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Exhibit R-2, RDT&E Budget Item Justification: PB 2017 Air Force **Date:** February 2016

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 0305238F / NATO AGS
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COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
Total Program Element	-	232.851	138.400	38.904	0.000	38.904	0.000	0.000	0.000	0.000	0.000	410.155
676001: NATO AGS	-	232.851	138.400	38.904	0.000	38.904	0.000	0.000	0.000	0.000	0.000	410.155
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

Note

In FY 2017 Project: 676001, NATO AGS, will complete.

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.

UNCLASSIFIED

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B. Program Change Summary (\$ in Millions)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Previous President's Budget	232.851	197.486	39.292	0.000	39.292
Current President's Budget	232.851	138.400	38.904	0.000	38.904
Total Adjustments	0.000	-59.086	-0.388	0.000	-0.388
• 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	-59.086			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	0.000	0.000	-0.388	0.000	-0.388

Change Summary Explanation

FY 2016 President's Budget included funds intended for FY 2016 PE 0A01012F, NATO AWACS in the amount of \$59.086M. Air Force requested transfer to AP, AF line 79 for NATO AWACS.

FY17 reduction of \$0.388M based on inflation adjustment.

C. Accomplishments/Planned Programs (\$ in Millions)	FY 2015	FY 2016	FY 2017
Title: Design / Development of NATO Alliance Ground Surveillance (AGS)	217.882	118.440	34.139
Description: U.S. contribution to NATO for AGS development acquisition and initial fielding. Supports configuration changes at a system level.			
FY 2015 Accomplishments: - Continued U.S. contribution to NATO for AGS development acquisition and initial fielding - Supported configuration changes at a system level - Aircraft #1 rolled out for flight test			
FY 2016 Plans: - Will continue U.S. contribution to NATO for AGS development acquisition and initial fielding - Will support configuration changes at a system level - Aircraft #1 and #2 will be delivered to NATO			
FY 2017 Plans:			

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C. Accomplishments/Planned Programs (\$ in Millions)		FY 2015	FY 2016	FY 2017
<ul style="list-style-type: none"> - Will complete U.S. contribution to NATO for AGS development acquisition and initial fielding - Will complete configuration changes at a system level - Aircraft #3, #4 and #5 will be delivered to NATO 				
<p>Title: Design/Development of Maritime Modes</p> <p>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.</p> <p>FY 2015 Accomplishments:</p> <ul style="list-style-type: none"> - Completed maritime mode flight testing - Continued to support development of maritime modes capability and additional configuration changes that cannot be performed under the direct commercial sale contract between Northrop Grumman and NAGSMA <p>FY 2016 Plans:</p> <ul style="list-style-type: none"> - Will continue to support development of maritime modes capability and additional configuration changes that cannot be performed under the direct commercial sale contract between Northrop Grumman and NAGSMA <p>FY 2017 Plans:</p> <ul style="list-style-type: none"> - Will complete development of maritime modes capability and additional configuration changes that cannot be performed under the direct commercial sale contract between Northrop Grumman and NAGSMA 		9.444	18.400	3.889
<p>Title: Technical Support for NATO Alliance Ground Surveillance (AGS)</p> <p>Description: Provide engineering and logistics support for NATO AGS development and initial fielding.</p> <p>FY 2015 Accomplishments:</p> <ul style="list-style-type: none"> - Continued engineering, logistics and program office support for NATO AGS development and initial fielding <p>FY 2016 Plans:</p> <ul style="list-style-type: none"> - Will continue engineering, logistics and program office support for NATO AGS development and initial fielding <p>FY 2017 Plans:</p> <ul style="list-style-type: none"> - Will continue engineering, logistics and program office support for NATO AGS development and initial fielding. 		1.345	1.385	0.570
<p>Title: Test and Evaluation Support for NATO Alliance Ground Surveillance (AGS)</p> <p>Description: Provide testing and evaluation via the Air Force Flight Test Center.</p> <p>FY 2015 Accomplishments:</p>		4.180	0.175	0.306

UNCLASSIFIED

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C. Accomplishments/Planned Programs (\$ in Millions)	FY 2015	FY 2016	FY 2017
- Continued detailed test and evaluation planning with the Air Force Flight Test Center			
<i>FY 2016 Plans:</i>			
- Accomplished first flight of aircraft #1 from production facility to Air Force Flight Test Center and initial flight test			
- Will continue detailed test and evaluation planning with the Air Force Flight Test Center			
- Aircraft #1 will conduct ferry flight from Air Force Flight Test Center to AGS Main Operating Base on Sigonella, Italy.			
- System level performance verification and integration with ground systems testing will be conducted on aircraft #1 following its arrival			
<i>FY 2017 Plans:</i>			
- Will complete detailed test and evaluation planning with the Air Force Flight Test Center			
Accomplishments/Planned Programs Subtotals	232.851	138.400	38.904

D. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u> <u>Base</u>	<u>FY 2017</u> <u>OCO</u>	<u>FY 2017</u> <u>Total</u>	<u>FY 2018</u>	<u>FY 2019</u>	<u>FY 2020</u>	<u>FY 2021</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• RDTE: BA 07: PE 0305220F: RQ-4 UAV	241.828	188.053	256.307	0.000	256.307	321.807	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 Sensor Systems International, Incorporated (NGISSI) & 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 2017 Air Force **Date:** February 2016

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305238F / NATO AGS	Project (Number/Name) 676001 / NATO AGS
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Product Development (\$ in Millions)				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 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			
NATO AGS Design / Development	SS/FFP	NATO AGS Management Agency : Brussels, Belgium	-	200.432	Oct 2014	118.440	Oct 2015	34.139	Oct 2016	0.000		34.139	0.000	353.011	-
NATO AGS System Level Configuration Changes	SS/FFP	AFLCMC/WI : Wright Patterson, AFB, OH	-	17.451	May 2015	0.000		0.000		0.000		0.000	0.000	17.451	-
MP-RTIP for NATO AGS Design / Development	SS/FFP	AFLCMC/HB : Hanscom AFB, MA	-	9.444	May 2015	18.400	Oct 2015	3.889	Oct 2016	0.000		3.889	0.000	31.733	-
Subtotal			-	227.327		136.840		38.028		0.000		38.028	0.000	402.195	-

Support (\$ in Millions)				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 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			
NATO AGS Technical Support	SS/FFP	Multiple : Hanscom, WPAFB	-	0.542	Apr 2015	0.748	Apr 2016	0.295	Apr 2017	0.000		0.295	0.000	1.585	-
Subtotal			-	0.542		0.748		0.295		0.000		0.295	0.000	1.585	-

Test and Evaluation (\$ in Millions)				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 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			
NATO AGS Test and Evaluation Support	SS/FFP	Multiple: AFLCMC/WI, AFLCMC/HB, 412 TW, 88 CG : Hanscom, WPAFB, Edwards	-	4.180	Apr 2015	0.175	Apr 2016	0.306	Apr 2017	0.000		0.306	0.000	4.661	-
Subtotal			-	4.180		0.175		0.306		0.000		0.306	0.000	4.661	-

UNCLASSIFIED

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Management Services (\$ in Millions)				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 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			
NATO AGS Management Services	SS/FFP	Multiple : Hanscom, WPAFB, Pax River	-	0.802	Jul 2015	0.637	Jul 2016	0.275	Jul 2017	0.000		0.275	0.000	1.714	-
Subtotal			-	0.802		0.637		0.275		0.000		0.275	0.000	1.714	-
Project Cost Totals			-	232.851		138.400		38.904		0.000		38.904	0.000	410.155	-

Remarks
 The Industrial Structure consists of Northrop Grumman (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-4A, RDT&E Schedule Details: PB 2017 Air Force **Date:** February 2016

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Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Design and Development - NATO AGS	1	2015	1	2017
Aircraft #1 Rollout (June 2015)	3	2015	3	2015
Aircraft #1 Ferry Flight to Main Ops Base (June 2016)	3	2016	3	2016
Aircraft #2 Delivery to Main Ops Base (September 2016)	4	2016	4	2016
Aircraft #3, #4 & #5 Delivery to Main Ops Base	1	2017	1	2017
System Level Performance Verification	4	2016	4	2016
IOC (December 2017)	1	2018	1	2018
FOC (December 2018)	1	2019	1	2019
Flight Test - NATO AGS	3	2015	3	2016
Design and Development - Maritime Mode	1	2015	4	2017
Flight Test of Maritime Mode (June 2015)	3	2015	3	2015
Ground Station Delivery	3	2016	3	2017
Tech Support - NATO AGS	1	2015	4	2017