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Exhibit R-2, RDT&E Budget Item Justification: PB 2019 Air Force										Date: February 2018		
Appropriation/Budget Activity 3600: Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development					R-1 Program Element (Number/Name) PE 0305238F I NATO AGS							
COST (\$ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
Total Program Element	-	38.904	44.729	51.527	0.000	51.527	32.567	1.787	0.796	0.810	Continuing	Continuing
676001: NATO AGS	-	38.904	44.729	51.527	0.000	51.527	32.567	1.787	0.796	0.810	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This program funds the U.S. contribution to the Alliance Ground Surveillance (AGS) system, a North Atlantic Treaty Organization (NATO), Direct Commercial Sale acquisition. AGS is an airborne ground surveillance capability that provides continuous, wide area surveillance in all weather conditions. It will provide NATO decision makers with near real time information and situational awareness concerning friendly, neutral and opposing ground and maritime forces to support mission planning and execution, including force protection and targeting. All NATO nations will have access to AGS collection data, creating opportunities for burden sharing with similar U.S. assets.

The AGS program includes: air and ground segment acquisitions, operations of the NATO AGS Management Agency (NAGSMA), development of operations and support concepts and definition and establishment of an initial support capability. The air segment consists of five (5) air vehicles based on unique exportable configurations of the United States Air Force Global Hawk air frame, Navy Triton command and control architecture and the U.S. Multi-Platform Radar Technology Insertion Program (MP-RTIP) radar. The U.S. will also integrate new Maritime Moving Target and Inverse Synthetic Aperture Radar capability into the MP-RTIP radar for NATO AGS. The ground segment consists of fixed site and transportable/mobile ground stations for air vehicle Command and Control (C2), data exploitation and distribution. Operations and continuing In-Service Support will be funded through a future NATO Military Commanders' Capability Package funded within the NATO Security Investment Program (NSIP).

U.S. participation in NATO AGS was ratified by Secretary of Defense (SECDEF) signature/approval of the NATO AGS Program Memorandum of Understanding (PMOU) in June 2009 and includes 15 nations. In FY 2012, OSD transferred the NATO AGS program to the U.S. Air Force (USAF) for management and execution of the Research and Development effort.

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.

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B. Program Change Summary (\$ in Millions)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	
Previous President's Budget	38.904	44.729	38.915	0.000	38.915	
Current President's Budget	38.904	44.729	51.527	0.000	51.527	
Total Adjustments	0.000	0.000	12.612	0.000	12.612	
• Congressional General Reductions	0.000	0.000				
• Congressional Directed Reductions	0.000	0.000				
• Congressional Rescissions	0.000	0.000				
• Congressional Adds	0.000	0.000				
• Congressional Directed Transfers	0.000	0.000				
• Reprogrammings	0.000	0.000				
• SBIR/STTR Transfer	0.000	0.000				
• Other Adjustments	0.000	0.000	12.612	0.000	12.612	
Change Summary Explanation						
Funding increased due to MP-RTIP system development, integration, initial testing efforts and inflation.						
C. Accomplishments/Planned Programs (\$ in Millions)				FY 2017	FY 2018	FY 2019
Title: Design / Development of NATO Alliance Ground Surveillance (AGS)				34.139	11.142	3.533
Description: U.S. contribution to NATO for AGS development acquisition and initial fielding.						
Supports configuration changes at a system level and air vehicle exportability modifications.						
FY 2018 Plans:						
- Will continue U.S. contribution to NATO for AGS development acquisition and initial fielding						
- Will continue configuration changes at a system level						
- Tactical Ground Stations will be delivered to NATO						
FY 2019 Plans:						
- Aircraft #1 & #2 will be delivered to NATO						
- Aircraft #3 & #4 will be delivered to NATO						
FY 2018 to FY 2019 Increase/Decrease Statement:						
Funding decreased because NATO AGS development is nearing completion: air vehicles 95% complete and ground elements 90% complete. Program will begin transition to Operations and Sustainment (O&S) in FY18, which is financed via NATO common funds.						
Title: Design/Development of Maritime Modes				3.889	33.487	47.894

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C. Accomplishments/Planned Programs (\$ in Millions)		FY 2017	FY 2018	FY 2019
Description: Supports development and flight testing of maritime modes capability for RTIP and additional configuration changes that cannot be performed under the direct commercial sale contract between Northrop Grumman and NAGSMA. FY 2018 Plans: - Will continue development of maritime modes capability and additional configuration changes that cannot be performed under the direct commercial sale contract between Northrop Grumman and NAGSMA FY 2019 Plans: - Will continue development of maritime modes capability and additional configuration changes that cannot be performed under the direct commercial sale contract between Northrop Grumman and NAGSMA FY 2018 to FY 2019 Increase/Decrease Statement: Funding increased due to inflation and MP-RTIP system development, integration, and initial testing efforts.				
Title: Technical Support for NATO Alliance Ground Surveillance (AGS) Description: Provide engineering and logistics support for NATO AGS development and initial fielding. FY 2018 Plans: - Will continue engineering, logistics and program office support for NATO AGS development and initial fielding. FY 2019 Plans: - Will continue engineering, logistics and program office support for NATO AGS development and initial fielding. FY 2018 to FY 2019 Increase/Decrease Statement: N/A		0.570	0.100	0.100
Title: Test and Evaluation Support for NATO Alliance Ground Surveillance (AGS) Description: Provide testing and evaluation via the Air Force Test Center. FY 2018 Plans: N/A FY 2019 Plans: N/A FY 2018 to FY 2019 Increase/Decrease Statement:		0.306	0.000	0.000

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C. Accomplishments/Planned Programs (\$ in Millions)								FY 2017	FY 2018	FY 2019	
N/A											
Accomplishments/Planned Programs Subtotals								38.904	44.729	51.527	
D. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
• RDTE 07 PE 0305220F: RQ-4 UAV	256.307	321.807	260.038	-	260.038	300.498	235.024	-	-	Continuing	Continuing
Remarks											
E. Acquisition Strategy											
Acquisition of the AGS system is being accomplished via a single delivery strategy. The system will be delivered via a fixed price direct commercial sale contract between Northrop Grumman Integrated System Sector International, Incorporated (NGISSII) & NATO, which was signed on 20 May 2012. The program is managed by the NATO AGS Management Agency (NAGSMA).											
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.											

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 Air Force												Date: February 2018			
Appropriation/Budget Activity 3600 / 7						R-1 Program Element (Number/Name) PE 0305238F / NATO AGS				Project (Number/Name) 676001 / NATO AGS					
Product Development (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
NATO AGS Design / Development	SS/FFP	NATO AGS Management Agency : Brussels, Belgium	-	34.139	Oct 2016	10.217	Oct 2017	2.604	Oct 2018	-		2.604	Continuing	Continuing	-
NATO AGS System Level Configuration Changes	SS/FFP	AFLCMC/WI : Wright Patterson, AFB, OH	-	-		-		-		-		-	Continuing	Continuing	-
MP-RTIP for NATO AGS Design / Development	SS/FFP	AFLCMC/HB : Hanscom AFB, MA	-	3.889	Oct 2016	33.487	Dec 2017	47.894	Dec 2018	-		47.894	Continuing	Continuing	-
Subtotal			-	38.028		43.704		50.498		-		50.498	Continuing	Continuing	N/A
Support (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
NATO AGS Technical Support	SS/FFP	Multiple : Hanscom, WPAFB, OH	-	0.295	Apr 2017	0.100	Dec 2017	0.100	Oct 2018	-		0.100	Continuing	Continuing	-
Subtotal			-	0.295		0.100		0.100		-		0.100	Continuing	Continuing	N/A
Test and Evaluation (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
NATO AGS Test and Evaluation Support	SS/FFP	Multiple: AFLCMC/ WI, AFLCMC/HB, 412 TW, 88 CG : Hanscom, WPAFB, Edwards	-	0.306	Apr 2017	-		-		-		-	Continuing	Continuing	-
Subtotal			-	0.306		-		-		-		-	Continuing	Continuing	N/A

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Management Services (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
NATO AGS Management Services	SS/FFP	Multiple : Hanscom, WPAFB, Pax River	-	0.275	Jul 2017	0.925	Jan 2018	0.929	Jan 2019	-		0.929	Continuing	Continuing	-
Subtotal			-	0.275		0.925		0.929		-		0.929	Continuing	Continuing	N/A
			Prior Years	FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			-	38.904		44.729		51.527		-		51.527	Continuing	Continuing	N/A
Remarks The Industrial Structure consists of Northrop Grumman (Northrop Grumman Integrated Systems Sector International, Incorporated - NGISSII) prime contractor, three subcontractors, and 15 participating nation industries that will receive direct work. There are no indirect offsets. The technical support of the NATO AGS program includes MITRE Engineering, U.S. Navy's Triton program office support, U.S. government travel, and supplies. The test and evaluation support of the NATO AGS program includes the AFMC 412 Test Wing support of Flight Testing and Frequency Management by the AFMC 88 Communication Group. The management services support of the NATO AGS program includes Advisory & Assistance Services.															

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Exhibit R-4, RDT&E Schedule Profile: PB 2019 Air Force			Date: February 2018		
Appropriation/Budget Activity 3600 / 7		R-1 Program Element (Number/Name) PE 0305238F / NATO AGS		Project (Number/Name) 676001 / NATO AGS	

	FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023			
	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
NATO AGS																												
Design and Development - NATO AGS																												
Aircraft #1 Ferry Flight to Main Ops Base (March 2019)																												
Aircraft #2 Delivery to NATO (April 2019)																												
Aircraft #3, #4 & #5 Delivery to NATO																												
System Level Performance Verification																												
IOC (September 2019)																												
FOC (September 2023)																												
Flight Test - NATO AGS																												
Design, Development, & Test - Maritime Mode																												
Ground Station Delivery																												
Tech Support - NATO AGS																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2019 Air Force			Date: February 2018
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305238F / NATO AGS	Project (Number/Name) 676001 / NATO AGS	

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
NATO AGS				
Design and Development - NATO AGS	1	2017	4	2019
Aircraft #1 Ferry Flight to Main Ops Base (March 2019)	2	2019	2	2019
Aircraft #2 Delivery to NATO (April 2019)	3	2019	3	2019
Aircraft #3, #4 & #5 Delivery to NATO	3	2019	1	2020
System Level Performance Verification	3	2019	2	2020
IOC (September 2019)	4	2019	4	2019
FOC (September 2023)	4	2023	4	2023
Flight Test - NATO AGS	1	2017	4	2018
Design, Development, & Test - Maritime Mode	1	2017	1	2022
Ground Station Delivery	1	2017	1	2018
Tech Support - NATO AGS	1	2017	4	2023