-4 Capability Enhancements Accomplishment/Planned Program, including funding for the 412th TW at Edwards AFB, AFOTEC, JTIC DCGS and other interoperability partners. This supports Waypoint Modification - Dynamic Mission Operations (DYNAMO).					
FY 2021 Plans: - Supporting Developmental Testing of GSMP					
FY 2022 Base Plans: - Will support two phases of Developmental Testing of GSMP - Will support Operational Testing of GSMP - Will support Enterprise Services/Flight Test Services and Comm System Upgrades to aircraft and ground stations					
FY 2022 OCO Plans:					
	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
	18.140	0.000	0.000	0.000	0.000
	40.951	81.791	45.523	0.000	45.523

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Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305220F / RQ-4 UAV	Project (Number/Name) 675149 / RQ-4 Capability Enhancements
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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
N/A					
FY 2021 to FY 2022 Increase/Decrease Statement: - Funding decreased due to divestiture of Block 20 aircraft and planned divestiture of Block 30 aircraft.					
Accomplishments/Planned Programs Subtotals	160.472	163.291	83.124	0.000	83.124

C. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2020</u>	<u>FY 2021</u>	<u>FY 2022 Base</u>	<u>FY 2022 OCO</u>	<u>FY 2022 Total</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025</u>	<u>FY 2026</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• APAF 05 Line Item HAWK00: RQ-4 Mods	1.704	3.350	3.205	-	3.205	-	-	-	-	-	-
• APAF 07 Line Item RQ4DIS: RQ-4 Post Production Support	47.246	1.750	24.592	-	24.592	-	-	-	-	-	-

Remarks

D. Acquisition Strategy

The RQ-4 program uses an evolutionary acquisition strategy to provide the warfighter with a near-term combat capability with increased time-phased capability improvements as technology and risk achieve satisfactory levels. Northrop Grumman Corporation is the prime contractor. A suite of contract vehicles is used for development efforts: primarily, Indefinite Delivery, Indefinite Quantity (IDIQ) contracts cover development, system upgrade, production, retrofit, fielding, and sustainment efforts. MS-177 Sensor Enhancement RDT&E is being contracted directly with the Original Equipment Manufacturer (OEM), Collins Aerospace.

The program successfully completed Milestone (MS) C in February 2015 and is transitioning core program activities to the Operations and Support phase of the Defense Acquisition System over the next several years. Future required capabilities beyond the core Acquisition Category (ACAT) IC RQ-4 program will be completed as separate ACAT II and ACAT III modification programs.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Air Force **Date:** May 2021

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305220F / RQ-4 UAV	Project (Number/Name) 675149 / RQ-4 Capability Enhancements
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Product Development (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
RQ-Capability Enhancements	SS/ Various	Northrop Grumman Integrated Systems : San Diego, CA	2.380	0.000		0.000		0.000		0.000		0.000	-	-	2.380
Integrated Functional Capability 9	SS/CPIF	Northrop Grumman Integrated Systems : San Diego, CA	7.771	0.000		0.000		0.000		0.000		0.000	-	-	7.771
RQ-4 Ground Segment Modernization Program (GSMP)	SS/CPIF	Northrop Grumman Integrated Systems : San Diego, CA	205.511	101.381	Jan 2020	81.489	Mar 2021	37.601	Oct 2021	-		37.601	-	-	414.785
RQ-4 MS-177 Sensor Integration	SS/ Various	Various : San Diego, CA	72.463	18.140	Jan 2020	0.000		0.000		-		0.000	-	-	212.033
RQ-4 Infrastructure	Various	Various : Various	51.322	22.751	Mar 2020	64.302	Mar 2021	26.053	Oct 2021	-		26.053	-	-	203.878
RQ-4 Block 40 ISR Payload Adapter Design Study	SS/TBD	NGAS : San Diego, CA	8.000	0.000		0.000		0.000		0.000		0.000	-	-	8.000
Subtotal			347.447	142.272		145.791		63.654		0.000		63.654	-	-	N/A

Remarks
 Target Value of the RQ-4 EMD, IDIQ, and EPIC Contracts is not segregated by Budget Project Number.
 Target Value of GSMP contract includes \$43.414M of funding in Budget Project Number 675147, RQ-4 Grnd Segment/Comm System
 Target Value of MS-177 contract includes \$121.431M of funding in Budget Project Number 675145, RQ-4 Block 30
 Target Value of RQ-4 Infrastructure is not segregated by Budget Project Number.

Support (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Non Prime Technical Support	Various	Various : Dayton, OH	2.117	0.900	Jan 2020	1.290	Jan 2021	1.290	Jan 2022	-		1.290	-	-	-
Subtotal			2.117	0.900		1.290		1.290		-		1.290	-	-	N/A

Remarks
 Target Value of the RQ-4 effort is not segregated by Budget Project Number.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Air Force **Date:** May 2021

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305220F / RQ-4 UAV	Project (Number/Name) 675149 / RQ-4 Capability Enhancements
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Test and Evaluation (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Flight Test & Evaluation	MIPR	412 TW : Edwards AFB, CA	21.555	5.360	Jan 2020	5.342	Feb 2021	10.342	Oct 2021	-		10.342	-	-	-
Subtotal			21.555	5.360		5.342		10.342		-		10.342	-	-	N/A

Remarks
Target Value of the RQ-4 effort is not segregated by Budget Project Number.

Management Services (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
PMA: A&AS	Various	Various : Dayton, OH	5.484	4.700	Nov 2019	4.200	Feb 2021	3.500	Oct 2021	-		3.500	-	-	-
PMA: Other Government Costs	Various	Various : Dayton, OH	2.432	7.240	Oct 2019	6.668	Oct 2020	4.338	Oct 2021	-		4.338	-	-	-
Subtotal			7.916	11.940		10.868		7.838		-		7.838	-	-	N/A

Remarks
Target Value of the RQ-4 effort is not segregated by Budget Project Number.

	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	379.035	160.472	163.291	83.124	0.000	83.124	-	-	N/A

Remarks
Target Value of GSMP contract includes \$43.414M of funding in Budget Project Number 675147 Ground Segment/Comm System

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 Air Force **Date:** May 2021

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305220F / RQ-4 UAV	Project (Number/Name) 675149 / RQ-4 Capability Enhancements
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FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

<i>RQ-4 Capability Enhancements</i>	
Sensor Enhancements & Upgrades (MS-177) Development	
Ice Protection System Risk Reduction & Analysis	
Ground Segment Maintenance/Upgrades Development	
Ground Segment Modernization Program Development	
Comms Systems Maintenance/Upgrades Development	
RQ-4 Infrastructure & Test	

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Exhibit R-4A, RDT&E Schedule Details: PB 2022 Air Force **Date:** May 2021

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305220F / RQ-4 UAV	Project (Number/Name) 675149 / RQ-4 Capability Enhancements
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Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
RQ-4 Capability Enhancements				
Sensor Enhancements & Upgrades (MS-177) Development	1	2020	4	2020
Ice Protection System Risk Reduction & Analysis	1	2020	4	2020
Ground Segment Maintenance/Upgrades Development	1	2020	4	2022
Ground Segment Modernization Program Development	1	2020	1	2022
Comms Systems Maintenance/Upgrades Development	1	2020	4	2022
RQ-4 Infrastructure & Test	1	2020	4	2022

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Air Force **Date:** May 2021

Appropriation/Budget Activity 3600 / 7					R-1 Program Element (Number/Name) PE 0305220F / RQ-4 UAV				Project (Number/Name) 67RTIP / MP-RTIP			
COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
67RTIP: MP-RTIP	244.794	0.500	0.000	0.000	0.000	0.000	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Project MDAP/MAIS Code: 293

Note

Beginning in FY09, the Multi-Platform Radar Technology Insertion Program (MP-RTIP) funding was transferred to program 0305220F (RQ-4) Global Hawk (GH). Therefore, the data in this package includes only FY09 and subsequent funding related to program 0305220F.

A. Mission Description and Budget Item Justification

The MP-RTIP sensor was designed as a family of modular, scalable sensors to provide next generation capabilities to support sustainable network centric operations with integrated Command and Control, Intelligence, Surveillance and Reconnaissance (C2ISR) capability. MP-RTIP provides the RQ-4 Block 40 aircraft with advanced Synthetic Aperture Radar (SAR) and Moving Target Indicator (MTI) sensor capabilities.

This project (67RTIP) includes MP-RTIP modernization and integration efforts for the RQ-4 Block 40 Platform. MP-RTIP modernization studies and development insertion include the implementation of Maritime Modes (MM), Maritime Inverse SAR (MISAR), product improvements and other advanced capabilities. GH Program Office will continue integration of radar capabilities to include Maritime Modes integration into RQ-4 aircraft and ground systems.

Activities also include studies and analysis supporting current and future program planning and future modes development based on user requirements.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver MPRTIP weapon system capability. The use of such program funds would be in addition to the civilian pay expenses budgeted in program elements 0605831F.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Title: Multi-Platform Radar Tech Insertion Program (MP-RTIP)	0.500	0.000	0.000	0.000	0.000
Description: MP-RTIP development and integration					
FY 2021 Plans: N/A					
FY 2022 Base Plans: N/A					
FY 2022 OCO Plans:					

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Air Force **Date:** May 2021

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305220F / RQ-4 UAV	Project (Number/Name) 67RTIP / MP-RTIP
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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
N/A					
<i>FY 2021 to FY 2022 Increase/Decrease Statement:</i> N/A					
Accomplishments/Planned Programs Subtotals	0.500	0.000	0.000	0.000	0.000

C. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2020</u>	<u>FY 2021</u>	<u>FY 2022 Base</u>	<u>FY 2022 OCO</u>	<u>FY 2022 Total</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025</u>	<u>FY 2026</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• APAF 05 Line Item HAWK00: RQ-4 Mods	1.704	40.468	12.443	-	12.443	-	-	-	-	-	-
• APAF 07 Line Item RQ4DIS: RQ-4 Post Production Support	47.246	32.585	25.070	-	25.070	-	-	-	-	-	-
• RDTE 07 PE 0305238F: NATO AGS	32.567	36.731	20.795	-	20.795	-	-	-	-	-	-

Remarks

D. Acquisition Strategy

- Will complete transition to sustainment and GH Program Office will have responsibility for future radar development.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Air Force **Date:** May 2021

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305220F / RQ-4 UAV	Project (Number/Name) 67RTIP / MP-RTIP
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Product Development (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
MP-RTIP	SS/CPFF	Northrop Grumman Integrated Systems : El Segundo, CA	196.996	0.500		0.000		0.000		0.000		0.000	-	-	-
Subtotal			196.996	0.500		0.000		0.000		0.000		0.000	-	-	N/A

Support (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
IRT Study	Various	Various : Various, NV	0.105	0.000		0.000		0.000		0.000		0.000	-	-	-
Logistics Planning	SS/CPFF	Northrop Grumman Integrated Systems : El Segundo, CA	3.667	0.000		0.000		0.000		0.000		0.000	-	-	-
Subtotal			3.772	0.000		0.000		0.000		0.000		0.000	-	-	N/A

Test and Evaluation (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Flight Test & Evaluation	MIPR	Various : Various, NV	9.536	0.000		0.000		0.000		0.000		0.000	-	-	-
Subtotal			9.536	0.000		0.000		0.000		0.000		0.000	-	-	N/A

Management Services (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
PMA: A&AS	C/CPFF	Various : Various, NV	30.698	0.000		0.000		0.000		0.000		0.000	-	-	-
PMA: Other Gov't Cost	Various	Various : Boston, MA	3.792	0.000		0.000		0.000		0.000		0.000	-	-	-
Subtotal			34.490	0.000		0.000		0.000		0.000		0.000	-	-	N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Air Force **Date:** May 2021

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305220F / RQ-4 UAV	Project (Number/Name) 67RTIP / MP-RTIP
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	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	244.794	0.500	0.000	0.000	0.000	0.000	-	-	N/A

Remarks
Funds are required in FY20 to close out the entire MP-RTIP SDD contract #F19628-00-C-0100.

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 Air Force **Date:** May 2021

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305220F / RQ-4 UAV	Project (Number/Name) 67RTIP / MP-RTIP
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FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

MP-RTIP	
SDD MP-RTIP Radar Transition to RQ-4 Block 40 Program Office	██████████
Radar Mode Integration & Mode Development (IFC 9/10)	████████████████████
SDD Contract Close Out	██████████

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Exhibit R-4A, RDT&E Schedule Details: PB 2022 Air Force **Date:** May 2021

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305220F / RQ-4 UAV	Project (Number/Name) 67RTIP / MP-RTIP
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Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>MP-RTIP</i>				
SDD MP-RTIP Radar Transition to RQ-4 Block 40 Program Office	1	2020	2	2020
Radar Mode Integration & Mode Development (IFC 9/10)	1	2020	4	2020
SDD Contract Close Out	2	2020	3	2020