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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 0604445F / <i>Wide Area Surveillance</i>
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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	0.000	19.268	0.000	2.760	0.000	2.760	-	-	-	-	-	-
675899: <i>Wide Area Surveillance</i>	0.000	19.268	0.000	2.760	0.000	2.760	-	-	-	-	-	-

Program MDAP/MAIS Code: 519

Note
 This program, BA 7, PE 0604445F, project 675899, Development, Test & Fielding, is a new start.

A. Mission Description and Budget Item Justification

Wide Area Surveillance (WAS) consists of two advanced sensor systems, the Stateside Affordable Radar System (STARS) and Scorpion, incorporated into a single WAS System. Based on existing technological capabilities, WAS detects/tracks low, slow and other asymmetrical threats in the airspace and meets the user needs by sensing stressing airborne targets in complex environments with affordable sensors. The sensor outputs will be incorporated into the Battle Control Systems-Fixed (BCS-F) air picture and utilized as the North American Aerospace Defense Command/ Northern Command (NORAD/NORTHCOM) Command and Control (C2) air surveillance system of record.

Some aspects of the WAS program are classified. These will be provided on a need-to-know basis.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver WAS system capability. The use of such programs funds would be in addition to the civilian pay expenses budgeted in program element 0605831F. In FY20 0.000M was expended for civilian pay expenses in this program element, and in FY21 0.000M is forecasted for civilian pay expenses in this program element.

This requirement supports performance of a full financial audit as required by title 10 U.S.C. Chapter 9A, Sec 240-D.

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 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Previous President's Budget	0.000	0.003	0.000	0.000	0.000
Current President's Budget	19.268	0.000	2.760	0.000	2.760
Total Adjustments	19.268	-0.003	2.760	0.000	2.760
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	20.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	-0.732	0.000			
• Other Adjustments	0.000	-0.003	2.760	0.000	2.760

Change Summary Explanation

FY20 Tech Adjustment approved \$19.3M for STARS (S1) Block 2 developmental prototype.

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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 0604445F / <i>Wide Area Surveillance</i>				Project (Number/Name) 675899 / <i>Wide Area Surveillance</i>			
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
675899: <i>Wide Area Surveillance</i>	0.000	19.268	0.000	2.760	0.000	2.760	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

Note
This program, BA 7, PE 0604445F, project 675899, Development, Test & Fielding, is a new start.

A. Mission Description and Budget Item Justification

Wide Area Surveillance (WAS) consists of two advanced sensor systems, the Stateside Affordable Radar System (STARS) and Scorpion, incorporated into a single WAS System. Based on existing technological capabilities, WAS detects/tracks low, slow and other asymmetrical threats in the airspace and meets the user needs by sensing stressing airborne targets in complex environments with affordable sensors. The sensor outputs are incorporated into the Battle Control Systems-Fixed (BCS-F) air picture and utilized as the North American Aerospace Defense Command/ Northern Command (NORAD/NORTHCOM) Command and Control (C2) air surveillance system of record. This effort is for a S1 Block 2 for the STARS system. FY22 funds will support fielding, integration, testing activities, and sustainment until an operational decision is made.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver Wide Area Surveillance weapon system capability. The use of such program funds would be in addition to the civilian pay expenses budgeted in program element 0605831F. In FY20 \$0.000M was expended for civilian pay expenses in this program element, and in FY21 \$0.000M is forecasted for civilian pay expenses in this program element.

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

	FY 2020	FY 2021	FY 2022
Title: Development, Test & Fielding	19.268	0.000	2.760
Description: Development, Test & Fielding			
FY 2021 Plans: N/A			
FY 2022 Plans: Support STARS (S1) Block 2 Configuration Upgrade			
FY 2021 to FY 2022 Increase/Decrease Statement: FY22 is a New Start and continues fielding, integration, DT/OT, and sustainment until an operational decision is made.			
Accomplishments/Planned Programs Subtotals	19.268	0.000	2.760

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C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2020</u>	<u>FY 2021</u>	<u>FY 2022</u> <u>Base</u>	<u>FY 2022</u> <u>OCO</u>	<u>FY 2022</u> <u>Total</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025</u>	<u>FY 2026</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• OPAF 03 Line Item 834240: <i>Wide Area Surveillance</i>	42.118	47.538	38.794	-	38.794	-	-	-	-	-	-
• OPAF 05 861900: <i>Spares and repair parts</i>	3.007	1.904	0.013	-	0.013	-	-	-	-	-	-

Remarks

D. Acquisition Strategy

The Wide Area Surveillance (WAS) strategy is a single step acquisition approach for full capability to develop, produce, and field highly capable and sustainable advanced sensors in the National Capital Region. Science & technology contracts were let prior to the Engineering and Manufacturing Development phase for both sub-systems. The Cost Plus Fixed-Fee (CPFF) contract for Stateside Affordable Radar System (STARS) was awarded to a single developer to design, build, integrate, and test the STARS system. A subsequent task order was awarded (Jul 17) to include pre-operational site support. The CPFF contract for Scorpion was awarded (Aug 17) to a single developer to complete the design, build, integration, and testing of the Scorpion system, and conduct pre-operational site support. This strategy includes a single delivery approach with 8 STARS and 67 Scorpion systems for a total of 75 sub-systems delivered to achieve FOC. The pre-operational contract for the Scorpion system transitioned to Interim Contract Support (ICS) in Dec 2018, STARS system transitioned to ICS in June 2019. These RDT&E funds will support a Block 2 version of the STARS system.

Air Force Program Executive Officer (PEO) DIGITAL (AFPEO DIGITAL) is the PEO for WAS. Air Force Life Cycle Management Center (AFLCMC) is the Contracting Authority for the WAS program and provides contracts, legal, and comptroller support. Air Force Program Executive Officer (PEO) DIGITAL (AFPEO DIGITAL) is the program's Milestone Decision Authority (MDA).

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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 0604445F / <i>Wide Area Surveillance</i>	Project (Number/Name) 675899 / <i>Wide Area Surveillance</i>
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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			
Wide Area Surveillance (WAS) S1 Block 2 NRE	Various	Raytheon : El Segundo, CA	0.000	8.515	Oct 2020	-		-		-		-	-	-	0.000
Wide Area Surveillance (WAS) S1 Block 2 Development	Various	Raytheon : El Segundo, CA	0.000	9.953	Apr 2021	-		0.145	Jan 2022	-		0.145	-	-	-
Subtotal			0.000	18.468		-		0.145		-		0.145	-	-	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			
Direct Mission	Various	Various : Various	0.000	0.125	Aug 2020	-		-		-		-	-	-	-
Subtotal			0.000	0.125		-		-		-		-	-	-	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			
Test Support	Various	46 Test Squadron : Eglin AFB, FL	0.000	0.050	May 2021	-		1.151	Dec 2021	-		1.151	-	-	-
Subtotal			0.000	0.050		-		1.151		-		1.151	-	-	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			
Program Management Administration	Various	AFLCMC/HBDB : Hanscom AFB, MA	0.000	0.625	Jul 2021	-		1.464	Jul 2022	-		1.464	-	-	-
Subtotal			0.000	0.625		-		1.464		-		1.464	-	-	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 0604445F / <i>Wide Area Surveillance</i>	Project (Number/Name) 675899 / <i>Wide Area Surveillance</i>
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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	0.000	19.268	0.000	2.760	-	2.760	-	-	N/A

Remarks
 FY22 funds will continue to support the STARS (S1) Block 2 Configuration. They will be used for the prime contract, lease payments, environmental assessments, test support, and program management administration (PMA).

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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 0604445F / <i>Wide Area Surveillance</i>	Project (Number/Name) 675899 / <i>Wide Area Surveillance</i>
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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

	FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026			
Wide Area Surveillance																												
Scorpion Interim Contract Support (ICS)																												
STARS Interim Contract Support (ICS)																												
Scorpion Contractor Logistics Support (CLS)																												
STARS Contractor Logistics Support (CLS)																												
STARS and Scorpion combined CLS																												
Milestone C LRIP (November 2019)																												
Scorpion Sole Source LRIP																												
Initial Operational Test and Evaluation (IOT&E)																												
STARS Block 2 Contract Award																												
STARS Block 2 Development Effort																												
Scorpion Milestone C Full Rate Production (FRP) (July 2021)																												
Scorpion Limited Source Competition FRP Base																												
Scorpion Limited Source Competition FRP Option																												
STARS Block 1 Site 5 Production																												
STARS FRP Decision																												
STARS Block 2 Production																												
Full Operating Capability (FOC)																												

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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 0604445F / <i>Wide Area Surveillance</i>	Project (Number/Name) 675899 / <i>Wide Area Surveillance</i>
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Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Wide Area Surveillance				
Scorpion Interim Contract Support (ICS)	1	2020	4	2021
STARS Interim Contract Support (ICS)	1	2020	4	2021
Scorpion Contractor Logistics Support (CLS)	4	2021	1	2024
STARS Contractor Logistics Support (CLS)	4	2021	1	2024
STARS and Scorpion combined CLS	1	2023	4	2026
Milestone C LRIP (November 2019)	1	2020	1	2020
Scorpion Sole Source LRIP	1	2020	4	2022
Initial Operational Test and Evaluation (IOT&E)	1	2021	4	2021
STARS Block 2 Contract Award	3	2021	3	2021
STARS Block 2 Development Effort	3	2021	2	2023
Scorpion Milestone C Full Rate Production (FRP) (July 2021)	4	2021	4	2021
Scorpion Limited Source Competition FRP Base	4	2021	4	2023
Scorpion Limited Source Competition FRP Option	4	2022	4	2024
STARS Block 1 Site 5 Production	1	2021	2	2022
STARS FRP Decision	2	2023	2	2023
STARS Block 2 Production	1	2023	1	2025
Full Operating Capability (FOC)	1	2025	1	2025