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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 / BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0408011F / <i>Special Tactics / Combat Control</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	-	3.543	7.659	6.640	0.000	6.640	-	-	-	-	-	-
675138: <i>ST System Development</i>	-	3.543	7.659	6.640	0.000	6.640	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Special Tactics (ST) System Development project focuses on modernization development for the Special Warfare Acquisition Growth and Refresh (SWAGR). SWAGR will develop, test, train, and modernize the existing and future Family of Systems (FoS) that provide a state-of-the-art Command, Control, Communications, Computer, Intelligence, Surveillance, and Reconnaissance (C4ISR) capability. It also provides a suite of systems for all Air Force Specialty Codes supporting the ST community within the Air Force Special Operations Command's (AFSOC's) Special Warfare operators. ST System Development focus on reducing the risk of fratricide and substantially reducing size and weight of the equipment carried through various core capabilities, which include but are not limited to: Human Machine Interface (HMI), Line of Sight (LOS) targeting, medical monitoring, and Machine-to-Machine (M2M) C4ISR System and all other ST capability needs.

This program will develop and enhance technologies for Special Warfare ST operators to recognize, identify, range, nominate, and designate targets during both day and night operations. SWAGR will also significantly reduce the time required to find, track, fix targets, and engage the enemy by providing highly accurate target grid coordinates in three dimensions, generating target imagery both pre- and post-strike, and transmitting target data to Command and Control centers. SWAGR systems are light, compact, and portable for use by dismounted Special Warfare ST operators. FY22 SWAGR funding will provide significant improvements in operational capability, situational awareness, and precision lethality in the battle space while continuing to build and enhance the SWAGR family of systems. This may be conducted through industry technology demonstrations, prototypes, and associated engineering support to posture the SWAGR for technology insertion. These efforts will deliver enhanced capability for the dismounted soldier in terms of dramatic weight reduction and increase mission effectiveness across the conflict spectrum. SWAGR also supports AFSOC Tactical Command and Control (TAC C2) programs to develop and enhance communications systems and equipment essential for ST combat controllers, pararescue, combat weather operators, and tactical air controller parties within AFSOC to perform their mission. The ST operators use this equipment to gather and transmit assault zone suitability and weather data and to perform tactical airfield/assault landing/drop zone operations. Due to the rapidly changing threat environment, the acquisition program manager has the authority to redirect funding as necessary to meet current slated and emerging requirements. The above efforts may change based on the need to support current Air Force mission requirements.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such programs funds would be in addition to the civilian pay expenses budgeted in program element 0605831F. In FY20 \$0.549M was expended for civilian pay expenses in this program element, and in FY21 \$1.017M is forecasted for civilian pay expenses in this program element.”

The Special Tactics (ST) System Development activities also include studies, analysis, and risk-reduction activities to support both current and future program planning and execution.

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Program name was changed from BATTLEFIELD AIRMEN OPERATIONS KIT (BAO Kit) to SPECIAL WARFARE ACQUISITION GROWTH AND REFRESH (SWAGR) to reflect the scope of the new AFSOC Capabilities Development Document (CDD) managing the program.

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	3.629	7.673	6.740	0.000	6.740
Current President's Budget	3.543	7.659	6.640	0.000	6.640
Total Adjustments	-0.086	-0.014	-0.100	0.000	-0.100
• 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	-0.086	-0.014	-0.100	0.000	-0.100

Change Summary Explanation

Funding was rephrased into FY21, SWAGR FOS CDD requirements will be incrementally funded with FY22 budget.

RDT&E: 2.5M for development (plugin, app, programs), 4.24M for contract, integration, testing

PROC: 2.1M for assault zone, 1.3M for personnel recovery, 1.7M for reconnaissance specific mission sets; 4.5M for mobility (ground/maritime); 13.3M for communications/power; 6.9M for parachute systems/accessories; 12.2 for visual augmentation systems; 2.9M for unmanned systems (comm/ISR); 18.6M for contract, integration, testing; 5.1M for inventory control point.

BAO Inc II disconnect of 126M fully funded in the FY19-22 POM. Programming distribution was roughly 20% of the overall delta each year FY19-21, 40% in FY22, then back to pre-FY19 levels starting in FY22, a primary reason for the large difference between FY21 and 22. Additionally, earlier this FY, 15.2M of FY21 programming was redirected to other programs by HAF further increasing the difference.

C. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
Title: Human Machine Interface (HMI)	0.762	1.799	1.768

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C. Accomplishments/Planned Programs (\$ in Millions)		FY 2020	FY 2021	FY 2022
<p>Description: HMI is a system of systems that provides integrated operator interface between all the machine components by using unified visual and auditory displays and controls, such as head-mounted displays, tactical earplug connectivity with man pack or handheld communications, integrated tactical computing solution, and power generation and management systems.</p> <p>FY 2021 Plans:</p> <ul style="list-style-type: none"> - Continued to support digitally aided combat close air support operations. Plan to develop and operate tests or full spectrum certification (Joint Interoperable Test Command (JITC), Air Force System Interoperability Test (AFSIT), and Authority to Operate (ATO)). - Continued to explore and define requirements for implementation of the Iridium waveform granting DoD dedicated airtime. - Continued communications development: will upgrade HMI efforts which reduced the Size, Weight, and Power (SWAP) required to be carried by the Special Tactics Community. Specifically includes wireless technology. - Required maturation of available technology for future dismounted communication contract in order to meet the requirements of the user. <p>FY 2022 Plans:</p> <ul style="list-style-type: none"> - Will continue to support digitally aided combat close air support operations. Plan to develop and operate tests or full spectrum certification (Joint Interoperable Test Command (JITC), Air Force System Interoperability Test (AFSIT), and Authority to Operate (ATO)). - Will continue to explore and define requirements for implementation of the Iridium waveform granting DoD dedicated airtime. - Will continue communications development: will upgrade HMI efforts which reduce the Size, Weight, and Power (SWAP) required to be carried by the Special Tactics Community. Specifically includes wireless technology. - Will require maturation of available technology for future dismounted communication contract in order to meet the requirements of the user. <p>FY 2021 to FY 2022 Increase/Decrease Statement: Current FY22 funding allows for the development to continue with the HMI effort for the Special Tactics CDD.</p>				
<p>Title: Line of Sight</p> <p>Description: Line of Sight (LOS) targeting enables the Special Warfare ST operators to find, fix, track, target and, engage the enemy at close range during day or night operations by providing highly accurate target coordinates in three dimensions. LOS generates vital imagery both pre and post-strike at a fraction of the weight and is more efficient than legacy equipment carried by the operator. Non Line of sight (XLOS) targeting device exploration and development will help capture future capabilities to the Special Tactics community. XLOS devices allow for a remote expendable reporting environmental sensor that enhances</p>		0.122	0.259	0.278

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C. Accomplishments/Planned Programs (\$ in Millions)		FY 2020	FY 2021	FY 2022
AFSOC Special Operation Weather Team's (SOWT) ability to provide timely, accurate, and critical deep battle space weather reconnaissance and intelligence.				
FY 2021 Plans: - Continued to explore and develop future Non Line of sight (XLOS) targeting device capabilities for Special Tactics community.				
FY 2022 Plans: - Will continue to explore and develop future Non Line of sight (XLOS) targeting device capabilities for Special Tactics community.				
FY 2021 to FY 2022 Increase/Decrease Statement: Current FY22 funding allows for the development to continue with the Line of Sight effort for the Special Tactics CDD.				
Title: Machine-to-Machine (M2M) Software Development		2.659	5.601	4.594
Description: This program is a Modern Software Development Program (MSDP). The software acquisition uses a modern software development methodology and is not primarily in sustainment. It has no objective system and will use iterative development across the project's lifecycles. A suite of map-centric software applications that enables M2M transfer of precision targeting, information management, C4ISR (Command, Control Communications, Computers, Intelligence, Surveillance, and Reconnaissance), and Situational Awareness (SA) information. Provides the Special Warfare ST operators the ability to find, fix, track, target, and engage the enemy which greatly reduces the kill chain and drastically decreases the possibility of fratricide by enhancing the operator's SA on the battlefield.				
FY 2021 Plans: - Continued to explore requirements to address future FoS capability gaps. - Continued research and developmental efforts to support requirements in BAO FoS CDD, which includes but is not limited to Assault Zones, Fires, Weather, Personnel Recovery, and Enabling Capabilities.				
FY 2022 Plans: - Will continue to explore requirements to address future FoS capability gaps. - Will continue research and developmental efforts to support requirements in BAO FoS CDD, which includes but is not limited to Assault Zones, Fires, Weather, Personnel Recovery, and Enabling Capabilities.				
FY 2021 to FY 2022 Increase/Decrease Statement: Current FY22 funding allows for the development to continue with the M2M effort for the Special Tactics CDD.				
Accomplishments/Planned Programs Subtotals		3.543	7.659	6.640

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D. 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 837100: <i>Tactical C-E Equipment</i>	38.324	29.021	38.136	-	38.136	-	-	-	-	-	-
• OPAF 04 Line Item 842990: <i>Personal Safety and Rescue Equipment</i>	6.299	2.502	21.647	-	21.647	-	-	-	-	-	-

Remarks

E. Acquisition Strategy

Special Warfare Acquisition Growth and Refresh (SWAGR) awarded a contract in FY16 to complete M2M software development. In FY20 this contract was extended to FY22, the plan is to compete a new M2M contract and award during FY22. This effort will include system engineering, design, integration, and fielding support for M2M software. Due to the rapidly changing threat environment, the acquisition program manager has the authority to redirect funding as necessary to meet current slated and emerging requirements. The above efforts may change based on the need to support current Air Force mission requirements. Wright Patterson AFB, OH manages the contract effort.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Air Force												Date: May 2021				
Appropriation/Budget Activity				R-1 Program Element (Number/Name)						Project (Number/Name)						
3600 / 7				PE 0408011F / <i>Special Tactics / Combat Control</i>						675138 / <i>ST System Development</i>						
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				
Human Machine Interface (HMI)	C/Various	Various : Various	-	0.303	Dec 2019	1.745	Dec 2020	1.442	Dec 2021	-		1.442	-	-	-	
Line of Sight	SS/ Various	Physical Optics Corporation : Torrance, CA	-	0.001	Nov 2019	0.002	Nov 2020	0.002	Nov 2021	-		0.002	-	-	-	
Machine-To-Machine (M2M) Software Development	C/CPFF	General Dynamics IT : Dayton, OH	-	2.833	Feb 2020	4.521	Feb 2021	4.438	Feb 2022	-		4.438	-	-	-	
Subtotal			-	3.137		6.268		5.882		-		5.882	-	-	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 Agency Support	Various	46 TS : Eglin AFB, FL	-	0.205	Oct 2019	0.582	Dec 2020	0.380	Dec 2021	-		0.380	-	-	-	
Subtotal			-	0.205		0.582		0.380		-		0.380	-	-	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	Various : Various, NV	-	0.201	Oct 2019	0.809	Dec 2020	0.378	Dec 2021	-		0.378	-	-	-	
Subtotal			-	0.201		0.809		0.378		-		0.378	-	-	N/A	
Project Cost Totals			-	3.543		7.659		6.640		-		6.640	-	-	N/A	
Remarks																

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 Air Force		Date: May 2021
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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>ST System Development</i>	
Human Machine Interface (HMI)	
Line of Sight	
Machine-To-Machine Software Development	

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

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>ST System Development</i>				
Human Machine Interface (HMI)	1	2020	4	2022
Line of Sight	1	2020	4	2022
Machine-To-Machine Software Development	1	2020	4	2022