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Exhibit R-2, RDT&E Budget Item Justification: PB 2020 United States Special Operations Command **Date:** March 2019

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide / BA 7: Operational Systems Development</i>					R-1 Program Element (Number/Name) PE 1160431BB / <i>Warrior Systems</i>							
COST (\$ in Millions)	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	Cost To Complete	Total Cost
Total Program Element	137.508	74.169	74.582	62.332	6.000	68.332	55.337	44.502	48.808	49.794	Continuing	Continuing
D476: <i>Military Information Support Operations</i>	14.823	27.307	9.942	2.937	-	2.937	2.945	1.785	1.822	1.864	Continuing	Continuing
S375: <i>Weapons Systems</i>	3.404	1.425	1.198	1.625	-	1.625	1.604	1.529	1.561	1.597	Continuing	Continuing
S385: <i>Soldier Protection and Survival Systems</i>	17.555	2.078	10.501	8.918	6.000	14.918	10.874	10.840	10.935	11.049	Continuing	Continuing
S385A: <i>Body Armor and Associated Equipment</i>	6.330	1.242	1.048	1.752	-	1.752	1.738	1.694	1.729	1.770	Continuing	Continuing
S395: <i>Visual Augmentation, Lasers and Sensor Systems</i>	11.383	0.940	1.257	3.212	-	3.212	2.171	2.097	2.132	2.174	Continuing	Continuing
S700: <i>Communications Equipment and Electronics Systems</i>	21.643	9.294	13.966	18.519	-	18.519	21.852	17.040	16.487	16.862	Continuing	Continuing
S710: <i>Tactical Systems Development</i>	4.400	2.327	4.240	3.313	-	3.313	3.344	3.105	3.170	3.244	Continuing	Continuing
S725: <i>Tactical Radio Systems</i>	13.304	12.704	4.660	11.315	-	11.315	7.940	2.572	2.633	2.701	Continuing	Continuing
S800: <i>Munitions Advanced Development</i>	44.666	16.852	27.770	10.741	-	10.741	2.869	3.840	8.339	8.533	Continuing	Continuing

A. Mission Description and Budget Item Justification

This program element provides for development, rapid prototyping, testing, and integration of specialized equipment in the areas of automation, communication, radio, weapon, soldier protection and survival, visual augmentation, lasers and sensors, munition and Military Information Support Operations (MISO) systems. Warrior Systems specialized equipment will permit small, highly trained forces to conduct required operations across the entire spectrum of conflict. Special Operation Forces (SOF) must infiltrate by land, sea, and air to conduct unconventional warfare, direct action, or deep reconnaissance operations in denied areas against insurgent units, terrorists, or highly sophisticated threat forces. The requirement to operate in denied areas controlled by a sophisticated threat mandates that SOF systems remain technologically superior to threat forces to ensure mission success. The efforts within this PE improve SOF warfighting capabilities by continuing efforts to develop smaller, lighter, more efficient and more robust capabilities. The SOF mission mandates that SOF systems remain technologically superior to any threat to provide a maximum degree of survivability while, generally, being conducted in harsh environments for unspecified periods and in locations requiring small unit autonomy. Communications efforts will maintain a Command, Control, and Communications (C3) link between SOF Commanders and SOF Teams, and provide interoperability with all Services, various agencies of the U.S. Government, Air Traffic Control, commercial agencies and allied foreign forces. Efforts relating to soldier protection and

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<p>survival requirements will improve survivability and mobility of SOF while conducting varied missions. Counter Unmanned Aerial Systems (C-UAS) efforts rely on cutting edge detection sensors, both passive and active, paired with kinetic and non-kinetic defeat systems will allow SOF Operators to conduct Special Forces missions in denied and hostile environments worldwide. Specialized visual augmentation, lasers and sensors will permit small, highly trained forces to conduct required operations across the entire spectrum of conflict. Munition efforts include advanced engineering operational system development and qualification efforts related to SOF-peculiar munitions and equipment. Additionally, MISO efforts include planned operations to convey selected information and indicators to foreign audiences to influence their emotions, motives, objective reasoning, and ultimately, the behavior of foreign governments, organizations, groups and individuals. This R-1 program element includes \$6.000 million of FY2020 enduring Overseas Contingency Operations funding.</p> <p>MISO: This project provides for the development, test and integration of MISO equipment. MISO are planned operations to convey selected information and indicators to foreign audiences to influence their emotions, motives, objective reasoning, and ultimately, the behavior of foreign governments, organizations, groups, and individuals. This project funds transformational systems and equipment to conduct the seven phase MISO process (planning, targeting audience analysis, series development, product development and design, approval, production/distribution/dissemination, and measures of effectiveness) in support of combatant commanders.</p> <p>Weapons Systems: This project provides for next generation system development and pre-planned product improvements (P3I), testing, and integration of specialized weapon systems and weapon accessories to meet the unique requirements of SOF. Efforts include muzzle brakes and suppressors, and P3I for assault, sniper, and crew served weapons leveraging the latest technological advances to achieve overmatch capability against emerging threats.</p> <p>Soldier Protection and Survival Systems: This project provides for the development, testing, integration, rapid prototyping, and evaluation of specialized equipment, to meet the unique soldier protection and survival requirements of SOF in varied missions; counter-improvised explosive device systems, to meet continually emerging Counter Radio Controlled-Improvised Explosive Device (RC-IED) threats; C-UAS (aerial, ground and maritime) to mitigate and defeat the emerging and rapidly evolving unmanned system threats; and signature reducing materials and technologies, to reduce the probability of detection by battlefield threat sensors. C-UAS Family of Systems supports the development, integration and testing of Counter Unmanned (Aerial, Ground, Maritime) Sensor Integration Module (SIM) Family of Systems that enhance the Soldier's ability to detect, track, identify, exploit and defeat specific stand-off unmanned weapon threats, and to acquire objects of military significance before the Soldier is detected and to target threat objects accurately for engagement by soldiers counter-UAS defeat capabilities.</p> <p>Body Armor and Associated Equipment: This project provides specialized equipment with ballistic protection to meet the unique soldier protection and survival requirements of SOF. Specialized ballistic equipment improves survivability and load bearing equipment impacting the mobility of SOF while conducting varied missions. This project enhances the SOF Personal Equipment Advanced Requirements program by providing for the research, development, and testing of body armor plates, soft armor, helmets, eye protection, and other personal protective equipment to meet current ballistic threats that exist on the battlefield.</p> <p>Visual Augmentation, Lasers and Sensor Systems:</p>		

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Appropriation/Budget Activity 0400: Research, Development, Test & Evaluation, Defense-Wide / BA 7: Operational Systems Development	R-1 Program Element (Number/Name) PE 1160431BB / Warrior Systems	
<p>This project provides for development, testing, and integration of specialized visual augmentation, laser and sensor systems equipment to meet the unique requirements of SOF and facilitate future Hyper-Enabled Operator capabilities. Programs in this area include binocular/monocular devices; next generation laser designation and geo-location systems; weapon aiming lasers, scopes and accessories; and training and simulation systems.</p> <p>Communications Equipment and Electronics Systems: This project provides for communication systems to meet emergent requirements to support SOF. SOF units require communications equipment that improves their warfighting capability without degrading their mobility. SOF Communications Equipment and Electronics is a continuing effort to develop smaller, lighter, more efficient and more robust SOF Command, Control, Communications, and Computer (C4) capabilities.</p> <p>Tactical Systems Development: This project provides for development, testing, and integration of specialized automation equipment to meet the unique requirements of SOF. Tactical systems provide forward deployed forces with advanced networking, automated data processing, storage, and display capabilities to support situational awareness, mission planning and execution, and command and control (C2) of forces.</p> <p>Tactical Radio Systems: This project is for the development of all SOF tactical radio programs. SOF units require radio communication equipment that improves their warfighting capability without degrading their mobility. United States Special Operations Command (USSOCOM) has developed an overall strategy to ensure that Tactical Radio Systems continue to provide SOF with the required capabilities throughout the 21st century. SOF Tactical Radios provide the critical C3 link between SOF Commanders and SOF Teams involved in operational missions and training exercises. They also provide interoperability with all Services, various agencies of the U.S. Government, Air Traffic Control, commercial agencies, and allied/coalition forces. Tactical Radios rapidly and seamlessly establish and maintain mobile and fixed C2 communications between infiltrated/operational elements and higher echelon headquarters, allowing SOF to operate with any force combination in multiple environments.</p> <p>Munitions Advanced Development: This project provides for the advanced engineering, operational system development, and qualification efforts related to SOF-peculiar and Foreign/Non-standard munitions and equipment. Funding supports development of Insensitive Munitions (IM) technology and evaluation, in accordance with statutory requirement set forth in U.S. Code, Title 10, Chapter 141, Section 2389 (December 2001). Testing is in accordance with the USSOCOM IM Strategic Plan. Funding also supports efforts to develop and improve Stand-Off Precision Guided Munitions (SOPGM), including the development and integration of improved warheads, seekers, guidance navigation and control systems, operational flight software, and missile delivery on to SOF platforms. SOPGM development efforts utilize, to the extent possible, Middle Tier Acquisition methods to rapidly explore, prototype, demonstrate, test, and field new capabilities for near-term combat requirements, such as autonomous and synchronized targeting and strike technology, precision guided projectile ammunition, munition-based aerial sensor delivery vehicles, and alternative precision navigation technologies.</p>		

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B. Program Change Summary (\$ in Millions)	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Previous President's Budget	45.935	57.982	68.336	-	68.336
Current President's Budget	74.169	74.582	62.332	6.000	68.332
Total Adjustments	28.234	16.600	-6.004	6.000	-0.004
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-3.000	-5.900			
• Congressional Rescissions	-	-			
• Congressional Adds	35.500	22.500			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-1.397	-			
• SBIR/STTR Transfer	-2.869	-			
• Other Adjustments	-	-	-6.004	6.000	-0.004
<u>Congressional Add Details (\$ in Millions, and Includes General Reductions)</u>					
Project: D476: <i>Military Information Support Operations</i>					FY 2018
Congressional Add: <i>Multi-Mission Payload (MMP) formerly known as Long Range Broadcast System (LRBS)</i>					FY 2019
Congressional Add: <i>Next Generation Loud Speakers (NGLS) and Scatterable Media</i>					
Congressional Add Subtotals for Project: D476					
Project: S385: <i>Soldier Protection and Survival Systems</i>					
Congressional Add: <i>Rotary Wing Aviation Helmet</i>					
Congressional Add Subtotals for Project: S385					
Project: S800: <i>Munitions Advanced Development</i>					
Congressional Add: <i>SOPGM</i>					
Congressional Add Subtotals for Project: S800					
Congressional Add Totals for all Projects					
<u>Change Summary Explanation</u>					
Funding:					

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<p>FY 2018: Net increase of \$28.234 million due to congressional adds for Multi Mission Payload (\$17.500 million); Next Generation Loud Speaker (\$6.000 million); Small Glide Munition (\$12.000 million); a transfer to Small Business Innovative Research/Small Business Technology Transfer programs (-\$2.869 million); a congressional directed reduction to the SOF Deployable Node program (-\$3.000 million) and reprogramming (-\$1.397 million) for higher Command Priorities.</p> <p>FY 2019: Net increase of \$16.600 million is due to congressional adds for distributed audio media/next generation loudspeaker (\$6.000 million); rotary wing aviation helmet (\$1.500 million); Small Glide Munition Unmanned Aircraft System integration (\$15.000 million); congressional directed reductions for RC-IED test/evaluation excess growth (-\$1.900 million); and ordnance items developmental test/evaluation excess growth (-\$4.000 million).</p> <p>FY 2020: Net decrease of -\$0.004 million due to Overseas Contingency Operations (OCO) to Base transfer (-\$6.000 million) to OCO (+\$6.000 million) and miscellaneous adjustments (-\$0.004 million).</p> <p>Schedule: None.</p> <p>Technical: None.</p>		

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Exhibit R-2A, RDT&E Project Justification: PB 2020 United States Special Operations Command										Date: March 2019		
Appropriation/Budget Activity 0400 / 7					R-1 Program Element (Number/Name) PE 1160431BB / Warrior Systems				Project (Number/Name) D476 / Military Information Support Operations			
COST (\$ in Millions)	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	Cost To Complete	Total Cost
D476: Military Information Support Operations	14.823	27.307	9.942	2.937	-	2.937	2.945	1.785	1.822	1.864	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project provides for the development and acquisition of Military Information Support Operations (MISO) equipment. MISO are planned operations to convey selected information and indicators to foreign audiences to influence their emotions, motives, objective reasoning, and ultimately, the behavior of foreign governments, organizations, groups, and individuals. This project funds transformational systems and equipment to conduct MISO in support of combatant commanders.

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

	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Title: Multi-Mission Payload (MMP) formerly known as Long Range Broadcast System (LRBS) Description: The MMP is a family of broadcast systems intended to be integrated into multiple manned and unmanned, long-loiter aerial systems with the capability of broadcasting in AM, FM, SW, TV, Very High Frequency (VHF), TV Ultra High Frequency (UHF) and cellular Short Message Service (SMS), Multi-Media Messaging Service, and Voice. This system provides the capability to broadcast MISO messages via multiple mediums into permissive, semi-permissive, and denied foreign areas. Additionally, the MMP is capable of supporting Electronic Warfare (EW) missions. FY 2019 Plans: Continue with primary development, systems engineering, and test and evaluation of pod-based cellular and television broadcast, power, and antenna technologies. FY 2020 Base Plans: Completes MMP-Medium development, test, and evaluation and begins MMP-Light development. FY 2019 to FY 2020 Increase/Decrease Statement: Decrease of \$0.994 million is due to fewer testing requirements.	1.573	2.181	1.187	-	1.187
Title: Fly-Away Broadcast System (FABS) Description: FABS is a transit case fly-away broadcast system that utilizes commercial & industry standard technology to disseminate approved messaging to target audiences via FM, SW, cellular SMS and TV transmitter.	2.656	0.900	0.888	-	0.888

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B. Accomplishments/Planned Programs (\$ in Millions)		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
FY 2019 Plans: Continue testing and evaluation of new systems and components to enhance MISO broadcasts. Continue with primary hardware development to reduce broadcast system weight and size while adding multi-mission capabilities. Integrate via the SOF Information Environment (SIE) with the Media Operations Center (MOC); Remote antennas for enhanced stand-off capability; Integrate with SOF Common Operating Picture (COP); Mobile Transmission Site Support Development with SOF Vehicles.						
FY 2020 Base Plans: Continues testing and evaluation of new systems and components to enhance MISO broadcasts. Continues with primary hardware development to reduce broadcast system weight and size while adding multi-mission capabilities.						
FY 2019 to FY 2020 Increase/Decrease Statement: Decrease of -\$0.012 million due to minor adjustments.						
Title: Next Generation Loud Speakers (NGLS)		0.437	0.861	0.862	-	0.862
Description: NGLS are portable systems capable of disseminating high quality recorded and live audio messages by MISO forces in varied geographical area and climate conditions. NGLS consists of Dismounted and Mounted variants that are lighter, smaller, and louder than legacy speaker systems, with added clarity and durability. A new variant of NGLS is the Scatterable Media (NGLS-SM), a hand-emplaced or air-delivered printed audio-visual device for disseminating delayed or on-cue messages to foreign target audiences.						
FY 2019 Plans: Continue testing and evaluation of new systems and components to enhance MISO broadcasts. Focuses on wireless, COP integration, and development to reduce broadcast system weight and size while adding multi-mission capabilities.						
FY 2020 Base Plans: Continues testing, development, and evaluation of new systems and components to enhance MISO broadcasts. Focuses on wireless capability with development to reduce broadcast system weight and size while adding multi-mission capabilities.						
FY 2019 to FY 2020 Increase/Decrease Statement: Increase of \$0.001 million due to minor adjustments.						
Accomplishments/Planned Programs Subtotals		4.666	3.942	2.937	-	2.937

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Exhibit R-2A, RDT&E Project Justification: PB 2020 United States Special Operations Command			Date: March 2019
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160431BB / <i>Warrior Systems</i>	Project (Number/Name) D476 / <i>Military Information Support Operations</i>	

	FY 2018	FY 2019
<i>Congressional Add:</i> Multi-Mission Payload (MMP) formerly known as Long Range Broadcast System (LRBS) <i>FY 2018 Accomplishments:</i> Congressional add for Multi Mission Payload (\$16.860 Million).	16.860	-
<i>Congressional Add:</i> Next Generation Loud Speakers (NGLS) and Scatterable Media <i>FY 2018 Accomplishments:</i> Congressional add Next Generation Loud Speaker and Scatterable Media (\$5.781 million). <i>FY 2019 Plans:</i> Congressional add distributable audio media and Next Generation Loud Speaker (\$6.000 million).	5.781	6.000
Congressional Adds Subtotals	22.641	6.000

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

<u>Line Item</u>	<u>FY 2018</u>	<u>FY 2019</u>	<u>FY 2020</u> <u>Base</u>	<u>FY 2020</u> <u>OCO</u>	<u>FY 2020</u> <u>Total</u>	<u>FY 2021</u>	<u>FY 2022</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• PROC1/0204OTHER: OTHER ITEMS <\$5M	52.718	119.427	103.910	0.028	103.938	149.394	81.064	107.128	68.215	Continuing	Continuing

Remarks

None.

D. Acquisition Strategy

- The MMP program has a traditional acquisition development and procurement strategy with accelerated development that includes increased flight test and multiple combat evaluations.
- The FABS program has an evolutionary acquisition strategy. Commercial and government agency sources will be leveraged for required certifications, functional and operational tests, and acceptance support.
- The NGLS program has an evolutionary acquisition strategy for the legacy NGLS Mounted and Dismounted and an incremental acquisition strategy for new developmental variants (NGLS-Scatterable Media, NGLS-Sonic Projection). Commercial and government agencies will be leveraged for engineering, required certifications, functional and operating tests and acceptance support.

E. Performance Metrics

N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2020 United States Special Operations Command												Date: March 2019			
Appropriation/Budget Activity 0400 / 7						R-1 Program Element (Number/Name) PE 1160431BB / Warrior Systems				Project (Number/Name) D476 / Military Information Support Operations					
Product Development (\$ in Millions)				FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 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
Multi-Mission Payload (MMP)	MIPR	Various : Various	6.837	1.473	Jan 2018	2.038	Jan 2019	1.087	Jan 2020	-		1.087	Continuing	Continuing	-
MMP Congressional Add	MIPR	Various : Various	-	16.860	Mar 2018	-		-		-		-	0.000	16.860	-
Fly Away Broadcast Systems (FABS)	Reqn	Various : n/a	1.674	2.656	Aug 2018	0.900	Jan 2019	0.888	Jan 2020	-		0.888	Continuing	Continuing	-
Next Generation Loud Speakers (NGLS)	Allot	SOFSA : Lexington, KY	-	0.437	Jan 2018	0.761	Jan 2019	0.762	Jan 2020	-		0.762	Continuing	Continuing	-
NGLS Congressional Add	Allot	SOFSA : Lexington, KY	-	5.781	Mar 2019	6.000	Apr 2020	-		-		-	0.000	11.781	-
Prior Year	C/Various	Various : Various	5.846	-		-		-		-		-	0.000	5.846	-
Subtotal			14.357	27.207		9.699		2.737		-		2.737	Continuing	Continuing	N/A
Test and Evaluation (\$ in Millions)				FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 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
MMP	MIPR	Various : Various	0.341	0.100	Jan 2018	0.143	Jan 2019	0.100	Jan 2020	-		0.100	Continuing	Continuing	-
NGLS	Allot	SOFSA : Lexington, KY	-	-		0.100	Jun 2019	0.100	Aug 2020	-		0.100	Continuing	Continuing	-
Prior Year	MIPR	Various : Various	0.125	-		-		-		-		-	0.000	0.125	-
Subtotal			0.466	0.100		0.243		0.200		-		0.200	Continuing	Continuing	N/A
			Prior Years	FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			14.823	27.307		9.942		2.937		-		2.937	Continuing	Continuing	N/A
Remarks															

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Exhibit R-4, RDT&E Schedule Profile: PB 2020 United States Special Operations Command

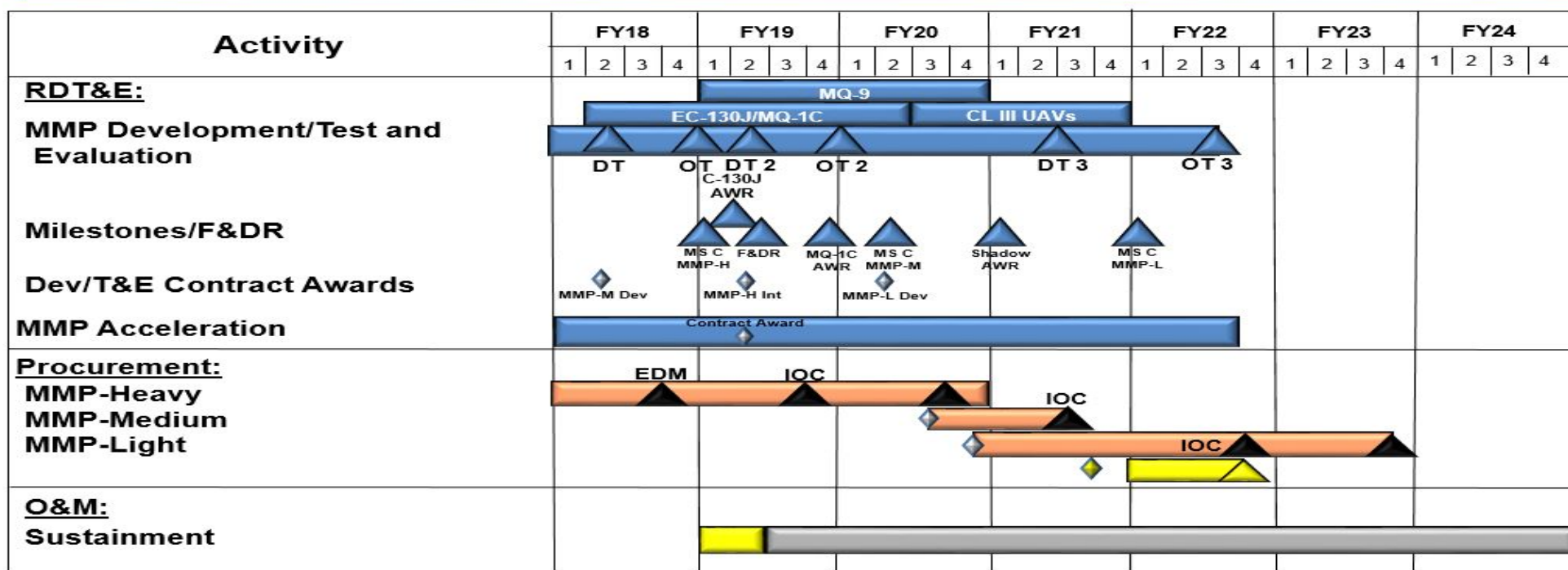
Date: March 2019

Appropriation/Budget Activity
0400 / 7

R-1 Program Element (Number/Name)
PE 1160431BB / Warrior Systems

Project (Number/Name)
D476 / Military Information Support
Operations

MMP Schedule



Contract Award
 Article Delivery
 RDT&E
 Procurement
 O&M
 Previously Reported

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Exhibit R-4, RDT&E Schedule Profile: PB 2020 United States Special Operations Command

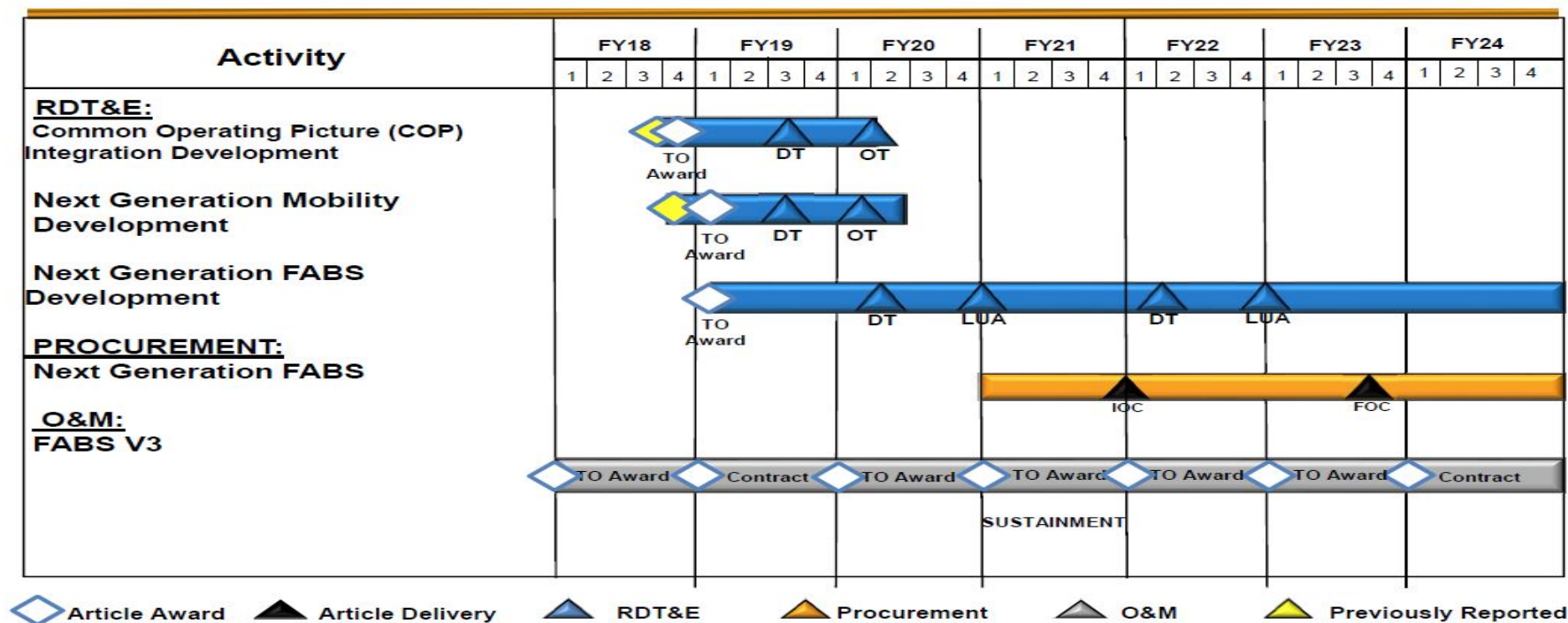
Date: March 2019

Appropriation/Budget Activity
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R-1 Program Element (Number/Name)
PE 1160431BB / Warrior Systems

Project (Number/Name)
D476 / Military Information Support Operations

Fly Away Broadcast System Schedule



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Exhibit R-4, RDT&E Schedule Profile: PB 2020 United States Special Operations Command

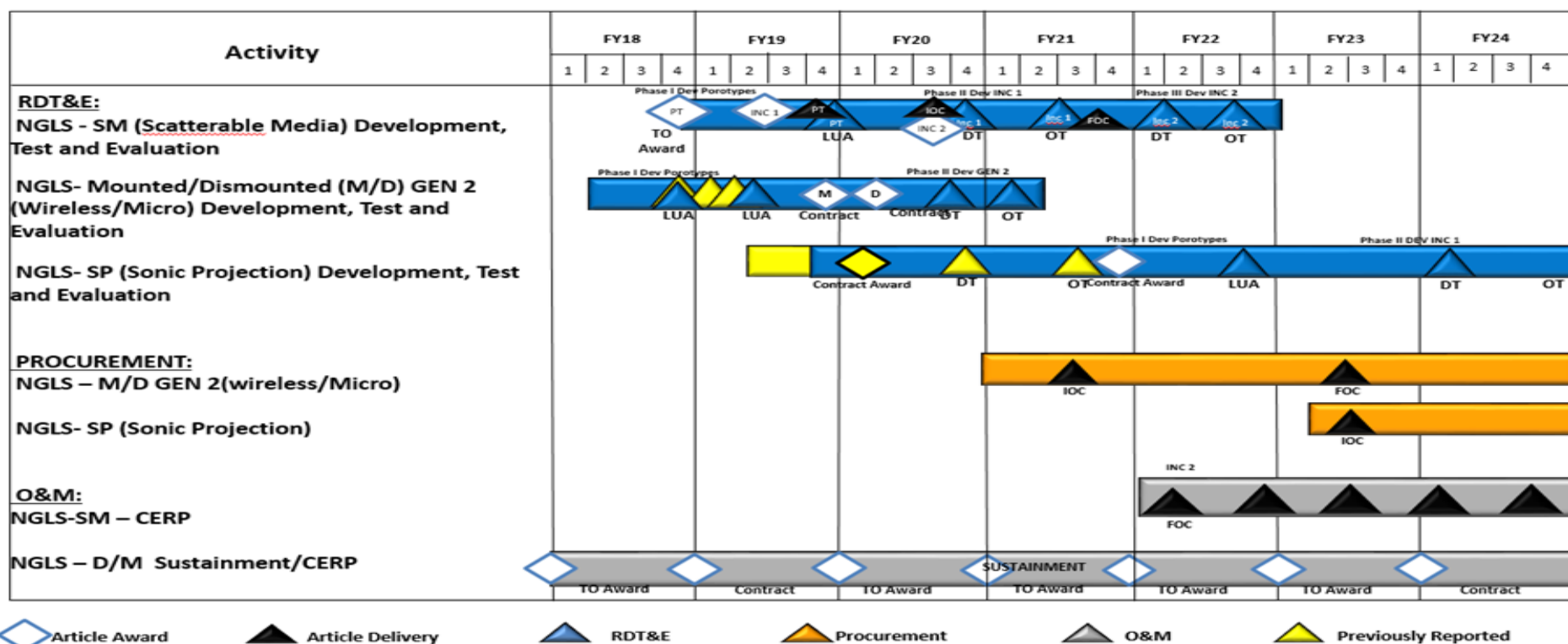
Date: March 2019

Appropriation/Budget Activity
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R-1 Program Element (Number/Name)
PE 1160431BB / Warrior Systems

Project (Number/Name)
D476 / Military Information Support Operations

Next Generation Loudspeaker System (NGLS) Schedule



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Exhibit R-4A, RDT&E Schedule Details: PB 2020 United States Special Operations Command			Date: March 2019
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Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Multi-Mission Payload (MMP)</i>				
Development	1	2018	3	2022
Test and Evaluation	2	2018	3	2022
<i>Fly Away Broadcast Systems (FABS)</i>				
Development	4	2018	4	2024
<i>Next Generation Loudspeakers (NGLS)</i>				
Scatterable Media Development, Test, and Evaluation	4	2018	4	2022
Mounted/Dismounted GEN 2 Development, Test, and Evaluation	2	2018	4	2021
Sonic Projection Development, Test, and Evaluation	4	2019	4	2024

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COST (\$ in Millions)	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	Cost To Complete	Total Cost
S375: <i>Weapons Systems</i>	3.404	1.425	1.198	1.625	-	1.625	1.604	1.529	1.561	1.597	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project provides for the development and testing of specialized, common caliber, individual, sniper, machine gun, pistol, crew served weapons systems and accessories that enable SOF to accurately engage enemy personnel and material in all SOF environments at ranges up to 1500 meters. Weapons include common caliber modular assault rifles to engage out to 600 meters, Sniper Support Rifles to engage out to 800 meters, sniper rifles to engage out to 1500 meters, shoulder fired Grenade Launchers, vehicle and man-portable high velocity grenade launchers, pistols, machine guns to engage out to 1000 meters, multi-barreled mini-guns which can be mounted on boats, vehicles, aircraft, and ground mounted to engage out to 3,500 meters.

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

	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Title: Weapons	1.425	1.198	1.625	-	1.625
Description: SOF weapons are developed to enable the operator to tailor the configuration of the weapon to the assigned mission and operational environment, enhancing the overall effectiveness of the weapons, which enables mission accomplishment and operator survivability.					
FY 2019 Plans: Continue development of enhanced capabilities to improve performance of individual sniper, rifle, and machine gun weapons.					
FY 2020 Base Plans: Continues development of enhanced capabilities to improve performance of individual sniper, rifle, and machine gun weapons.					
FY 2019 to FY 2020 Increase/Decrease Statement: Increase of \$0.427M for testing .338 machine gun.					
Accomplishments/Planned Programs Subtotals	1.425	1.198	1.625	-	1.625

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

Line Item	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	Cost To Complete	Total Cost
• PROC/0204WARRIOR: <i>Warrior Systems <\$5M</i>	287.513	458.499	298.480	36.212	334.692	331.626	312.728	332.200	339.365	Continuing	Continuing

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Exhibit R-2A, RDT&E Project Justification: PB 2020 United States Special Operations Command										Date: March 2019	
Appropriation/Budget Activity 0400 / 7					R-1 Program Element (Number/Name) PE 1160431BB / <i>Warrior Systems</i>			Project (Number/Name) S375 / <i>Weapons Systems</i>			
C. Other Program Funding Summary (\$ in Millions)											
			<u>FY 2020</u>	<u>FY 2020</u>	<u>FY 2020</u>					<u>Cost To</u>	
<u>Line Item</u>	<u>FY 2018</u>	<u>FY 2019</u>	<u>Base</u>	<u>OCO</u>	<u>Total</u>	<u>FY 2021</u>	<u>FY 2022</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>Complete</u>	<u>Total Cost</u>
Remarks											
D. Acquisition Strategy											
Evolutionary acquisition, leveraging emerging technology and mid-tier acquisition authorities. An evolutionary approach delivers capability in increments, recognizing, up front, the need for future capability improvements. Full and open competition with firm-fixed price contracts and other transaction authorities (OTAs).											
E. Performance Metrics											
N/A											

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2020 United States Special Operations Command	Date: March 2019
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Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160431BB / <i>Warrior Systems</i>	Project (Number/Name) S375 / <i>Weapons Systems</i>
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Test and Evaluation (\$ in Millions)				FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 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
Weapon Test & Evaluation	MIPR	Various : Various	3.404	1.425	Jan 2018	1.198	Jan 2019	1.625	Jan 2020	-		1.625	Continuing	Continuing	-
Subtotal			3.404	1.425		1.198		1.625		-		1.625	Continuing	Continuing	N/A
			Prior Years	FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			3.404	1.425		1.198		1.625		-		1.625	Continuing	Continuing	N/A

Remarks

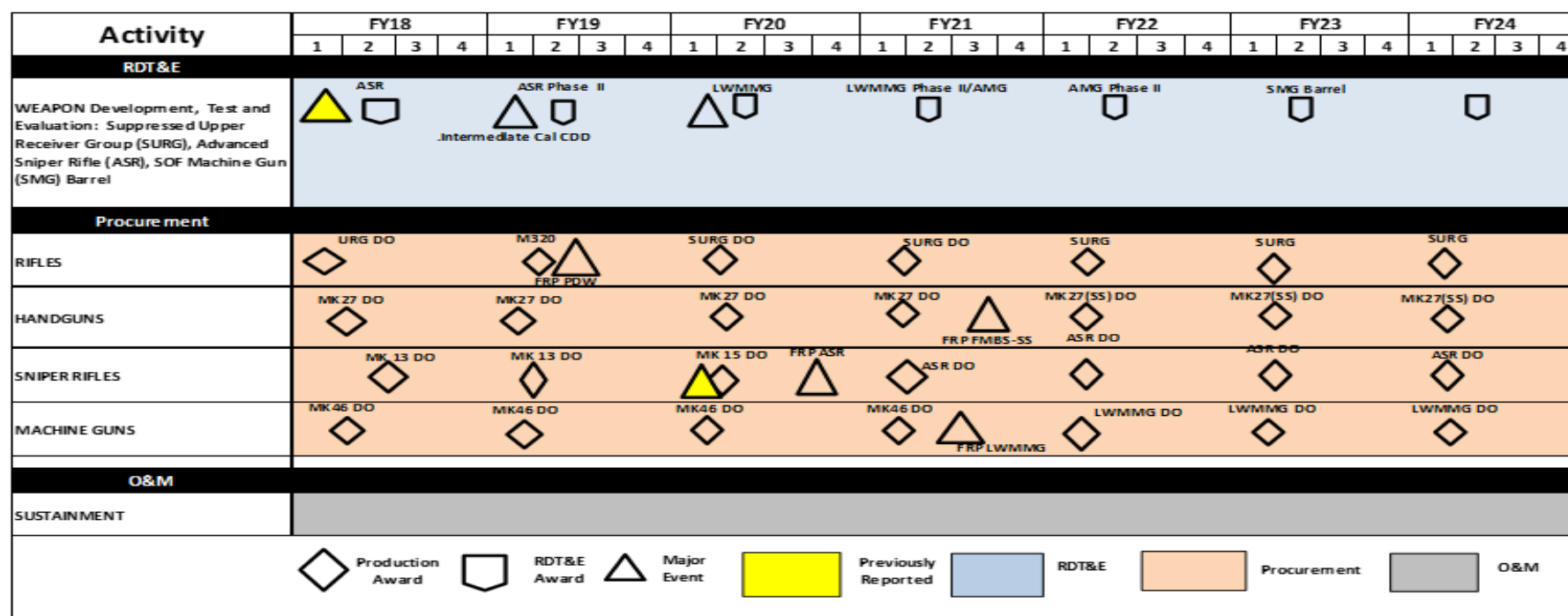
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Exhibit R-4, RDT&E Schedule Profile: PB 2020 United States Special Operations Command

Date: March 2019

Appropriation/Budget Activity
0400 / 7R-1 Program Element (Number/Name)
PE 1160431BB / Warrior SystemsProject (Number/Name)
S375 / Weapons Systems

Weapon Systems Schedule



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Exhibit R-4A, RDT&E Schedule Details: PB 2020 United States Special Operations Command			Date: March 2019
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160431BB / <i>Warrior Systems</i>	Project (Number/Name) S375 / <i>Weapons Systems</i>	

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Weapon Systems</i>				
WEAPON Development, Test and Evaluation: Suppressed Upper Receiver Group (SURG), Advanced Snipe Rifle (ASR), SOF Machine Gun (SMG) Barrel	2	2018	4	2024

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Exhibit R-2A, RDT&E Project Justification: PB 2020 United States Special Operations Command										Date: March 2019		
Appropriation/Budget Activity 0400 / 7					R-1 Program Element (Number/Name) PE 1160431BB / Warrior Systems				Project (Number/Name) S385 / Soldier Protection and Survival Systems			
COST (\$ in Millions)	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	Cost To Complete	Total Cost
S385: Soldier Protection and Survival Systems	17.555	2.078	10.501	8.918	6.000	14.918	10.874	10.840	10.935	11.049	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project provides development, rapid prototyping, testing, and evaluation of signature reducing materials and technology and specialized equipment to meet the unique operator protection and survival requirements for Special Operations Forces (SOF), which include: Army Rangers; Army Special Forces; Navy Sea, Air, Land (SEAL) teams; Navy Special Boat Units; Air Force Operators; and Marine Raiders. Specialized equipment improves survivability protection from the environment by providing the operator with Counter Radio Controlled Improvised Explosive Device (RC-IED) systems, Counter Unmanned Aircraft System (CUAS) systems (aerial, ground and maritime) to mitigate and defeat the emerging and rapidly evolving unmanned system threats, hearing protection and clothing systems, load bearing equipment, and personnel safety equipment to improve the mobility of SOF, while conducting varied missions. These missions are generally conducted in harsh and hostile environments, for unspecified periods and in locations requiring small unit autonomy.

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

	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Title: SOF Personal Equipment Advanced Requirements (SPEAR)	0.475	0.880	1.259	-	1.259
Description: The SPEAR program provides for the research, development, testing and evaluation of a variety of individual and survival equipment to include: ballistic and environmental protective combat uniforms, load carriage systems, communications headsets, and visual augmentation system mounts.					
FY 2019 Plans: Continue research and development of land communications material solutions and environmental protective combat uniforms. Continue materials testing and incorporation into commodity lines. Continues wireless headset evaluations. Continue interoperability of headsets with radios and integrated communication systems.					
FY 2020 Base Plans: Continues research and development of land communications material solutions and environmental protective combat uniforms. Continues materials testing and incorporation into commodity lines. Continues wireless headset evaluations. Continues interoperability of headsets with radios and integrated communication systems.					
FY 2019 to FY 2020 Increase/Decrease Statement: Increase of \$0.379M provides for aviation specific equipment and integrated wireless communications headsets.					
Title: Tactical Combat Casualty Care (TCCC)	0.192	0.178	0.240	-	0.240

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Exhibit R-2A, RDT&E Project Justification: PB 2020 United States Special Operations Command			Date: March 2019			
Appropriation/Budget Activity 0400 / 7		R-1 Program Element (Number/Name) PE 1160431BB / Warrior Systems		Project (Number/Name) S385 / Soldier Protection and Survival Systems		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
<p>Description: TCCC provides lifesaving medical devices, ancillary equipment and Casualty Evacuation (CASEVAC) sets for SOF. The CASEVAC procures a suite of Food and Drug Administration approved medical items including, but not limited, to intraosseous infusion devices, patient monitoring and assessment devices, emergency airway kits, as well as devices that provide SOF the capability to support extraction, mobility, transportation, and sustainment of casualties in forward areas. This program fields tactical medical and CASEVAC capabilities with the intention to transition capabilities developed under the National Mission Force's Tactical Medical Programs. This capability provides significant ability to lessen battlefield losses by providing timely, critical lifesaving and evacuation capabilities to the forward-deployed SOF operators.</p> <p>FY 2019 Plans: Continue test support to include program management, market surveys, rapid prototyping test article acquisition, test and evaluation and systems engineering in direct support of the CASEVAC program. Continue the evaluation of enhanced medical monitoring systems for incorporation into the CASEVAC program. Complete development and testing of water resistant solutions for maritime operations of components within the CASEVAC set.</p> <p>FY 2020 Base Plans: Continues test support to include program management, market surveys, rapid prototyping, test article acquisition, test and evaluation and systems engineering in direct support of the CASEVAC program. Continues the evaluation of enhanced medical monitoring systems capable of enabling telemedicine/telementoring for incorporation into the CASEVAC program.</p> <p>FY 2019 to FY 2020 Increase/Decrease Statement: Increase of \$0.062 million due to CASEVAC Prime vendor contract re-compete effort and the anticipated required network testing to enable telemedicine capabilities on enhanced medical monitoring systems.</p>						
<p>Title: Counter Radio Controlled-Improvised Explosive Device (RC-IED)</p> <p>Description: The Counter RC-IED program provides SOF with the ability to counter current and future RC-IED threats used by terrorist networks.</p> <p>FY 2019 Plans: Continue test support to the Counter RC-IED program. Continue system engineering, test and evaluation, test article acquisition, and market research of the RC-IED programs. Maintain range effectiveness and currency, ensuring the ability to accurately test against current and emerging threat systems. Continue development</p>		1.000	1.548	1.731	-	1.731

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Exhibit R-2A, RDT&E Project Justification: PB 2020 United States Special Operations Command			Date: March 2019			
Appropriation/Budget Activity 0400 / 7		R-1 Program Element (Number/Name) PE 1160431BB / Warrior Systems		Project (Number/Name) S385 / Soldier Protection and Survival Systems		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
and testing of Electronic Counter Measures (ECM) systems capability to include advanced software technique countermeasures and loadsets for mounted and dismounted systems. Continue implementation of Modi software refactoring, improving stability and future technology integration.						
FY 2020 Base Plans: Continues test support to the Counter RC-IED program. Continues system engineering, test and evaluation, test article acquisition, and market research of the RC-IED programs. Maintains range effectiveness and currency, ensuring the ability to accurately test against current and emerging threat systems. Continues development and testing of ECM systems capability to include advanced software technique countermeasures and loadsets for mounted and dismounted systems. Continues implementation of Modi software refactoring, improving stability and future technology integration. Begin Next generation ECM study.						
FY 2019 to FY 2020 Increase/Decrease Statement: Increase of \$0.183 to begin Next generation ECM study.						
Title: Counter Unmanned Aerial System (CUAS)		0.411	4.731	4.000	6.000	10.000
Description: The objective of this program is to research, develop, integrate, generate rapid prototypes, test and evaluate cutting edge Counter-Small Unmanned (Aerial, Ground, Maritime) Systems. This effort will support a CUAS Sensor Integration Module (SIM) Family of Systems (FoS) that integrates various detection sensor modalities (passive sensors, Radio frequency (RF) detection, acoustic, Light Detection and Ranging (LiDAR), radar, day/night Short-Wave Infrared, Mid-Wave Infrared, Long-Wave Infrared (SWIR/MWIR/LWIR) imaging, etc.) along with defeat systems into a SIM. The results of this effort will enhance the soldiers ability to detect, track, identify and defeat specific stand-off weapon threats, to acquire objects of military significance before the soldier is detected and to target threat systems accurately for engagement by the soldiers. This system integration will take the man-out-of-the-loop for detection of threat systems and include man-in-the-loop for defeat capabilities. To accomplish this objective, the project will be broken down into the following: (1) technology and concept evaluation, (2) prototype development, and (3) prototype evaluation and assessment. This program received overseas contingency operations (OCO) funding in FY2019.						
FY 2019 Plans: FY 2019 dollars will support all three Phases (1) of this project. The SIM effort will be develop under the guidance and authorities of Middle Tier Acquisition. Complete phase 1 for CUAS technology and concept						

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Exhibit R-2A, RDT&E Project Justification: PB 2020 United States Special Operations Command				Date: March 2019		
Appropriation/Budget Activity 0400 / 7		R-1 Program Element (Number/Name) PE 1160431BB / Warrior Systems		Project (Number/Name) S385 / Soldier Protection and Survival Systems		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
evaluation. Began phase 2 for hardware/prototype development and systems engineering of CUAS FoS SIM layered multi-sensor interface technologies. Began phase 3 for systems prototype test and evaluation. FY 2020 Base Plans: Completes phase 2 and 3 of CUAS FoS SIM layered multi-sensor interface technologies. Begins 4G/5G Long Term Evaluation (LTE) Datalinks/Autonomous Flight Development and countering high accuracy Global Positioning System (GPS) and Inertial Measurement Unit (IMU) optics. FY 2020 OCO Plans: CUAS FoS-SIM device for further developmental test and evaluation where the developed CUAS FoS-SIM prototype will undergo several levels of performance testing and interoperability assessments. FY 2019 to FY 2020 Increase/Decrease Statement: Increase of \$10 million is due to the creation of the SOF CUAS program as a result of adding base funding and OCO funding to effectively meet the current and emerging enemy threats posed to SOF operations by small unmanned systems in harsh and denied environment.						
Title: Personal Signature Management (PSM) Description: This project provides for development, rapid prototyping, test, and evaluation of signature reducing materials and technology, in order to reduce the probability of detection by battlefield threat sensors. FY 2019 Plans: Provide research, development, rapid prototyping, test and evaluation of next generation signature reducing solutions. Provide for program management, market research, test item acquisition and test and evaluation, in support of PSM efforts for both land and maritime operations. FY 2020 Base Plans: Continues research, development, rapid prototyping, test and evaluation of next generation signature reducing solutions. Provides for program management, market research, test item acquisition and test and evaluation, in support of PSM efforts for both land and maritime operations. FY 2019 to FY 2020 Increase/Decrease Statement: Increase of \$0.024 million is due to anticipated increased cost of threat sensor exploitation efforts.		-	1.664	1.688	-	1.688
Accomplishments/Planned Programs Subtotals		2.078	9.001	8.918	6.000	14.918

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Exhibit R-2A, RDT&E Project Justification: PB 2020 United States Special Operations Command										Date: March 2019	
Appropriation/Budget Activity 0400 / 7				R-1 Program Element (Number/Name) PE 1160431BB / Warrior Systems				Project (Number/Name) S385 / Soldier Protection and Survival Systems			
								FY 2018	FY 2019		
Congressional Add: Rotary Wing Aviation Helmet								-	1.500		
FY 2019 Plans: Research and development of rotary wing aviation helmet.											
Congressional Adds Subtotals								-	1.500		
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	Cost To Complete	Total Cost
• PROC/0204WARRIOR: Warrior Systems<\$5M	287.513	458.499	298.480	36.212	334.692	331.626	312.728	332.200	339.365	Continuing	Continuing
Remarks											
D. Acquisition Strategy											
<p>Counter Unmanned Aerial System (CUAS): SOF CUAS acquisition strategy is predicated on a layered approach of developing and integrating various advancing detection sensor modalities paired with kinetic and non-kinetic defeat capabilities to include exploitation and digital manipulation technologies. SOF Operators require CUAS capability in hand held, man-portable, mounted and fixed site/expeditionary form factors. SOF CUAS collaborates with the Joint Services, Academia and other government agencies to maintain interoperability and cost effectiveness. As SOF CUAS capabilities are developed for specific SOF mission profiles, centralized life cycle sustainment will be required in support of the SOF Components and Theater Special Operations Commands (TSOC). SOF CUAS will utilize Special Operations Forces Support Activity (SOFSA) for warehousing and sustainment.</p>											
<p>Counter Radio Controlled - Improvised Explosive Device (RC-IED): USSOCOM collaborates with the DoD Joint CREW manager and other government agencies in order to maintain Joint Force compatibility and improve program affordability. All next generation Electronic Countermeasures (ECM) development designed as National to Theater ("N-to-T") transition programs. Centralized life cycle sustainment of SOF CREW inventory supports TSOC operational demand as theater provided equipment (TPE).</p>											
<p>Personal Signature Management (PSM): Signature reducing technologies will be embedded into SOF clothing and equipment via modified commercial-off-the-shelf variants. Contracts in support of fielding/sustainment of PSM clothing and equipment will be a combination of sole source firm fixed price 5-year indefinite delivery indefinite quantity contracts, Source America mandatory sole sources, small business set asides and prime vendor style multiple award contracts. PSM will utilize SOFSA for warehousing and sustainment.</p>											
<p>Tactical Combat Casualty Care (TCCC): Operator & Medic Kits - Program managed by Program Manager-Special Operations Forces Survival, Support, and Equipment Systems (PM-SOF SSES) using US Army Medical Materiel Agency prime vendor contracts for equipment purchases and the SOFSA for warehousing and sustainment. CASEVAC Set - Program managed by PM-SOF SSES and utilizes and Indefinite Delivery Indefinite Quantity Commercial-Off-The-Shelf prime integrator contract.</p>											

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Exhibit R-2A, RDT&E Project Justification: PB 2020 United States Special Operations Command		Date: March 2019
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160431BB / <i>Warrior Systems</i>	Project (Number/Name) S385 / <i>Soldier Protection and Survival Systems</i>
<p>SPEAR: Contracts in support of SPEAR are a combination of firm fixed price five year indefinite delivery indefinite quantity with single vendor awards, Source America mandatory sole sources, small business set asides and prime vendor style multiple awards.</p> <p><u>E. Performance Metrics</u> N/A</p>		

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2020 United States Special Operations Command												Date: March 2019			
Appropriation/Budget Activity 0400 / 7						R-1 Program Element (Number/Name) PE 1160431BB / Warrior Systems				Project (Number/Name) S385 / Soldier Protection and Survival Systems					
Product Development (\$ in Millions)				FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 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
SOF Personal Equipment Advanced Requirements (SPEAR) - Protective Combat Uniform (PCU)	Various	PM-SSES : Natick, MA	0.331	0.116	Jan 2018	0.200	Jan 2019	0.295	Jan 2020	-		0.295	Continuing	Continuing	-
SPEAR - Modular Integrated Communications Helmet/Land Maritime Communication System	Various	PM-SSES : Natick, MA	1.095	0.100	Jan 2018	0.150	Feb 2019	0.205	Jan 2020	-		0.205	Continuing	Continuing	-
SPEAR Modular Glove System (MGS)	Various	PM-SSES : Natick, MA	0.040	-		0.010	Jan 2019	0.025	Jan 2020	-		0.025	Continuing	Continuing	-
SPEAR - Load Carriage System (LCS) and Backpacks	Various	PM-SSES : Natick, MA	0.045	0.010	Feb 2018	0.050	Mar 2019	0.085	Mar 2020	-		0.085	Continuing	Continuing	-
Counter Unmanned Aerial System (C-UAS) Overseas Contingency Operations (OCO)	C/Various	Various : Various	-	-		3.000	Feb 2019	-		-		-	0.000	3.000	-
C-UAS 4G/5G LTE Datalinks/Autonomous Flight (Mission Planning) Development OCO	C/Various	Various : Various	-	-		-		0.000		6.000	Nov 2019	6.000	Continuing	Continuing	-
C-UAS High Accuracy Global Positioning System (GPS) and Inertial Measurement Unit (IMU) Development	C/Various	Various : Various	-	-		-		4.000	Mar 2020	-		4.000	Continuing	Continuing	-
C-UAS Prototype Development	C/Various	Night Vision Labs : Ft. Belvoir, VA	-	-		1.000	Feb 2019	-		-		-	0.000	1.000	-
Rotary Wing Aviation Helmet Congressional Add	C/TBD	TBD : TBD	-	-		1.500	Mar 2019	-		-		-	Continuing	Continuing	-
Subtotal			1.511	0.226		5.910		4.610		6.000		10.610	Continuing	Continuing	N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2020 United States Special Operations Command												Date: March 2019			
Appropriation/Budget Activity 0400 / 7						R-1 Program Element (Number/Name) PE 1160431BB / Warrior Systems				Project (Number/Name) S385 / Soldier Protection and Survival Systems					
Test and Evaluation (\$ in Millions)				FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 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
SPEAR - PCU testing/P3I	Various	PM-SSES : Natick, MA	0.256	0.100	Mar 2018	0.200	Feb 2019	0.245	Mar 2020	-		0.245	Continuing	Continuing	-
SPEAR-MGS Test and Evaluation	Various	PM-SSES : Natick, MA	0.091	-		0.010	Jan 2019	0.045	Jan 2020	-		0.045	Continuing	Continuing	-
SPEAR - Maritime Comms Test and Evaluation	Various	PM-SSES : Natick, MA	1.568	0.100	Jan 2018	0.210	Jan 2019	0.265	Jan 2020	-		0.265	Continuing	Continuing	-
SPEAR - LCS/Body Armor Vest/Backpack Material and Prototype Test and Evaluation	Various	PM-SSES : Natick, MA	0.067	0.049	Feb 2018	0.050	Jan 2019	0.094	Feb 2020	-		0.094	Continuing	Continuing	-
Tactical Combat Casualty Care CASEVAC Sets Development, Test and Evaluation	Various	PM-SSES : Natick, MA	1.375	0.192	Feb 2018	0.178	Feb 2019	0.240	Feb 2020	-		0.240	Continuing	Continuing	-
Counter Radio Controlled - Improvised Explosive Device Test and Evaluation Support	Various	Various : Various	12.127	1.000	Jun 2018	1.548	Jan 2019	1.731	Jan 2020	-		1.731	Continuing	Continuing	-
C-UAS Tech. and Concept Evaluation	C/Various	Night Vision Labs : Ft. Belvoir, VA	-	0.411	Aug 2018	0.231	Feb 2019	-		-		-	Continuing	Continuing	-
C-UAS Test and Evaluation Support	C/Various	Night Vision Labs : Ft. Belvoir, VA	-	-		0.500	Aug 2019	-		-		-	Continuing	Continuing	-
Personal Signature Management (PSM) Test and Evaluation	Various	Various : Various	-	-		1.664	Jan 2019	1.688	Jan 2020	-		1.688	Continuing	Continuing	-
Prior Year	MIPR	Various : Various	0.160	-		-		-		-		-	0.000	0.160	-
Prior Year (OCO)	Various	Various : Various	0.400	-		-		-		-		-	0.000	0.400	-
Subtotal			16.044	1.852		4.591		4.308		-		4.308	Continuing	Continuing	N/A
			Prior Years	FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			17.555	2.078		10.501		8.918		6.000		14.918	Continuing	Continuing	N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2020 United States Special Operations Command							Date: March 2019		
Appropriation/Budget Activity 0400 / 7			R-1 Program Element (Number/Name) PE 1160431BB / <i>Warrior Systems</i>			Project (Number/Name) S385 / <i>Soldier Protection and Survival Systems</i>			
	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	Cost To Complete	Total Cost	Target Value of Contract
Remarks									

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Exhibit R-4, RDT&E Schedule Profile: PB 2020 United States Special Operations Command

Date: March 2019

Appropriation/Budget Activity

0400 / 7

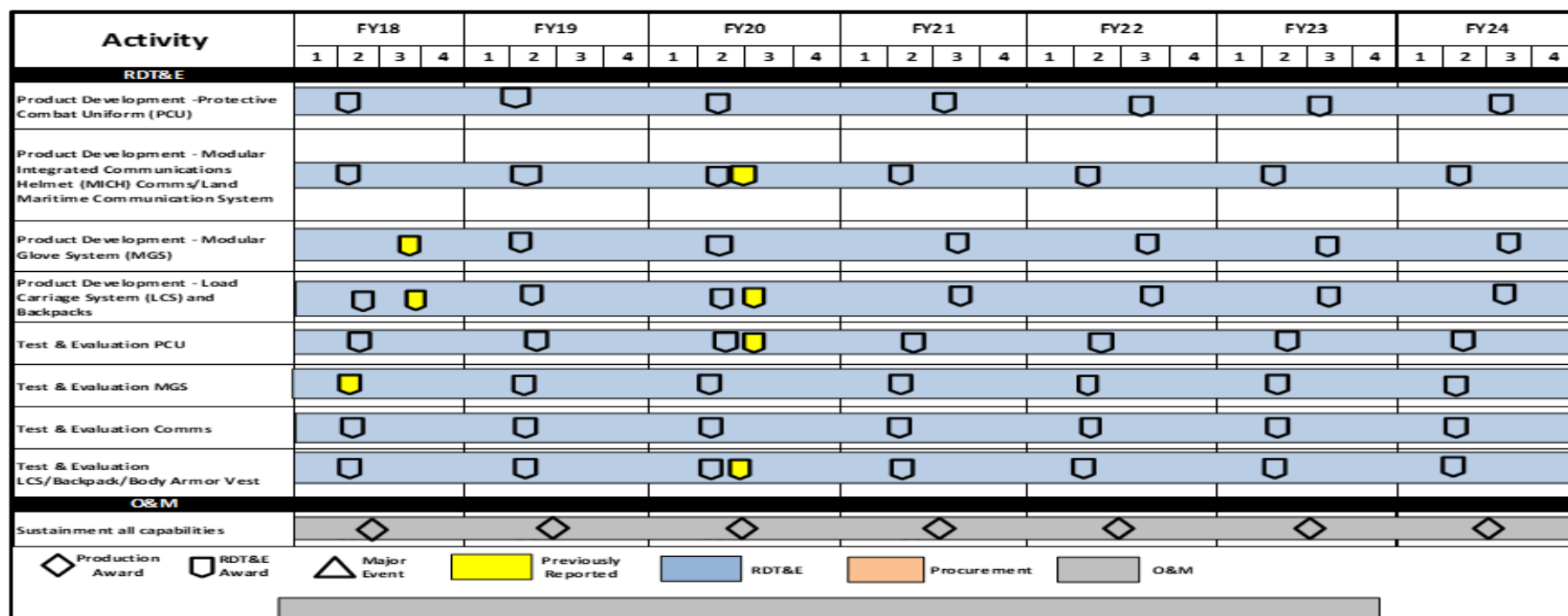
R-1 Program Element (Number/Name)

PE 1160431BB / Warrior Systems

Project (Number/Name)

S385 / Soldier Protection and Survival Systems

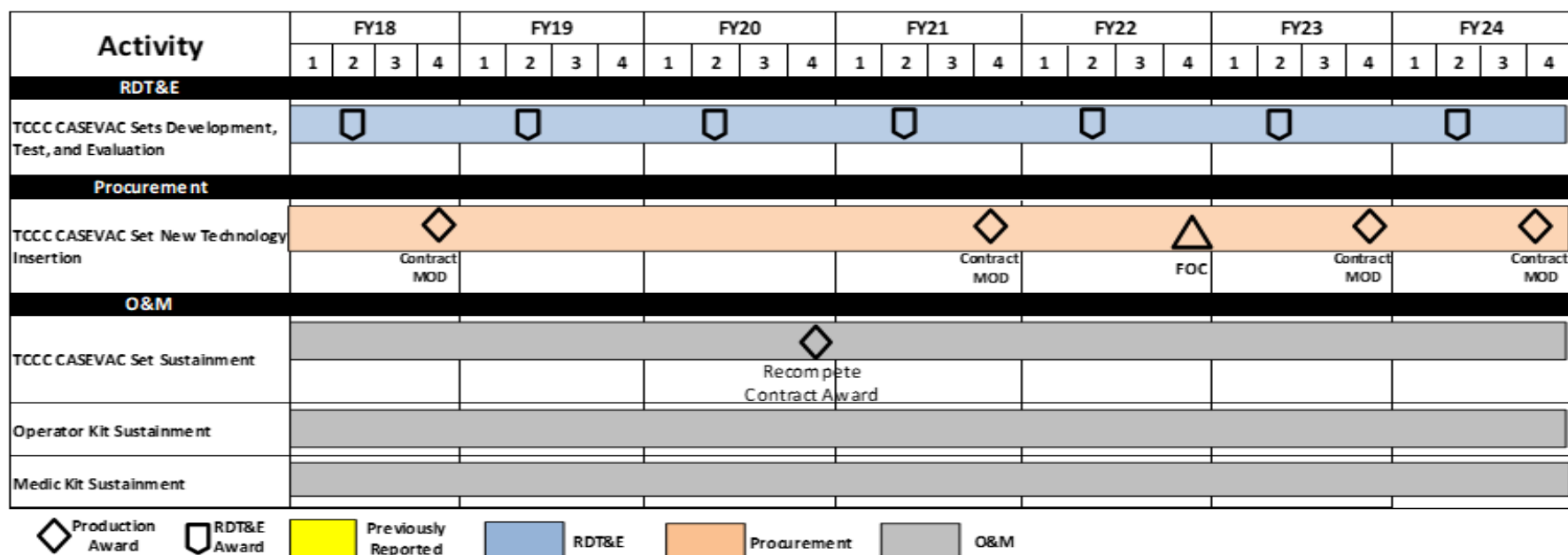
SPEAR Schedule



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Exhibit R-4, RDT&E Schedule Profile: PB 2020 United States Special Operations Command			Date: March 2019
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160431BB / Warrior Systems	Project (Number/Name) S385 / Soldier Protection and Survival Systems	

TCCC Schedule



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Exhibit R-4, RDT&E Schedule Profile: PB 2020 United States Special Operations Command

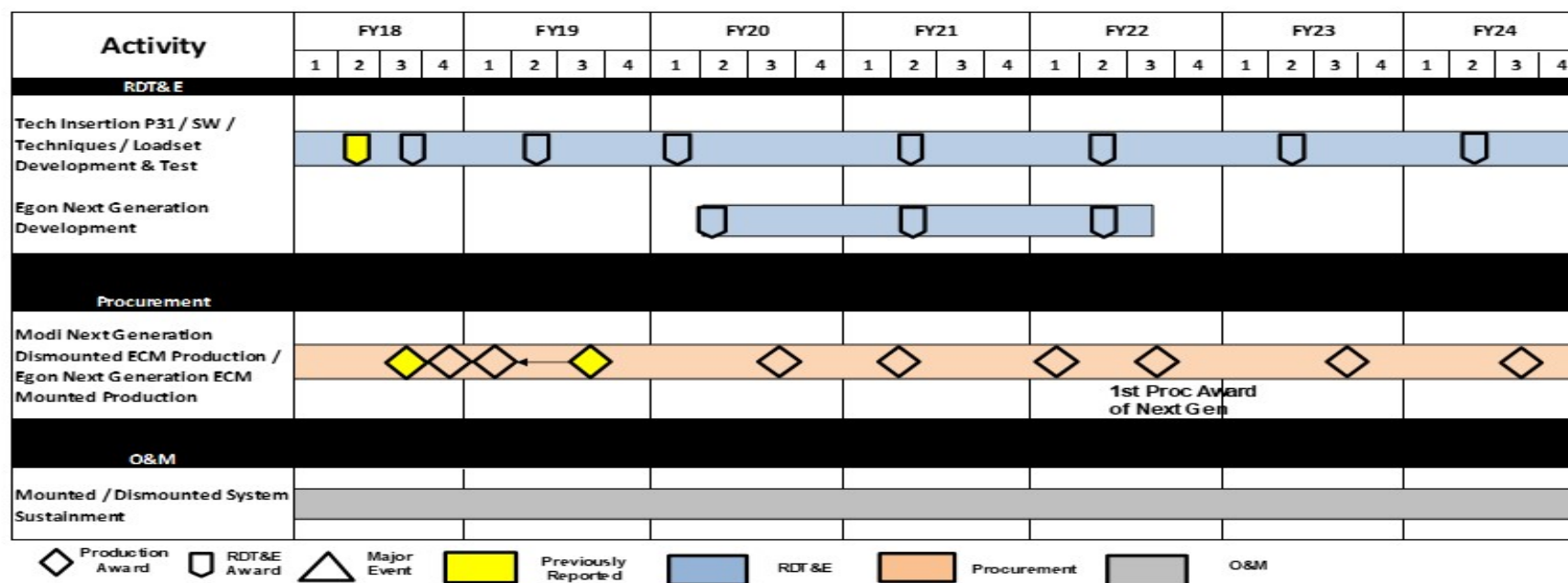
Date: March 2019

Appropriation/Budget Activity
0400 / 7

R-1 Program Element (Number/Name)
PE 1160431BB / Warrior Systems

Project (Number/Name)
S385 / Soldier Protection and Survival Systems

Counter RC-IED Schedule



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Exhibit R-4, RDT&E Schedule Profile: PB 2020 United States Special Operations Command

Date: March 2019

Appropriation/Budget Activity

0400 / 7

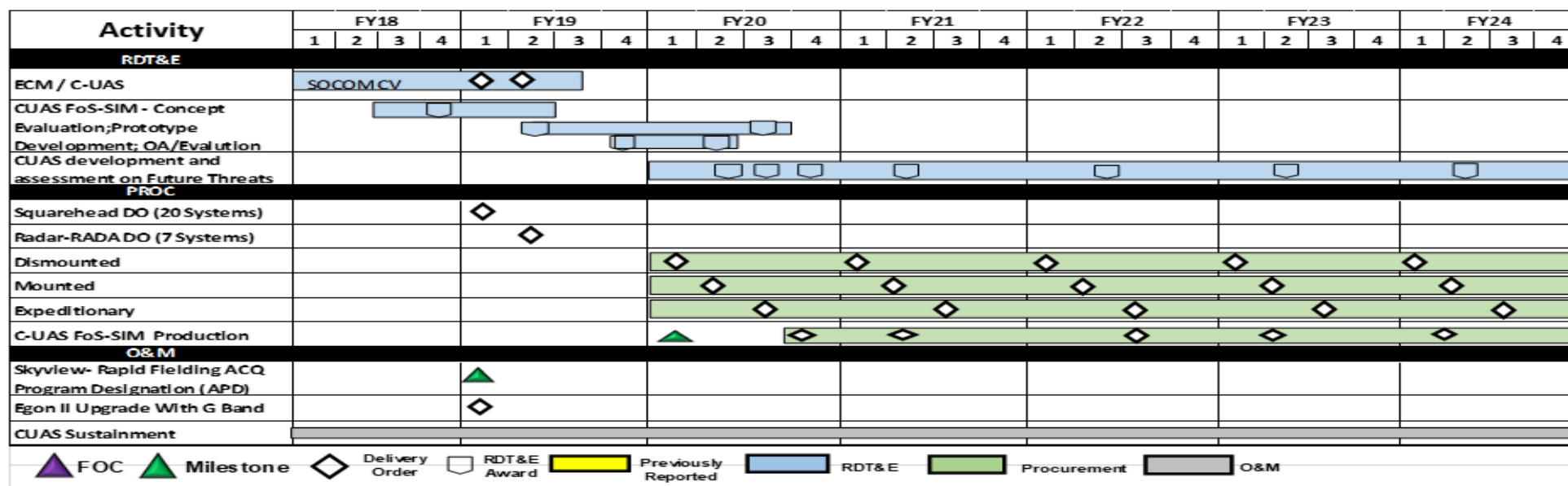
R-1 Program Element (Number/Name)

PE 1160431BB / Warrior Systems

Project (Number/Name)

S385 / Soldier Protection and Survival Systems

CUAS Schedule



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Exhibit R-4, RDT&E Schedule Profile: PB 2020 United States Special Operations Command

Date: March 2019

Appropriation/Budget Activity

0400 / 7

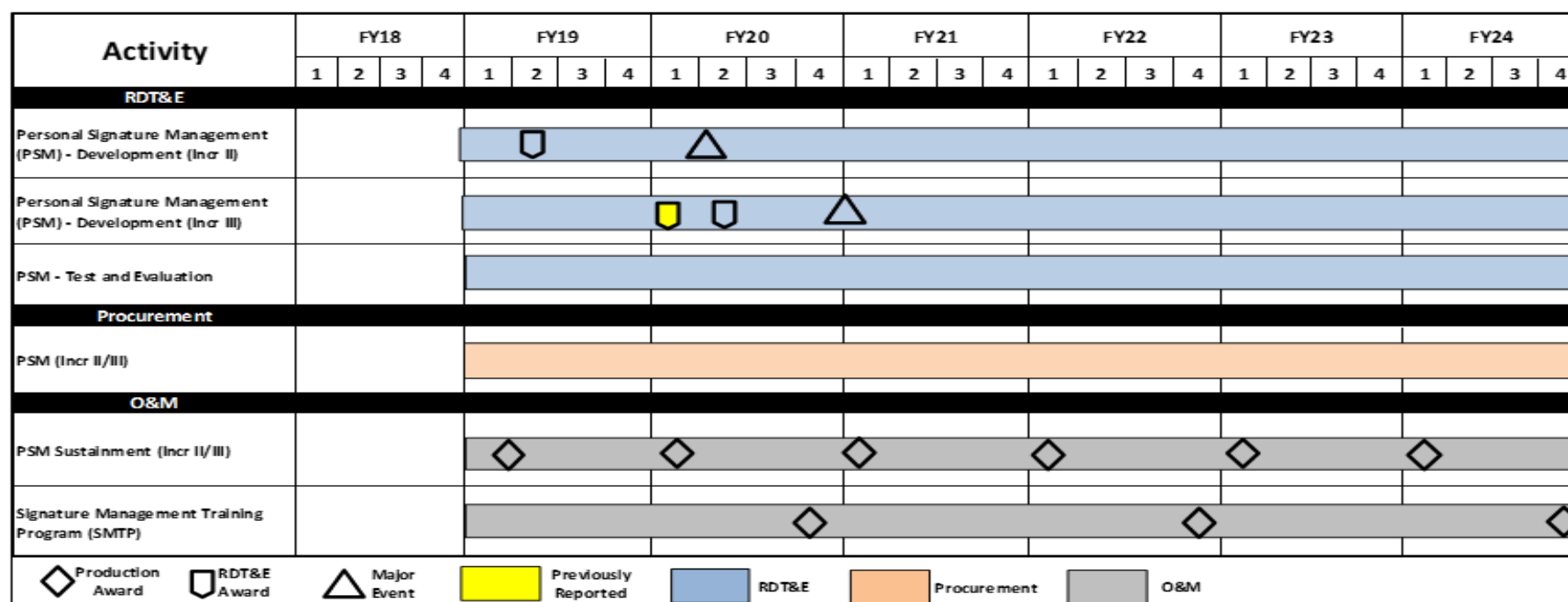
R-1 Program Element (Number/Name)

PE 1160431BB / Warrior Systems

Project (Number/Name)

S385 / Soldier Protection and Survival Systems

Personal Signature Management Schedule



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Exhibit R-4A, RDT&E Schedule Details: PB 2020 United States Special Operations Command			Date: March 2019
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160431BB / <i>Warrior Systems</i>	Project (Number/Name) S385 / <i>Soldier Protection and Survival Systems</i>	

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Soldier Protection and Survival Systems</i>				
Protective Combat Uniform (PCU) Product Development	2	2018	4	2024
Modular Integrated Communications Helmet (MICH) Comms/Land Maritime Communication System Product Development	2	2018	4	2024
Modular Glove System (MGS) Product Development	2	2019	4	2024
Load Carriage System (LCS) and Backpacks Product Development	2	2018	4	2024
PCU Test & Evaluation	2	2018	4	2024
MGS Test & Evaluation	2	2019	4	2024
Comms Test & Evaluation	2	2018	4	2024
LCS/Backpack/Body Armor Vest Test & Evaluation	2	2018	4	2024
<i>Tactical Combat Casualty Care</i>				
TCCC CASEVAC Sets Development, Test & Evaluation	2	2018	4	2024
<i>Counter Radio Controlled-Improvised Explosive Device</i>				
Test & Evaluation Support	3	2018	4	2024
Next Generation ECM development	2	2020	3	2022
<i>Counter Unmanned Aerial System (C-UAS)</i>				
C-UAS Family of Systems (FoS) SIM - Phase 1 (Technology and Concept Evaluation)	3	2018	2	2019
CUAS FoS-SIM - Phase 2 (Prototype Development)	2	2019	3	2020
CUAS FoS-SIM - Phase 3 (Prototype Evaluation and Assessment)	4	2018	3	2020
Test Range Support, Developmental Testing	2	2019	4	2024
<i>Personnel Signature Management (PSM)</i>				
PSM Development (Incr II)	1	2019	4	2024

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Exhibit R-4A, RDT&E Schedule Details: PB 2020 United States Special Operations Command			Date: March 2019		
Appropriation/Budget Activity 0400 / 7		R-1 Program Element (Number/Name) PE 1160431BB / Warrior Systems		Project (Number/Name) S385 / Soldier Protection and Survival Systems	
		Start		End	
Events by Sub Project		Quarter	Year	Quarter	Year
PSM Development (Incr III)		1	2019	4	2024
PSM Test & Evaluation		1	2019	4	2024

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Exhibit R-2A, RDT&E Project Justification: PB 2020 United States Special Operations Command										Date: March 2019		
Appropriation/Budget Activity 0400 / 7					R-1 Program Element (Number/Name) PE 1160431BB / Warrior Systems				Project (Number/Name) S385A / Body Armor and Associated Equipment			
COST (\$ in Millions)	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	Cost To Complete	Total Cost
S385A: Body Armor and Associated Equipment	6.330	1.242	1.048	1.752	-	1.752	1.738	1.694	1.729	1.770	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project provides specialized equipment to meet the unique operator protection and survival requirements of SOF, to include: Army Rangers; Army Special Forces; Navy Sea, Air, Land (SEAL) teams; Navy Special Boat Units; Air Force Operators; and Marine Raiders. Specialized ballistic equipment improves survivability impacting the mobility of SOF while conducting varied missions. These missions are generally conducted in harsh environments, for unspecified periods and in locations requiring small unit autonomy.

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

	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Title: SOF Personal Equipment Advanced Requirement (SPEAR)-Ballistic Protection	1.242	1.048	1.752	-	1.752
Description: This project enhances the SPEAR program by supporting body armor helmets, and eye protection. It also provides for the research, development, and testing of a variety of body armor and personal protective equipment.					
FY 2019 Plans: Continue foreign ammunition testing and threat validation to assess effectiveness of currently fielded personal protective equipment. Continue development and testing of lightweight body armor and helmets to upgrade systems that have been fielded. Continue evaluation of transparent armor products which include variable light transmission and laser lenses to upgrade systems that have been fielded. Continue development and testing of technologies to upgrade the maritime crewman helmet.					
FY 2020 Base Plans: Continues foreign ammunition testing and threat validation to assess effectiveness of currently fielded personal protective equipment. Continues development and testing of lightweight body armor and helmets to upgrade systems that have been fielded. Continues evaluation of transparent armor products which include variable light transmission and laser lenses to upgrade systems that have been fielded. Continues development and testing of technologies to upgrade the maritime crewman helmet.					
FY 2019 to FY 2020 Increase/Decrease Statement:					

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Exhibit R-2A, RDT&E Project Justification: PB 2020 United States Special Operations Command								Date: March 2019			
Appropriation/Budget Activity 0400 / 7				R-1 Program Element (Number/Name) PE 1160431BB / <i>Warrior Systems</i>				Project (Number/Name) S385A / <i>Body Armor and Associated Equipment</i>			

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Increase of \$0.704 million is for product improvements of helmets and body armor.					
Accomplishments/Planned Programs Subtotals	1.242	1.048	1.752	-	1.752

C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	Cost To Complete	Total Cost
• PROC/0204WARRIOR: <i>Warrior Systems<\$5M</i>	287.513	458.499	298.480	36.212	334.692	331.626	312.728	332.200	339.365	Continuing	Continuing
Remarks											
D. Acquisition Strategy											
SPEAR ballistic protection equipment takes advantage of modified commercial-off-the-shelf or non-developmental items. As USSOCOM required tailored solutions for SOF Mission sets, SPEAR items leveraged from industry are often on cutting edge of technology with modifications specific for SOF missions and require substantial testing in SOF environments. Utilizes Special Operations Forces Support Activity (SOFSA) for warehousing and sustainment, Program Manager Special Operations Forces - Survival, Support, and Equipment Systems (PM-SOF SSES) has cradle to grave responsibility. Contracts in support of SPEAR are a combination of firm fixed price five year indefinite delivery indefinite quantity with single vendor awards, Source America mandatory sole sources, small business set asides and prime vendor style multiple award contracts.											
E. Performance Metrics											
N/A											

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2020 United States Special Operations Command												Date: March 2019			
Appropriation/Budget Activity 0400 / 7						R-1 Program Element (Number/Name) PE 1160431BB / Warrior Systems				Project (Number/Name) S385A / Body Armor and Associated Equipment					
Product Development (\$ in Millions)				FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 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
SOF Personal Equipment Advanced Requirement (SPEAR) - Body Armor	Various	PM-SSES : Natick, MA	2.025	0.480	Jan 2018	0.359	Apr 2019	0.395	Feb 2020	-		0.395	Continuing	Continuing	-
SPEAR - Lightweight Ballistic Helmets	Various	PM-SSES : Natick, MA	1.497	0.220	Jan 2018	0.126	Apr 2019	0.385	Jan 2020	-		0.385	Continuing	Continuing	-
SPEAR - Eye Protection	Various	PM-SSES : Natick, MA	0.186	0.050	Mar 2018	0.050	Apr 2019	0.107	Mar 2020	-		0.107	Continuing	Continuing	-
Subtotal			3.708	0.750		0.535		0.887		-		0.887	Continuing	Continuing	N/A
Test and Evaluation (\$ in Millions)				FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 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
SPEAR - Body Armor	Various	PM-SSES : Natick, MA	1.414	0.312	Feb 2018	0.322	Apr 2019	0.385	Apr 2020	-		0.385	Continuing	Continuing	-
SPEAR - Lightweight Ballistic Helmet	Various	PM-SSES : Natick, MA	1.081	0.150	Feb 2018	0.153	Apr 2019	0.385	Apr 2020	-		0.385	Continuing	Continuing	-
SPEAR - Transparent Armor	Various	PM-SSES : Natick, MA	0.127	0.030	Mar 2018	0.038	Apr 2019	0.095	Mar 2020	-		0.095	Continuing	Continuing	-
Subtotal			2.622	0.492		0.513		0.865		-		0.865	Continuing	Continuing	N/A
			Prior Years	FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			6.330	1.242		1.048		1.752		-		1.752	Continuing	Continuing	N/A
Remarks															

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Exhibit R-4, RDT&E Schedule Profile: PB 2020 United States Special Operations Command

Date: March 2019

Appropriation/Budget Activity
0400 / 7

R-1 Program Element (Number/Name)
PE 1160431BB / Warrior Systems

Project (Number/Name)
S385A / Body Armor and Associated Equipment

SPEAR – Body Armor Schedule

Activity	FY18				FY19				FY20				FY21				FY22				FY23				FY24							
	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				
RDT&E																																
Product Development Body Armor																																
Product Development Lightweight Ballistic Helmets																																
Product Development Eye Protection																																
Test & Evaluation Body Armor																																
Test & Evaluation Lightweight Ballistic Helmets																																
Test & Evaluation -Transparent Armor																																
O&M																																
Body Armor Sustainment																																
	Soft Armor IDIQ Award				Hard Armor IDIQ Award																											
Lightweight Ballistic Helmet Sustainment																																
					Helmet IDIQ Contract Recomplete																											
Eye Protection / Transparent Armor Sustainment																																
	Eye Protection P3I Award								Eye Protection P3I Award																							
<div><div> Production Award</div><div> RDT&E Award</div><div> Major Event</div><div> Previously Reported</div><div> RDT&E</div><div> Procurement</div><div> O&M</div></div>																																

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Exhibit R-4A, RDT&E Schedule Details: PB 2020 United States Special Operations Command			Date: March 2019
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160431BB / <i>Warrior Systems</i>	Project (Number/Name) S385A / <i>Body Armor and Associated Equipment</i>	

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Body Armor and Associated Equipment</i>				
Body Armor Product Development	2	2018	4	2024
Lightweight Ballistic Helmets Product Development	2	2018	4	2024
Eye Protection Product Development	2	2018	4	2024
Body Armor Test & Evaluation	2	2018	4	2024
Lightweight Ballistic Helmets Test & Evaluation	2	2018	4	2024
Transparent Armor Test & Evaluation	2	2018	4	2024

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Exhibit R-2A, RDT&E Project Justification: PB 2020 United States Special Operations Command										Date: March 2019		
Appropriation/Budget Activity 0400 / 7					R-1 Program Element (Number/Name) PE 1160431BB / Warrior Systems				Project (Number/Name) S395 / Visual Augmentation, Lasers and Sensor Systems			
COST (\$ in Millions)	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	Cost To Complete	Total Cost
S395: Visual Augmentation, Lasers and Sensor Systems	11.383	0.940	1.257	3.212	-	3.212	2.171	2.097	2.132	2.174	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project provides for development, testing and integration of specialized visual augmentation, binocular and monocular night vision devices, laser markers, laser designators, geo-location systems, weapon optics, weapon aiming lasers, sensor systems, visible lights, infrared imagers, clandestine pointers, simulators and accessories to meet the unique requirements of SOF. These projects ensure SOF hyper-enabled operators will remain technologically superior to enemy threats and ensure mission success.

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

	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Title: Visual Augmentation Systems	0.940	1.257	3.212	-	3.212
Description: Sensor technologies being developed include image intensification thermal imaging, short wave infrared, multi-spectral, fusion, and other sensor types. Developments will decrease weight, increase range, increase situational awareness, provide data, image processing, image filtering, determine wind speed, observe bullet trace, and sensor fusion to be able to detect, identify, classify and engage targets at greater ranges. Some efforts may be tied to Hyper-Enabled Operator (HEO).					
FY 2019 Plans: Continue development and testing of visual augmentation and laser devices to improve situational awareness, sharing of data/images and target acquisition.					
FY 2020 Base Plans: Continues development and testing of visual augmentation, laser devices, and begin development and testing of simulators to improve situational awareness, sharing of data/images, target acquisition, and training.					
FY 2019 to FY 2020 Increase/Decrease Statement: Increase of \$1.955 million for simulator development.					
Accomplishments/Planned Programs Subtotals	0.940	1.257	3.212	-	3.212

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Exhibit R-2A, RDT&E Project Justification: PB 2020 United States Special Operations Command										Date: March 2019	
Appropriation/Budget Activity 0400 / 7				R-1 Program Element (Number/Name) PE 1160431BB / <i>Warrior Systems</i>				Project (Number/Name) S395 / <i>Visual Augmentation, Lasers and Sensor Systems</i>			
C. Other Program Funding Summary (\$ in Millions)											
			<u>FY 2020</u>	<u>FY 2020</u>	<u>FY 2020</u>					<u>Cost To</u>	
<u>Line Item</u>	<u>FY 2018</u>	<u>FY 2019</u>	<u>Base</u>	<u>OCO</u>	<u>Total</u>	<u>FY 2021</u>	<u>FY 2022</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>Complete</u>	<u>Total Cost</u>
• PROC/0204WARRIOR: <i>Warrior Systems<\$5M</i>	287.513	458.499	298.480	36.212	334.692	331.626	312.728	332.200	339.365	Continuing	Continuing
Remarks											
D. Acquisition Strategy											
Evolutionary acquisition, leveraging emerging technologies and mid-tier acquisition approaches. An evolutionary approach delivers capability in increments, recognizing, up front, the need for future capability improvements. Full and open competition; Contracts are a combination of five-year Firm Fixed Price Indefinite Delivery Indefinite Quantity, small business set asides at several locations, and other transaction authorities (OTAs); primarily via Naval Surface Warfare Center, Crane Contracting office, USSOCOM Contracting Office and other contracting offices.											
E. Performance Metrics											
N/A											

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2020 United States Special Operations Command												Date: March 2019			
Appropriation/Budget Activity 0400 / 7						R-1 Program Element (Number/Name) PE 1160431BB / Warrior Systems				Project (Number/Name) S395 / Visual Augmentation, Lasers and Sensor Systems					
Product Development (\$ in Millions)				FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 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
Visual Augmentation Systems (VAS) Product Development (Laser and Optic)	C/CPFF	USSOCOM : Tampa, FL	8.516	0.645	Jun 2018	1.257	Jan 2019	1.507	Apr 2020	-		1.507	Continuing	Continuing	-
Visual Augmentation Systems (VAS) Product Development (Simulator)	C/CPFF	USSOCOM : Tampa, FL	-	-		-		1.493	Apr 2020	-		1.493	Continuing	Continuing	-
Prior Year Overseas Contingency Operations (OCO)	C/CPFF	USSOCOM : Tampa, FL	2.667	-		-		-		-		-	0.000	2.667	-
Subtotal			11.183	0.645		1.257		3.000		-		3.000	Continuing	Continuing	N/A
Test and Evaluation (\$ in Millions)				FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 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
VAS Test and Evaluation	C/CPFF	USSOCOM : Tampa, FL	0.200	0.295	Jun 2018	-		-		-		-	Continuing	Continuing	-
VAS Optic Test and Evaluation	C/CPFF	USSOCOM : Tampa FL	-	-		-		0.106	Apr 2020	-		0.106	Continuing	Continuing	-
VAS Laser Test and Evaluation	C/CPFF	USSOCOM : Tampa FL	-	-		-		0.106	Apr 2020	-		0.106	Continuing	Continuing	-
Subtotal			0.200	0.295		-		0.212		-		0.212	Continuing	Continuing	N/A
			Prior Years	FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			11.383	0.940		1.257		3.212		-		3.212	Continuing	Continuing	N/A
Remarks															

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Exhibit R-4, RDT&E Schedule Profile: PB 2020 United States Special Operations Command

Date: March 2019

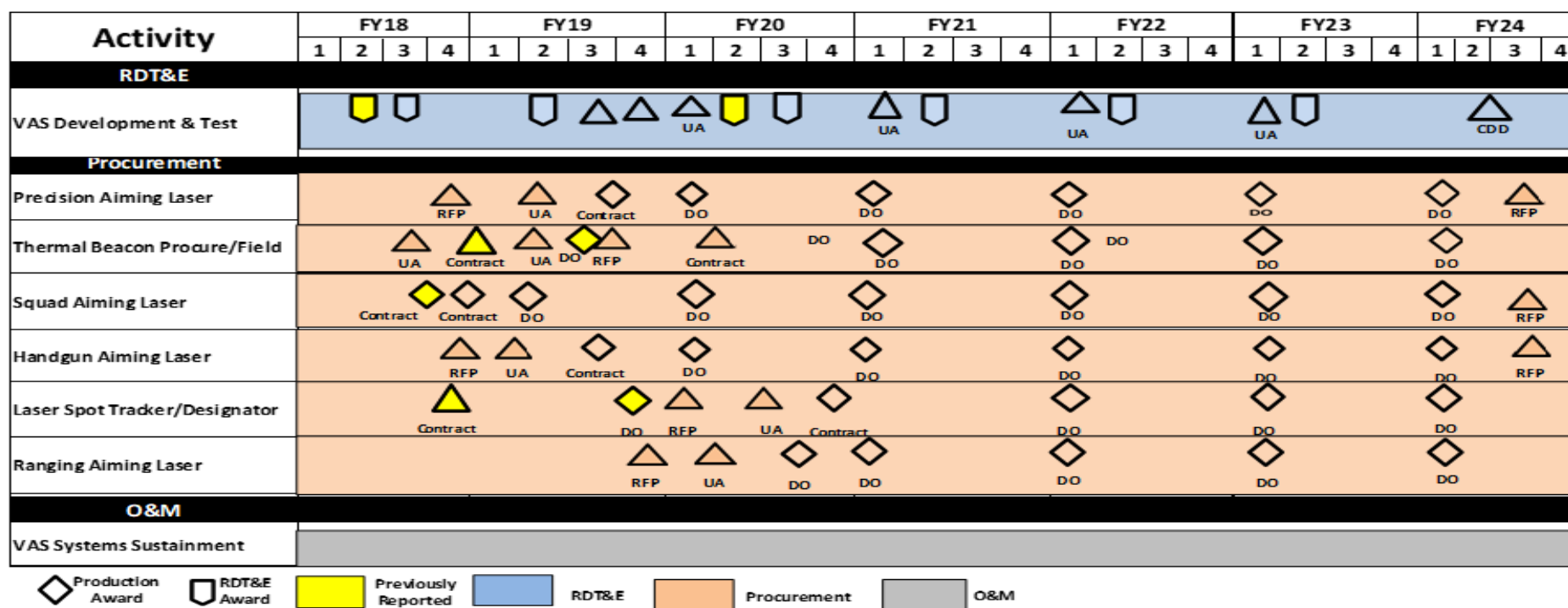
Appropriation/Budget Activity
0400 / 7

R-1 Program Element (Number/Name)
PE 1160431BB / Warrior Systems

Project (Number/Name)
S395 / Visual Augmentation, Lasers and
Sensor Systems



Visual Augmentation Systems Laser Schedule



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Exhibit R-4, RDT&E Schedule Profile: PB 2020 United States Special Operations Command

Date: March 2019

Appropriation/Budget Activity
0400 / 7

R-1 Program Element (Number/Name)
PE 1160431BB / Warrior Systems

Project (Number/Name)
S395 / Visual Augmentation, Lasers and
Sensor Systems



Visual Augmentation Systems Optic Schedule

Activity	FY18				FY19				FY20				FY21				FY22				FY23				FY24			
	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
RDT&E																												
VAS Development & Test	[Timeline visualization for RDT&E activities across FY18-FY24]																											
Procurement																												
BNVD (AN/PVS-31a)	[Timeline visualization for BNVD procurement across FY18-FY24]																											
Improved Night/Day Observation device (IN OD BLK III) NG MAS N	[Timeline visualization for Improved Night/Day Observation device across FY18-FY24]																											
Enhanced Combat Optical Sight (ECOS) Procure/Field	[Timeline visualization for Enhanced Combat Optical Sight across FY18-FY24]																											
HHi Mini (AN/PAS 33) Procure/Field	[Timeline visualization for HHi Mini procurement across FY18-FY24]																											
Sniper Scope Procure/Field	[Timeline visualization for Sniper Scope procurement across FY18-FY24]																											
E-COTI/E-COSI Procure/Field (NG)	[Timeline visualization for E-COTI/E-COSI procurement across FY18-FY24]																											
Crew-Served Fire Control System (FCS) Procure/Field	[Timeline visualization for Crew-Served Fire Control System across FY18-FY24]																											
O&M																												
VAS Systems Sustainment	[Timeline visualization for VAS Systems Sustainment across FY18-FY24]																											

Production Award
 RDT&E Award
 Previously Reported
 RDT&E
 Procurement
 O&M

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Exhibit R-4, RDT&E Schedule Profile: PB 2020 United States Special Operations Command

Date: March 2019

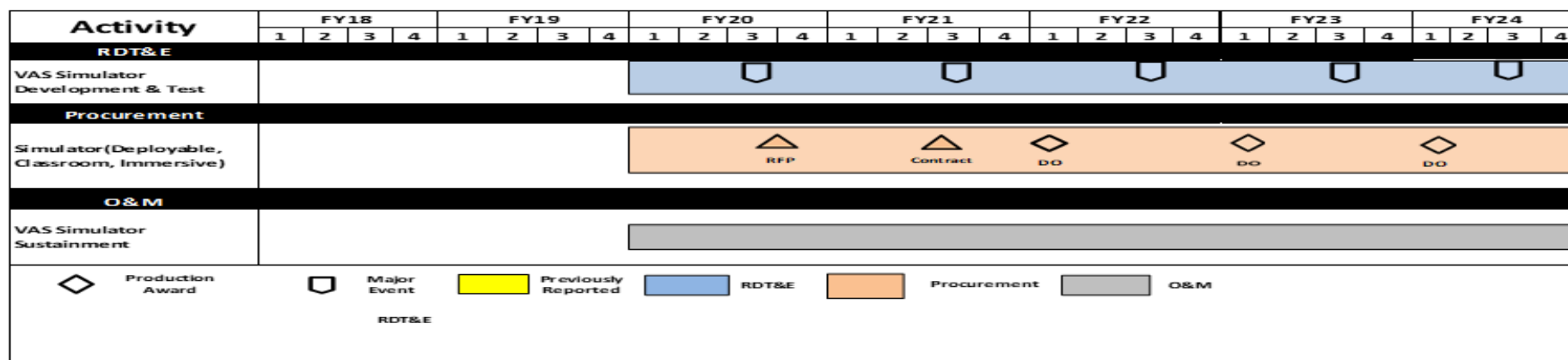
Appropriation/Budget Activity
0400 / 7

R-1 Program Element (Number/Name)
PE 1160431BB / Warrior Systems

Project (Number/Name)
S395 / Visual Augmentation, Lasers and
Sensor Systems



Visual Augmentation Systems Simulator Schedule



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Exhibit R-4A, RDT&E Schedule Details: PB 2020 United States Special Operations Command			Date: March 2019
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160431BB / <i>Warrior Systems</i>	Project (Number/Name) S395 / <i>Visual Augmentation, Lasers and Sensor Systems</i>	

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Visual Augmentation Systems</i>				
VAS Optic Development and Test	3	2018	4	2024
VAS Laser Development and Test	3	2018	4	2024
VAS Simulator Development and Test	3	2020	4	2024

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Exhibit R-2A, RDT&E Project Justification: PB 2020 United States Special Operations Command										Date: March 2019		
Appropriation/Budget Activity 0400 / 7					R-1 Program Element (Number/Name) PE 1160431BB / Warrior Systems				Project (Number/Name) S700 / Communications Equipment and Electronics Systems			
COST (\$ in Millions)	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	Cost To Complete	Total Cost
S700: Communications Equipment and Electronics Systems	21.643	9.294	13.966	18.519	-	18.519	21.852	17.040	16.487	16.862	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project provides for communication systems to meet emergent requirements to support Special Operations Forces (SOF). Communications Equipment and Electronics Systems is a continuing effort to develop smaller, lighter, more efficient and more robust SOF Command, Control, Communications, and Computer (C4) capabilities.

USSOCOM's C4 systems comprise an integrated network of systems providing positive command and control and the timely exchange of information to all organizational echelons. The C4 systems that support this new architecture employ the latest standards and technology by transitioning from separate systems to full integration within the Global Information Grid (GIG). The GIG is a multitude of existing and projected national assets that allows SOF elements to operate with any force combination in multiple environments.

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

	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Title: Satellite Deployable Node (SDN)	4.785	9.527	10.487	-	10.487
Description: SDN is a family of deployable, super high frequency, multi-band, Satellite Communications (SATCOM) systems providing the transport path for high-capacity, voice, data, Video Teleconferencing (VTC), and Full Motion Video at all levels of classification. It consists of SDN subprograms, transport for intelligence variants, technology insertions and capital equipment replacement.					
FY 2019 Plans: Continue assessments, tests and evaluations for wide-band Communications On The Move (COTM) maritime, ground mobile, and airborne technologies. Continues assessments of reduction of size, weight and power (SWAP). Continue Evolutionary Technology Insertion (ETI) integration. Continue evaluation of new SATCOM constellations and terminals. Evaluate resiliency of systems in a degraded communication environment. Evaluate and test SDN wireless network capabilities. Evaluate and test mobile technologies.					
FY 2020 Base Plans: Continues assessments, tests and evaluations for wide-band COTM maritime, ground mobile and airborne technologies. Continues assessments of reduction of size, weight and power (SWAP). Continues ETI					

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Exhibit R-2A, RDT&E Project Justification: PB 2020 United States Special Operations Command			Date: March 2019			
Appropriation/Budget Activity 0400 / 7		R-1 Program Element (Number/Name) PE 1160431BB / Warrior Systems		Project (Number/Name) S700 / Communications Equipment and Electronics Systems		
B. Accomplishments/Planned Programs (\$ in Millions)						
		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
integration. Continues evaluation of new SATCOM constellations and terminals. Continues evaluation of resiliency of systems in a degraded communication environment. Continues the evaluation and tests SDN wireless network capabilities. Continues evaluation and testing of mobile technologies.						
FY 2019 to FY 2020 Increase/Decrease Statement: Increase of \$0.960 million supports COTM and new SATCOM constellation terminal certifications.						
Title: Civil Information Management (CIM)		0.007	0.185	0.016	-	0.016
Description: The Civil Information Management Data Processing System (CIMDPS) is an automation system that assists active Civil Affairs (CA) and others engaged in civil-military operations to collect, process, analyze, maintain, mine, and deliver Civil Information and analysis products to support the Next Generation CIMDPS Systems.						
FY 2019 Plans: Completes development and integration of Link Analysis and Mobility, and Next Generation CIMDPS Hardware platform in support of CA communities, as a one-time cost.						
FY 2020 Base Plans: Funding required for follow-on development and integration of the Next Generation CIMDPS Hardware platform in support of CA communities.						
FY 2019 to FY 2020 Increase/Decrease Statement: Decrease of -\$0.169 million is due to fewer testing requirements.						
Title: Special Communications (SPCOM) Enterprise program		4.502	4.254	8.016	-	8.016
Description: SPCOM includes organizations, practices, processes, services, networks, systems and subsystems that manage and provide clandestine exchange of information between elements (field-to-field, field-to-base, base-to-field) for worldwide deployed SOF units, often in austere environments with heavy adversarial monitoring. Acquisition efforts are structured for rapid, tailored development to counter adaptable emerging threats in all theaters of SOF sensitive missions.						
FY 2019 Plans: Continue segment development for the SPCOM enterprise; develops means and methods to provide near-term impact to operators. Continue development of anti-intrusion/anti-tamper capabilities. Continue extensive						

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Exhibit R-2A, RDT&E Project Justification: PB 2020 United States Special Operations Command										Date: March 2019		
Appropriation/Budget Activity 0400 / 7				R-1 Program Element (Number/Name) PE 1160431BB / Warrior Systems				Project (Number/Name) S700 / Communications Equipment and Electronics Systems				
B. Accomplishments/Planned Programs (\$ in Millions)								FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
vulnerability assessments plus independent verification and validation. Acquisition efforts are structured for rapid, tailored development to counter adaptable emerging threats in all theaters of SOF sensitive missions. FY 2020 Base Plans: Continues segment development for the SPCOM enterprise; develops means and methods to provide near-term impact to operators. Continues development of anti-intrusion/anti-tamper capabilities. Continues extensive vulnerability assessments plus independent verification and validation. Acquisition efforts are structured for rapid, tailored development to counter adaptable emerging threats in all theaters of SOF sensitive missions. FY 2019 to FY 2020 Increase/Decrease Statement: Increase of \$3.762 million will fulfill additional Theater Special Operations Commands' area and mission-specific tailored requirements for low-signature, threat-mitigated, sensitive missions as authorities to conduct these missions have expanded.												
Accomplishments/Planned Programs Subtotals								9.294	13.966	18.519	-	18.519
C. Other Program Funding Summary (\$ in Millions)												
Line Item	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	Cost To Complete	Total Cost	
• PROC/0204WARRIOR: Warrior Systems<\$5M	287.513	458.499	298.480	36.212	334.692	331.626	312.728	332.200	339.365	Continuing	Continuing	
• PROC/0204OTHER: OTHER ITEMS <\$5M	52.718	119.427	103.910	0.028	103.938	149.394	81.064	107.128	68.215	Continuing	Continuing	
Remarks												
D. Acquisition Strategy												
• SDN is a fielded program with ETIs into all variants: heavy, medium, and light, wide-band COTM, Mobile SOF Strategic Entry Point, and Airborne Intelligence Surveillance Reconnaissance transport variants. Commercial and government agency sources will be leveraged for required certifications, functional and operational tests, and acceptance support.												
• CIM has an evolutionary acquisition strategy to enhance its capability to meet the CA communities emerging requirements.												
• SPCOM is an ETI effort to provide and support multiple field mission sets full integrated with secure transports for complete end-to end capabilities. In particular, rapid, phased prototyping is prioritized to both develop operational-relevant prototypes but also to be flexible and agile in ensuring countermeasures against dynamically												

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Exhibit R-2A, RDT&E Project Justification: PB 2020 United States Special Operations Command		Date: March 2019
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160431BB / <i>Warrior Systems</i>	Project (Number/Name) S700 / <i>Communications Equipment and Electronics Systems</i>
adapting special communication threats in all worldwide theaters. Commercial and government agency sources will be leveraged for required certifications, functional and operational tests, and acceptance support.		
E. Performance Metrics N/A		

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2020 United States Special Operations Command												Date: March 2019			
Appropriation/Budget Activity 0400 / 7						R-1 Program Element (Number/Name) PE 1160431BB / Warrior Systems				Project (Number/Name) S700 / Communications Equipment and Electronics Systems					
Product Development (\$ in Millions)				FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 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
Satellite Deployable Node (SDN) Development	Various	Various : Various	4.852	2.110	Dec 2017	4.806	Dec 2018	8.200	Mar 2019	-		8.200	Continuing	Continuing	-
Civil Information Management Data Processing System (CIMDPS) Development	PO	SOF AT&L -KS : MACDILL AFB	1.788	0.007	Mar 2018	0.185	Mar 2019	0.016	Mar 2020	-		0.016	0.000	1.996	-
Special Communications (SPCOM) Enterprise Capability Development	TBD	Various : Various	8.473	3.672	Feb 2018	3.329	Mar 2019	6.650	Mar 2020	-		6.650	Continuing	Continuing	-
SPCOM Technology Vulnerability Assessments	MIPR	MITRE : Bedford, MA	1.680	0.530	Dec 2017	0.669	Dec 2018	1.026	Dec 2019	-		1.026	Continuing	Continuing	-
Subtotal			16.793	6.319		8.989		15.892		-		15.892	Continuing	Continuing	N/A
Test and Evaluation (\$ in Millions)				FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 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
SDN Market Research Evaluation and Testing	Various	Various : Various	3.765	2.675	Jan 2018	4.721	Feb 2019	2.287	Jun 2019	-		2.287	Continuing	Continuing	-
SPCOM Independent Verification and Validation	MIPR	MITRE : Bedford, MA	1.085	0.300	Dec 2017	0.256	Dec 2018	0.340	Dec 2019	-		0.340	Continuing	Continuing	-
Subtotal			4.850	2.975		4.977		2.627		-		2.627	Continuing	Continuing	N/A
			Prior Years	FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			21.643	9.294		13.966		18.519		-		18.519	Continuing	Continuing	N/A
Remarks															

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Exhibit R-4, RDT&E Schedule Profile: PB 2020 United States Special Operations Command

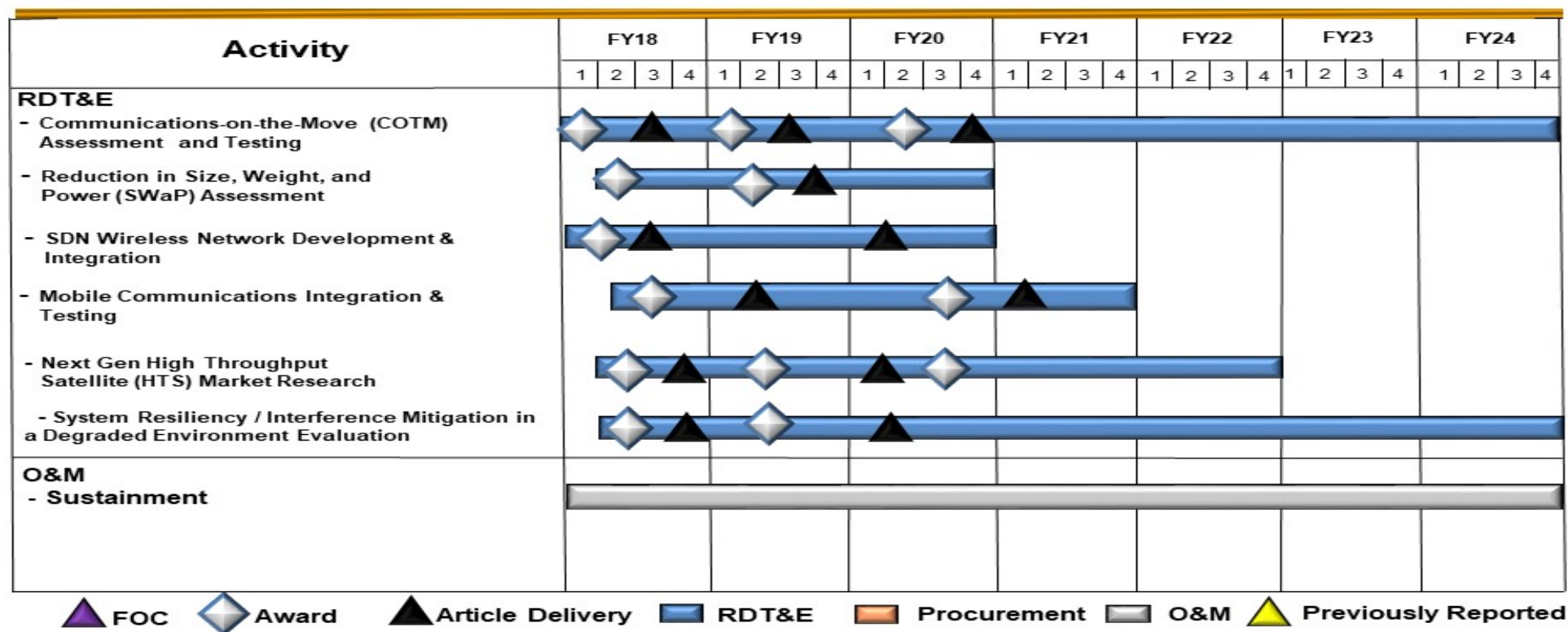
Date: March 2019

Appropriation/Budget Activity
0400 / 7

R-1 Program Element (Number/Name)
PE 1160431BB / Warrior Systems

Project (Number/Name)
S700 / Communications Equipment and Electronics Systems

SDN Schedule



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Exhibit R-4, RDT&E Schedule Profile: PB 2020 United States Special Operations Command

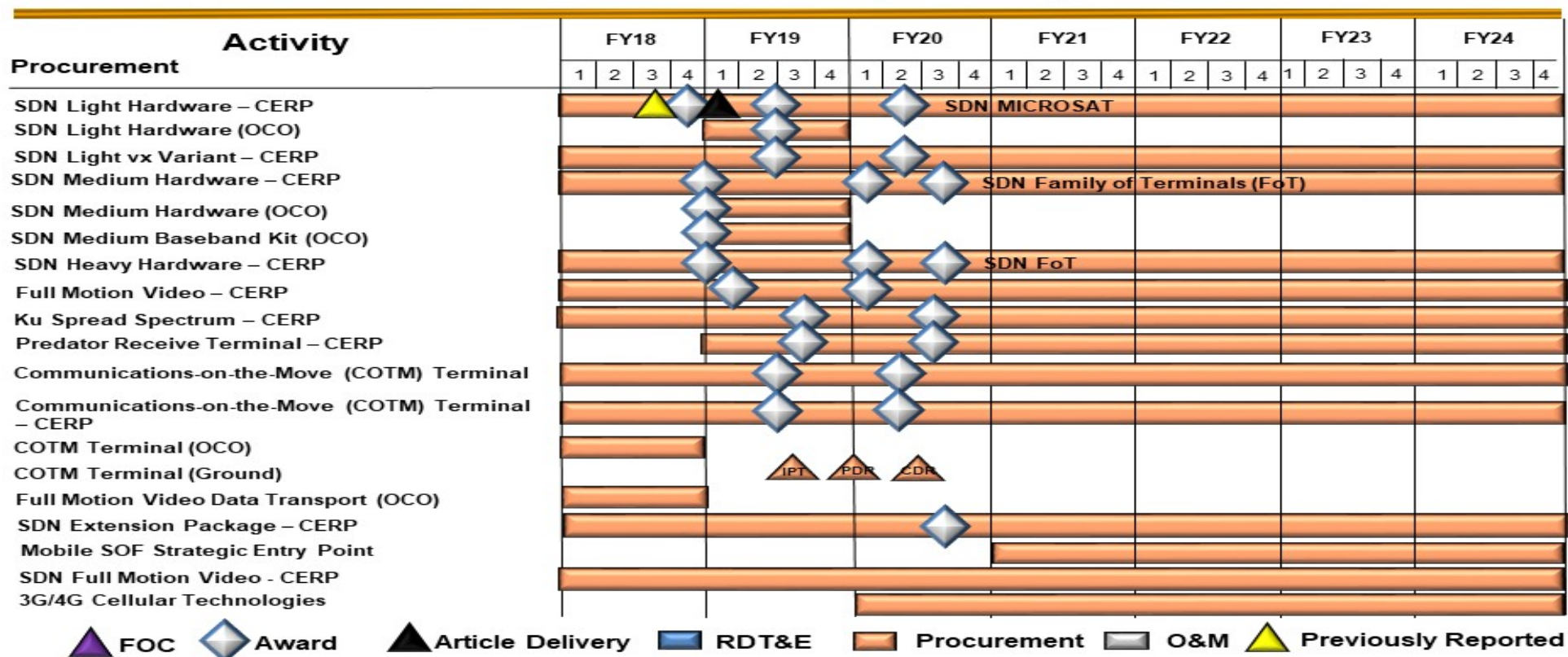
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Appropriation/Budget Activity
0400 / 7

R-1 Program Element (Number/Name)
PE 1160431BB / Warrior Systems

Project (Number/Name)
S700 / Communications Equipment and Electronics Systems

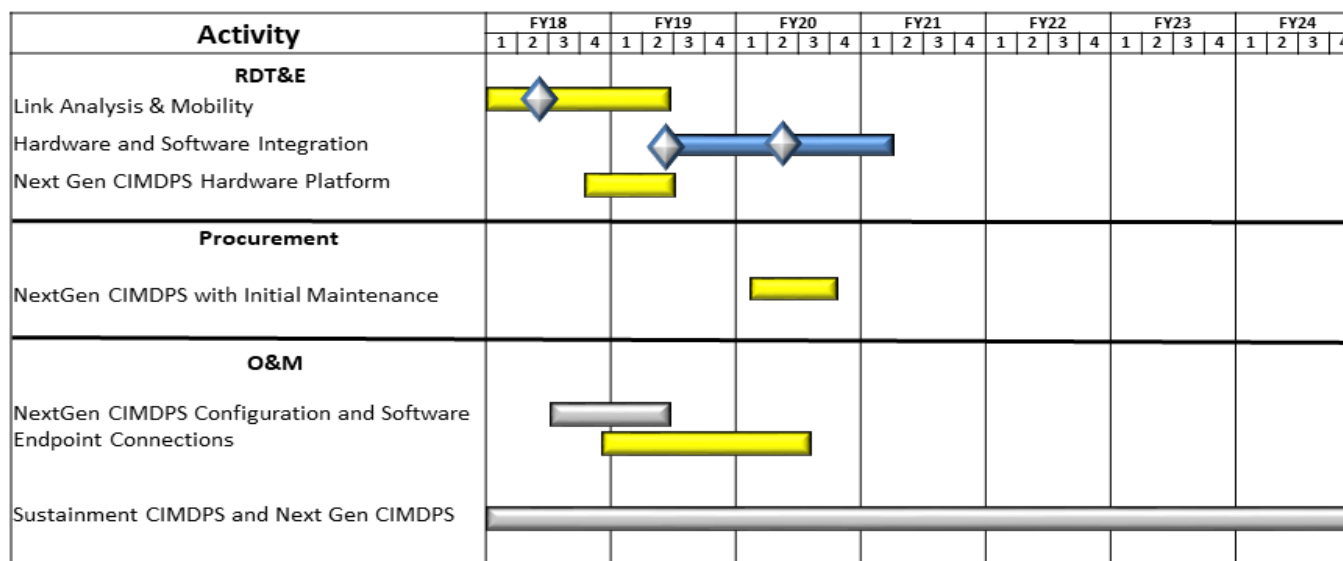
SDN Schedule (con't)



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Exhibit R-4, RDT&E Schedule Profile: PB 2020 United States Special Operations Command			Date: March 2019
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160431BB / <i>Warrior Systems</i>	Project (Number/Name) <i>S700 / Communications Equipment and Electronics Systems</i>	

Civil Information Management Data Processing System Schedule



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Exhibit R-4, RDT&E Schedule Profile: PB 2020 United States Special Operations Command

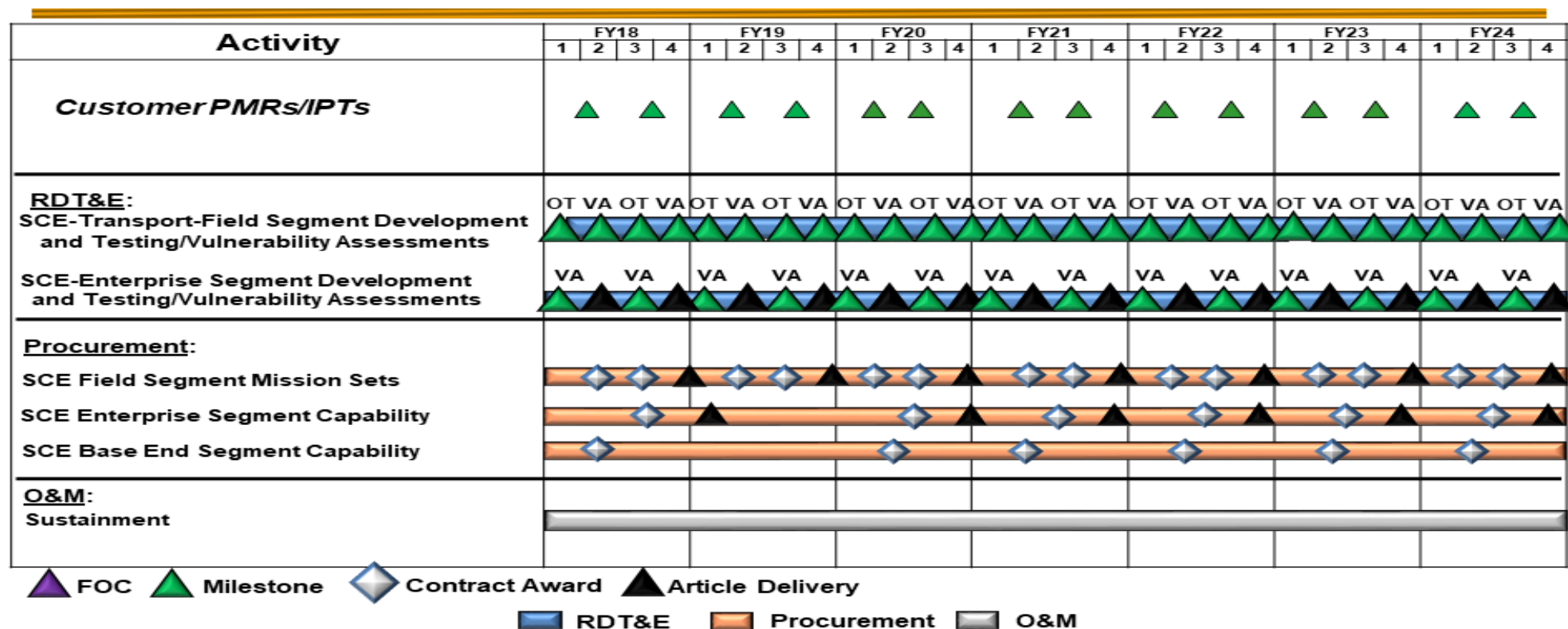
Date: March 2019

Appropriation/Budget Activity
0400 / 7

R-1 Program Element (Number/Name)
PE 1160431BB / Warrior Systems

Project (Number/Name)
S700 / Communications Equipment and Electronics Systems

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Exhibit R-4A, RDT&E Schedule Details: PB 2020 United States Special Operations Command			Date: March 2019
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160431BB / <i>Warrior Systems</i>	Project (Number/Name) <i>S700 / Communications Equipment and Electronics Systems</i>	

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>SOF Deployable Node (SDN)</i>				
Communications-on-the-Move (COTM) Assessment & Testing	1	2018	4	2024
Assess Reduction in Size, Weight, and Power (SWaP)	2	2018	4	2020
SDN Wireless Network Integration & Testing	1	2018	4	2020
Mobile Technology Integration & Testing	3	2018	4	2021
Evaluate System Resiliency in Degraded Communications Environment	2	2018	4	2022
Next Generation High Throughput Satellite Market Research	2	2018	4	2024
<i>CIVIL INFORMATION MANAGEMENT (CIM)</i>				
Hardware and Software Integration	2	2019	1	2021
<i>Special Communications (SPCOM) Enterprise Program</i>				
Transport - Field Segment Kit Development	1	2018	4	2024
Enterprise Segment Services Development	1	2018	4	2024

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Exhibit R-2A, RDT&E Project Justification: PB 2020 United States Special Operations Command										Date: March 2019		
Appropriation/Budget Activity 0400 / 7					R-1 Program Element (Number/Name) PE 1160431BB / Warrior Systems				Project (Number/Name) S710 / Tactical Systems Development			
COST (\$ in Millions)	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	Cost To Complete	Total Cost
S710: Tactical Systems Development	4.400	2.327	4.240	3.313	-	3.313	3.344	3.105	3.170	3.244	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		
A. Mission Description and Budget Item Justification												
This project provides for development, testing, and integration of specialized automation equipment to meet the unique requirements of Special Operations Forces (SOF). Specialized automation equipment will permit small, highly trained forces to conduct required operations across the entire spectrum of conflict. These operations are generally conducted in harsh environments, for unspecified periods and in locations requiring small unit autonomy. SOF must infiltrate by land, sea, and air to conduct unconventional warfare, direct action, or deep reconnaissance operations in denied areas against insurgent units, terrorists, or highly sophisticated threat forces. The requirement to operate in denied areas controlled by a sophisticated threat mandates that SOF systems remain technologically superior to threat forces to ensure mission success.												
B. Accomplishments/Planned Programs (\$ in Millions)								FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Title: Tactical Local Area Network (TACLAN) Suites								2.327	4.240	3.313	-	3.313
Description: TACLAN provides SOF operational commanders and forward deployed forces advanced networking, automated data processing, storage, and display capabilities to support situational awareness, mission planning and execution, and command and control of forces. The TACLAN consists of Suites, Mission Planning Kits, Field Computing Devices, and tactical work stations.												
FY 2019 Plans: Continue integration and testing of Evolutionary Technology Insertion (ETI) for upgrading TACLAN Field computing devices and network suites. Continue development of secure mobile communications. Utilize outcomes of the secure mobile communications project to begin the development of edge computing.												
FY 2020 Base Plans: Continues integration and testing of evolutionary technology insertions. Specific technologies in assessments include secure wireless, secure data at rest, cross domain solutions, distributed cloud architecture, and edge computing. Continues the development, integration and assessment to improve tactical area networks that enable the operator on the battlefield.												
FY 2019 to FY 2020 Increase/Decrease Statement: Decrease of -\$0.927M due to fewer testing requirements.												
Accomplishments/Planned Programs Subtotals								2.327	4.240	3.313	-	3.313

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Exhibit R-2A, RDT&E Project Justification: PB 2020 United States Special Operations Command										Date: March 2019	
Appropriation/Budget Activity 0400 / 7					R-1 Program Element (Number/Name) PE 1160431BB / <i>Warrior Systems</i>			Project (Number/Name) S710 / <i>Tactical Systems Development</i>			
C. Other Program Funding Summary (\$ in Millions)											
			<u>FY 2020</u>	<u>FY 2020</u>	<u>FY 2020</u>					<u>Cost To</u>	
<u>Line Item</u>	<u>FY 2018</u>	<u>FY 2019</u>	<u>Base</u>	<u>OCO</u>	<u>Total</u>	<u>FY 2021</u>	<u>FY 2022</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>Complete</u>	<u>Total Cost</u>
• PROC/0204OTHER: OTHER ITEMS <\$5M	52.718	119.427	103.910	0.028	103.938	149.394	81.064	107.128	68.215	Continuing	Continuing
Remarks											
D. Acquisition Strategy											
The TACLAN evolutionary acquisition strategy includes the use of commercial and government agency sources, that will be leveraged for required certifications, functional and operational test, and acceptance support.											
E. Performance Metrics											
N/A											

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2020 United States Special Operations Command **Date:** March 2019

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160431BB / <i>Warrior Systems</i>	Project (Number/Name) S710 / <i>Tactical Systems Development</i>
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Test and Evaluation (\$ in Millions)				FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 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
TACLAN FCD Upgrades	Reqn	Raven Tek : Tampa, FL	1.300	0.300	Jan 2018	0.800	Jun 2019	1.500	Jun 2020	-		1.500	Continuing	Continuing	-
Network Management Suite Upgrades	Reqn	Raven Tek : Tampa, FL	1.600	0.500	Mar 2019	1.200	Mar 2019	1.263	Jul 2020	-		1.263	Continuing	Continuing	-
Mobile Communications	Reqn	Smartronix Inc. : Tampa, FL	1.500	1.527	Jan 2018	1.200	Jan 2019	-		-		-	Continuing	Continuing	-
Edge Computing	Reqn	Raven Tek : Tampa, FL	0.000	0.000		1.040	Jun 2019	0.550	Jan 2020	-		0.550	Continuing	Continuing	-
Subtotal			4.400	2.327		4.240		3.313		-		3.313	Continuing	Continuing	N/A
			Prior Years	FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			4.400	2.327		4.240		3.313		-		3.313	Continuing	Continuing	N/A

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2020 United States Special Operations Command

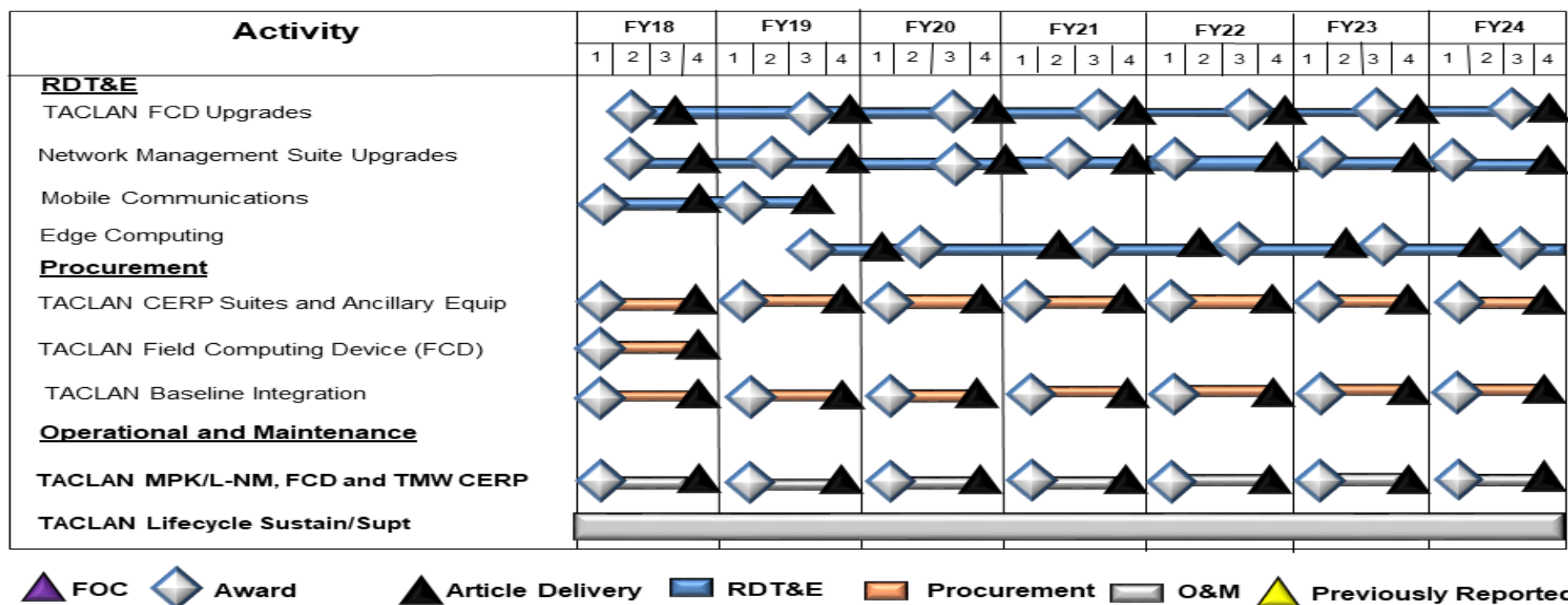
Date: March 2019

Appropriation/Budget Activity
0400 / 7

R-1 Program Element (Number/Name)
PE 1160431BB / Warrior Systems

Project (Number/Name)
S710 / Tactical Systems Development

TACLAN Schedule



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Exhibit R-4A, RDT&E Schedule Details: PB 2020 United States Special Operations Command	Date: March 2019
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Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160431BB / <i>Warrior Systems</i>	Project (Number/Name) S710 / <i>Tactical Systems Development</i>
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Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Tactical Local Area Network (TACLAN) Suites</i>				
TACLAN FCD Upgrades	2	2018	4	2024
Network Management Suite Upgrades	2	2018	4	2024
Mobility Comms	1	2018	3	2019
Edge Computing	3	2019	4	2024

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Exhibit R-2A, RDT&E Project Justification: PB 2020 United States Special Operations Command										Date: March 2019		
Appropriation/Budget Activity 0400 / 7					R-1 Program Element (Number/Name) PE 1160431BB / Warrior Systems				Project (Number/Name) S725 / Tactical Radio Systems			
COST (\$ in Millions)	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	Cost To Complete	Total Cost
S725: Tactical Radio Systems	13.304	12.704	4.660	11.315	-	11.315	7.940	2.572	2.633	2.701	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project is for the development of all SOF tactical radio programs. Tactical Radios provide the critical Command, Control, Communications (C3) link between SOF Commanders and SOF Teams involved in operational missions and training exercises. They also provide interoperability with all Services, various agencies of the U.S. Government, Air Traffic Control, commercial agencies, and allied foreign forces. Tactical Radios rapidly and seamlessly establish and maintain mobile and fixed Command and Control (C2) communications between infiltrated/operational elements and higher echelon headquarters, allowing SOF to operate with any force combination in multiple environments.

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

	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Title: SOF Tactical Communications (STC)	12.633	4.589	10.642	-	10.642
Description: STC consists of the next-generation SOF Communication System and replaces most of the currently fielded SOF suite of tactical radios. Capabilities include real time, Hostile and Friendly Force information; Line of Sight (LOS) and Beyond LOS (BLOS) Communications; and access to Situational Awareness in the form of Intelligence inputs, broadcasts, and networks.					
FY 2019 Plans: Continue development, integration and testing of new capabilities in tactical radio equipment. Enable modernization and testing of Cryptography and GPS technology in accordance with DOD modernization directives for a fleet of more than 33,000 tactical radios. Enable integration and testing of emerging High Frequency (HF) waveform, the Mobile User Objective Waveform, emerging Mobile Ad Hoc Network (MANET) waveforms, and the Link-16 Tactical Data Link (TDL) waveform.					
FY 2020 Base Plans: Continues development, integration and testing of new capabilities in tactical radio equipment. Enables modernization and testing of Hand Held Link-16 in the form of a Mission Module to be used with the PRC-163 handheld radio. Modernizes high frequency platforms from two systems into a single system that will provide standard, wide band, and Low Probability of Intercept/Detection (LPI/D) capabilities in a single Government owned form factor.					
FY 2019 to FY 2020 Increase/Decrease Statement:					

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Exhibit R-2A, RDT&E Project Justification: PB 2020 United States Special Operations Command			Date: March 2019
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160431BB / <i>Warrior Systems</i>	Project (Number/Name) <i>S725 / Tactical Radio Systems</i>	

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Increase of \$6.053 million enables the initiation of two emerging capabilities in FY20 related to Link-16 and HF. These efforts significantly reduce the operational load of the operator by reducing the quantity and form factor of comm kits while significantly enhancing capabilities.					
Title: Blue Force Tracking (BFT) Description: BFT is a family of devices used to remotely track and monitorSOF unit personnel. The capability enhances C2, threat warning, force protection, situational awareness, combat search and rescue, counter-fratricide, and battlefield visualization. This capability is unique to SOF because it requires the devices to be lightweight, portable, secure and a Low Probability of Intercept/Low Probability of Detection. FY 2019 Plans: Continue development and test of new capabilities in BFT equipment. FY 2020 Base Plans: Continues development and test of new capabilities in BFT equipment. FY 2019 to FY 2020 Increase/Decrease Statement: Increase \$0.602 million to allow for rapid prototyping and additional product development focused on denied environments.	0.071	0.071	0.673	-	0.673
Accomplishments/Planned Programs Subtotals	12.704	4.660	11.315	-	11.315

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

<u>Line Item</u>	<u>FY 2018</u>	<u>FY 2019</u>	<u>FY 2020 Base</u>	<u>FY 2020 OCO</u>	<u>FY 2020 Total</u>	<u>FY 2021</u>	<u>FY 2022</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• PROC/0204WARRIOR: <i>Warrior Systems</i> <\$5M	287.513	458.499	298.480	36.212	334.692	331.626	312.728	332.200	339.365	Continuing	Continuing

Remarks

D. Acquisition Strategy

- STC is a Commercial-Off-The-Shelf/Non-Development Item program with evolutionary technology insertions (ETIs). Commercial and government agency sources will be leveraged for required certifications, functional and operational tests, and acceptance support.
- BFT is a fielded program with ETIs leveraging commercial and other government agency sources for required certifications, functional and operational tests, and technology updates.

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Exhibit R-2A, RDT&E Project Justification: PB 2020 United States Special Operations Command		Date: March 2019
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160431BB / <i>Warrior Systems</i>	Project (Number/Name) <i>S725 / Tactical Radio Systems</i>

E. Performance Metrics

N/A.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2020 United States Special Operations Command												Date: March 2019			
Appropriation/Budget Activity 0400 / 7						R-1 Program Element (Number/Name) PE 1160431BB / Warrior Systems				Project (Number/Name) S725 / Tactical Radio Systems					
Product Development (\$ in Millions)				FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 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
SOF Tactical Communications Radio Development (STC)	MIPR	Various : Various	9.984	10.797	Jan 2018	4.211	Apr 2019	10.184	Jan 2020	-		10.184	Continuing	Continuing	-
Blue Force Tracking Development	MIPR	Various : Various	2.462	0.000	Nov 2017	-		0.598	Nov 2019	-		0.598	Continuing	Continuing	-
Subtotal			12.446	10.797		4.211		10.782		-		10.782	Continuing	Continuing	N/A
Test and Evaluation (\$ in Millions)				FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 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
STC Testing	Option/ TBD	Various : Various	0.858	1.836	Jan 2018	0.378	Jan 2019	0.458	Jan 2020	-		0.458	Continuing	Continuing	-
Blue Force Tracking Testing	MIPR	Various : Variuos	-	0.071	Nov 2017	0.071	Jan 2019	0.075	Nov 2019	-		0.075	Continuing	Continuing	-
Subtotal			0.858	1.907		0.449		0.533		-		0.533	Continuing	Continuing	N/A
			Prior Years	FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			13.304	12.704		4.660		11.315		-		11.315	Continuing	Continuing	N/A
Remarks															

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Exhibit R-4, RDT&E Schedule Profile: PB 2020 United States Special Operations Command

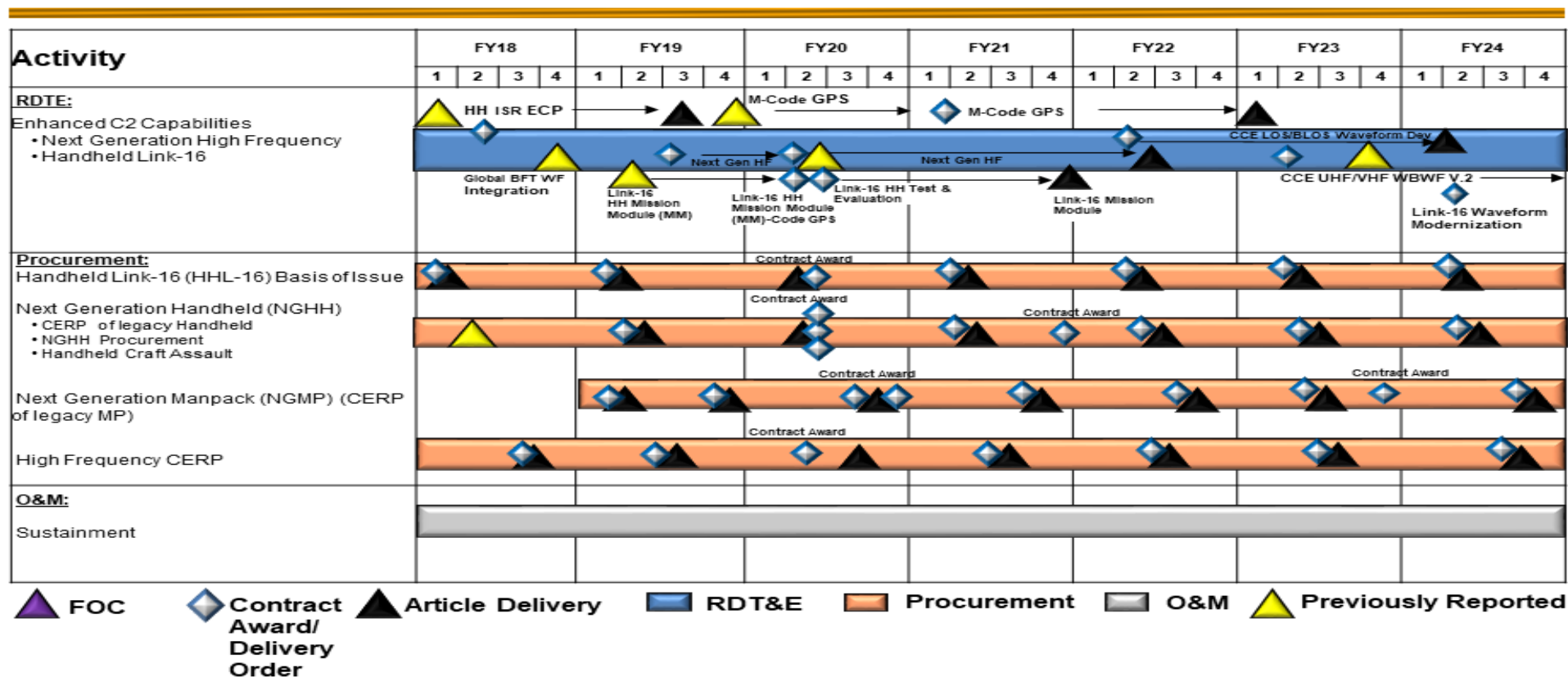
Date: March 2019

Appropriation/Budget Activity
0400 / 7

R-1 Program Element (Number/Name)
PE 1160431BB / Warrior Systems

Project (Number/Name)
S725 / Tactical Radio Systems

STC/NGTC Schedule



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Exhibit R-4, RDT&E Schedule Profile: PB 2020 United States Special Operations Command

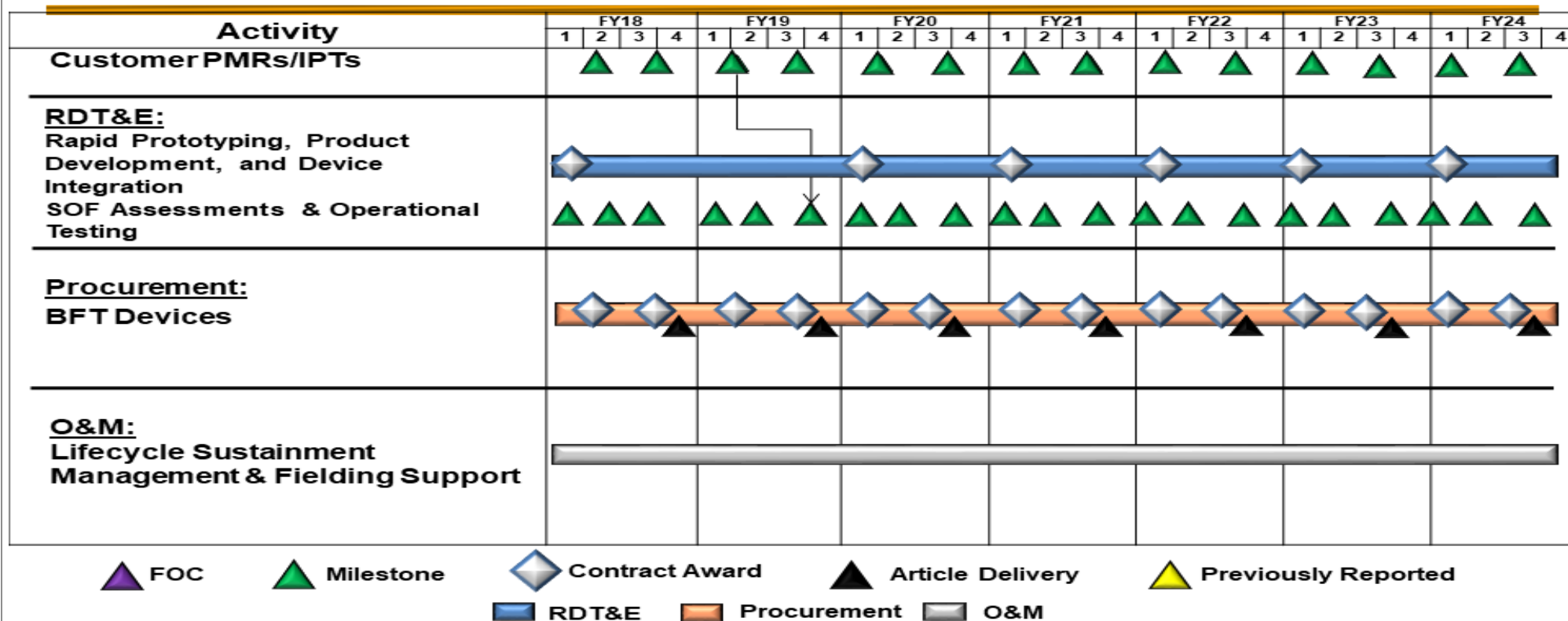
Date: March 2019

Appropriation/Budget Activity
0400 / 7

R-1 Program Element (Number/Name)
PE 1160431BB / *Warrior Systems*

Project (Number/Name)
S725 / Tactical Radio Systems

BFT Schedule



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Exhibit R-4A, RDT&E Schedule Details: PB 2020 United States Special Operations Command	Date: March 2019
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Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160431BB / <i>Warrior Systems</i>	Project (Number/Name) <i>S725 / Tactical Radio Systems</i>
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Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>SOF Tactical Communications Radio</i>				
Development	1	2018	4	2024
Test and Evaluation	2	2018	4	2024
<i>Blue Force Tracking</i>				
Rapid Prototyping	1	2018	4	2024
SOF Assessment & Operational Testing	1	2018	4	2024

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Exhibit R-2A, RDT&E Project Justification: PB 2020 United States Special Operations Command										Date: March 2019		
Appropriation/Budget Activity 0400 / 7					R-1 Program Element (Number/Name) PE 1160431BB / Warrior Systems				Project (Number/Name) S800 / Munitions Advanced Development			
COST (\$ in Millions)	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	Cost To Complete	Total Cost
S800: Munitions Advanced Development	44.666	16.852	27.770	10.741	-	10.741	2.869	3.840	8.339	8.533	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		
A. Mission Description and Budget Item Justification												
This project funds advanced engineering, operational system development and qualification efforts related to specialized munitions and equipment to meet the unique requirements of SOF.												
B. Accomplishments/Planned Programs (\$ in Millions)								FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Title: Munitions Advanced Development								0.512	0.436	0.588	-	0.588
Description: The Munitions Advanced Development program provides for Insensitive Munitions (IM) technology development and evaluations that allow SOF munitions to pass testing which includes bullet impact, sympathetic detonation, fast cook off, slow cook off and shaped charge test. Testing is in accordance with the United States Special Operations IM Testing Plan. Munitions product improvements are tested in accordance with command priorities.												
FY 2019 Plans: Continue proof of concept development and IM testing on various munitions. Continue full scale testing to satisfy safety requirements in Military Standard 2105C (Department of Defense Test and Method Standard: Hazard Assessment Test for Non-Nuclear Munitions, 26 Sep 2006).												
FY 2020 Base Plans: Continues proof of concept development and IM testing on various munitions. Continues full scale testing to satisfy safety requirements in Military Standard 2105C (Department of Defense Test and Method Standard: Hazard Assessment Test for Non-Nuclear Munitions, 26 Sep 2006).												
FY 2019 to FY 2020 Increase/Decrease Statement: Increase of \$0.152 million is for full scale testing.												
Title: Stand-Off Precision Guided Munitions (SOPGM)								2.374	8.734	-	-	-
Description: SOPGM provides for the integration and testing of service-common and recently developed precision guided munitions on SOF-unique platforms. This project received a congressional add in FY 2018 and 2019.												

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Exhibit R-2A, RDT&E Project Justification: PB 2020 United States Special Operations Command			Date: March 2019			
Appropriation/Budget Activity 0400 / 7		R-1 Program Element (Number/Name) PE 1160431BB / Warrior Systems		Project (Number/Name) S800 / Munitions Advanced Development		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
FY 2019 Plans: Continue integration and testing of precision guided munitions on SOF UAS platforms.						
FY 2019 to FY 2020 Increase/Decrease Statement: Decrease of \$8.734 million due to completion of integration and transition to procurement.						
Title: Precision Strike Systems (PSS) Description: Guided Rocket Systems provides for the engineering, integration and testing of service-common and recently developed precision guided munitions on SOF-unique platforms. FY 2019 Plans: Initiates the engineering, integration and testing of service-common and recently developed precision guided munitions on SOF-unique platforms. FY 2020 Base Plans: Continue the engineering, integration and testing of service-common and recently developed precision guided munitions on SOF-unique platforms. FY 2019 to FY 2020 Increase/Decrease Statement: Increase of \$5.762M is to develop new systems to counter new threats.		-	2.500	8.262	-	8.262
Title: Aircraft Survivability Equipment (ASE) Description: The ASE program includes development of new systems, pre-planned product improvements/ upgrades of fielded survivability equipment, and continues development of flare countermeasures.		2.409	-	-	-	-
Title: Counter Unmanned Aerial System (C-UAS) Description: Develops a 40MM Air Bursting Grenade launched from a Grenade Machine Gun. FY 2019 Plans: This funding will support the development and evaluation of High Velocity 40mm High Explosive Air Bursting Ammunition to be used with grenade machine guns. Improving the air-Bursting capability of this currently fielded weapon system will provide kinetic Counter-Unmanned Aerial System (C-UAS) capabilities to the Warfighter. FY 2020 Base Plans:		-	1.100	1.891	-	1.891

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Exhibit R-2A, RDT&E Project Justification: PB 2020 United States Special Operations Command								Date: March 2019				
Appropriation/Budget Activity 0400 / 7				R-1 Program Element (Number/Name) PE 1160431BB / <i>Warrior Systems</i>			Project (Number/Name) S800 / <i>Munitions Advanced Development</i>					
B. Accomplishments/Planned Programs (\$ in Millions)								FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Continue to support the development and evaluation of High Velocity 40mm High Explosive Air Bursting Ammunition to be used with grenade machine guns. Improve the air-Bursting capability of this currently fielded weapon system will provide kinetic Counter-Unmanned Aerial System (C-UAS) capabilities to the Warfighter.												
FY 2019 to FY 2020 Increase/Decrease Statement: Increase of \$0.791 million to continue support of development and evaluation efforts.												
Accomplishments/Planned Programs Subtotals								5.295	12.770	10.741	-	10.741
								FY 2018	FY 2019			
Congressional Add: SOPGM								11.557	15.000			
FY 2018 Accomplishments: Small Glide Munition (to include new low collateral damage warhead) development and integration onto UAS platforms.												
FY 2019 Plans: Continue integration and testing of Small Glide Munition on SOF UAS platforms.												
Congressional Adds Subtotals								11.557	15.000			
C. Other Program Funding Summary (\$ in Millions)												
Line Item	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	Cost To Complete	Total Cost	
• PROC/0203ORDN: <i>Ordnance Items <\$5M</i>	173.584	425.892	279.992	138.252	418.244	336.879	287.002	296.022	346.659	Continuing	Continuing	
Remarks												
D. Acquisition Strategy												
Munitions Advanced Development: Munitions and packaging redesign shall take place within government laboratories, as well as in industry, depending on the munitions. IM solutions shall be tested on a small scale for proof of principle. Planned product improvements are tested at Army, Navy, and Air Force test centers leveraging mid-tier acquisition authorities and other transaction authorities (OTAs).												
SOPGM: Integration and developmental testing of precision guided munitions will be conducted using government laboratories or industry partners depending on the munitions for various SOF platforms.												
PSS: Integration and developmental testing of the launcher systems with follow-on government-led integration effort leveraging lessons learned from similar rapid integration efforts on other combat tested SOF platforms.												

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Exhibit R-2A, RDT&E Project Justification: PB 2020 United States Special Operations Command		Date: March 2019
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160431BB / Warrior Systems	Project (Number/Name) S800 / Munitions Advanced Development
<p>ASE: Development of new systems, pre-planned product improvements/upgrades of fielded survivability equipment, and continue development of flare countermeasures.</p> <p>C-UAS: Development and Evaluation of 40MM High Explosive Air Bursting Ammunition shall be conducted using government laboratories.</p>		
<p>E. Performance Metrics</p> <p>N/A</p>		

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2020 United States Special Operations Command													Date: March 2019		
Appropriation/Budget Activity 0400 / 7						R-1 Program Element (Number/Name) PE 1160431BB / Warrior Systems				Project (Number/Name) S800 / Munitions Advanced Development					
Product Development (\$ in Millions)				FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 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
Stand-off Precision Guided Munitions (SOPGM) MQ-9 LSDB/SDB II Weapon Mount Hardware Development & Integration	SS/ Various	General Atomics : NY	2.183	0.974	Jan 2018	6.594	Dec 2018	-		-		-	0.000	9.751	-
SOPGM MQ-9 LSDB Software Development & Integration	SS/ Various	Boeing : MO	0.300	1.400	Jan 2018	1.040	Feb 2019	-		-		-	0.000	2.740	-
SOPGM Small Glide Munition(SGM)/MQ-1C Integration Congressional Plus Up	C/Various	Dynetics : AL	-	6.633	Jul 2018	1.636	Jan 2019	-		-		-	0.000	8.269	-
SOPGM Small Glide Munition(SGM)/MQ-9 Integration Congressional Plus Up	C/Various	Dynetics : AL	-	-		6.973		-		-		-	0.000	6.973	-
Aircraft Survivability Equipment Development	Various	Various : Various	-	2.409	Jan 2018	-		-		-		-	0.000	2.409	-
Counter Unmanned Aerial System (CUAS)	C/Various	Various : Various	-	-		1.100	Feb 2019	1.891	Nov 2019	-		1.891	0.000	2.991	-
Precision Strike System (PSS)	C/Various	Various : Various	-	-		2.500	Feb 2019	8.262	Nov 2019	-		8.262	Continuing	Continuing	-
Prior Year	C/Various	Various : Various	34.132	-		-		-		-		-	0.000	34.132	-
Subtotal			36.615	11.416		19.843		10.153		-		10.153	Continuing	Continuing	N/A
Support (\$ in Millions)				FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 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
SOPGM SGM Support Congressional Plus Up	C/Various	Dynetics : AL	2.354	2.400	May 2018	3.115	May 2019	-		-		-	0.000	7.869	-
Prior Year	C/Various	Various : Various	1.100	-		-		-		-		-	0.000	1.100	-
Subtotal			3.454	2.400		3.115		-		-		-	0.000	8.969	N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2020 United States Special Operations Command												Date: March 2019			
Appropriation/Budget Activity 0400 / 7						R-1 Program Element (Number/Name) PE 1160431BB / Warrior Systems				Project (Number/Name) S800 / Munitions Advanced Development					
Test and Evaluation (\$ in Millions)				FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 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
SOPGM MQ-9 LSDB/SDB II Test	SS/TBD	Boeing : MO	-	-		0.694	May 2019	-		-		-	0.000	0.694	-
SOPGM MQ-9 LSDB/SDB II Test Overseas Contingency Operations (OCO)	SS/TBD	Boeing : MO	-	-		0.406	May 2019	-		-		-	0.000	0.406	-
SOPGM SGM Test Congressional Plus Up	C/Various	Dynetics : AL	2.474	2.524	Apr 2018	-		-		-		-	0.000	4.998	-
SOPGM SGM/MQ-1C Test Congressional Plus Up	C/Various	Dynetics : AL	-	-		1.638	May 2019	-		-		-	0.000	1.638	-
SOPGM Small Glide Munition(SGM)/MQ-9 Integration Congressional Plus Up	C/Various	Dynetics : AL	-	-		1.638	Dec 2019	-		-		-	0.000	1.638	-
Munitions - Insensitive Munitions (IM) Evaluation	C/FFP	US Air Force Air Armaments Center : Eglin, AFB, FL	0.056	0.058	Dec 2017	0.059	Dec 2018	0.060	Dec 2019	-		0.060	Continuing	Continuing	-
Munitions - IM Testing	Allot	ARDEC : Picatinny Arsenal, NJ	0.307	0.306	Dec 2017	0.227	Dec 2018	0.375	Dec 2019	-		0.375	Continuing	Continuing	-
Munitions Advanced Development - Obtain Munitions Test Articles	C/FFP	General Dynamics : Canada	0.141	0.148	Dec 2017	0.150	Dec 2018	0.153	Dec 2019	-		0.153	Continuing	Continuing	-
Prior Year	C/Various	Various : Various	1.619	-		-		-		-		-	0.000	1.619	-
Subtotal			4.597	3.036		4.812		0.588		-		0.588	Continuing	Continuing	N/A
			Prior Years	FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			44.666	16.852		27.770		10.741		-		10.741	Continuing	Continuing	N/A
Remarks															

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Exhibit R-4, RDT&E Schedule Profile: PB 2020 United States Special Operations Command

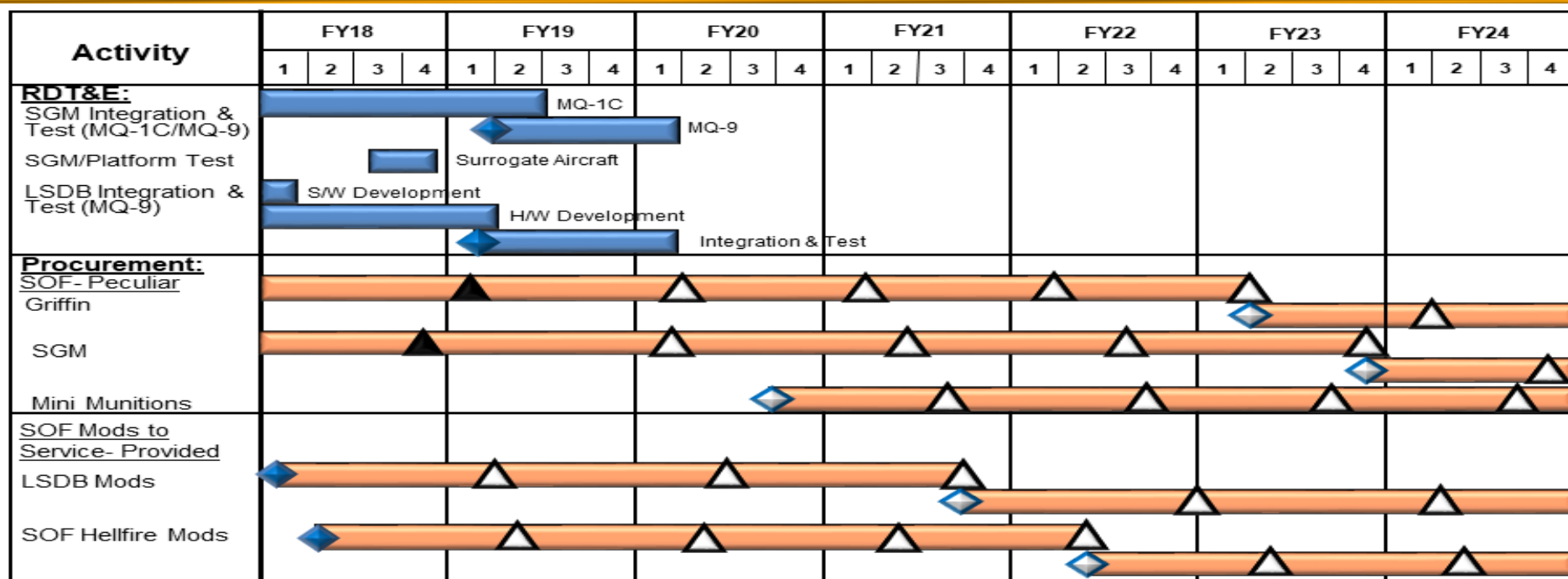
Date: March 2019

Appropriation/Budget Activity
0400 / 7

R-1 Program Element (Number/Name)
PE 1160431BB / Warrior Systems

Project (Number/Name)
S800 / Munitions Advanced Development

SOPGM Schedule



*FY21-24 reflects baseline funding only

■ RDT&E
 ■ Procurement
 ◆ Contract Award
 ▲ Delivery Complete
 △ Projected Delivery Complete

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Exhibit R-4, RDT&E Schedule Profile: PB 2020 United States Special Operations Command

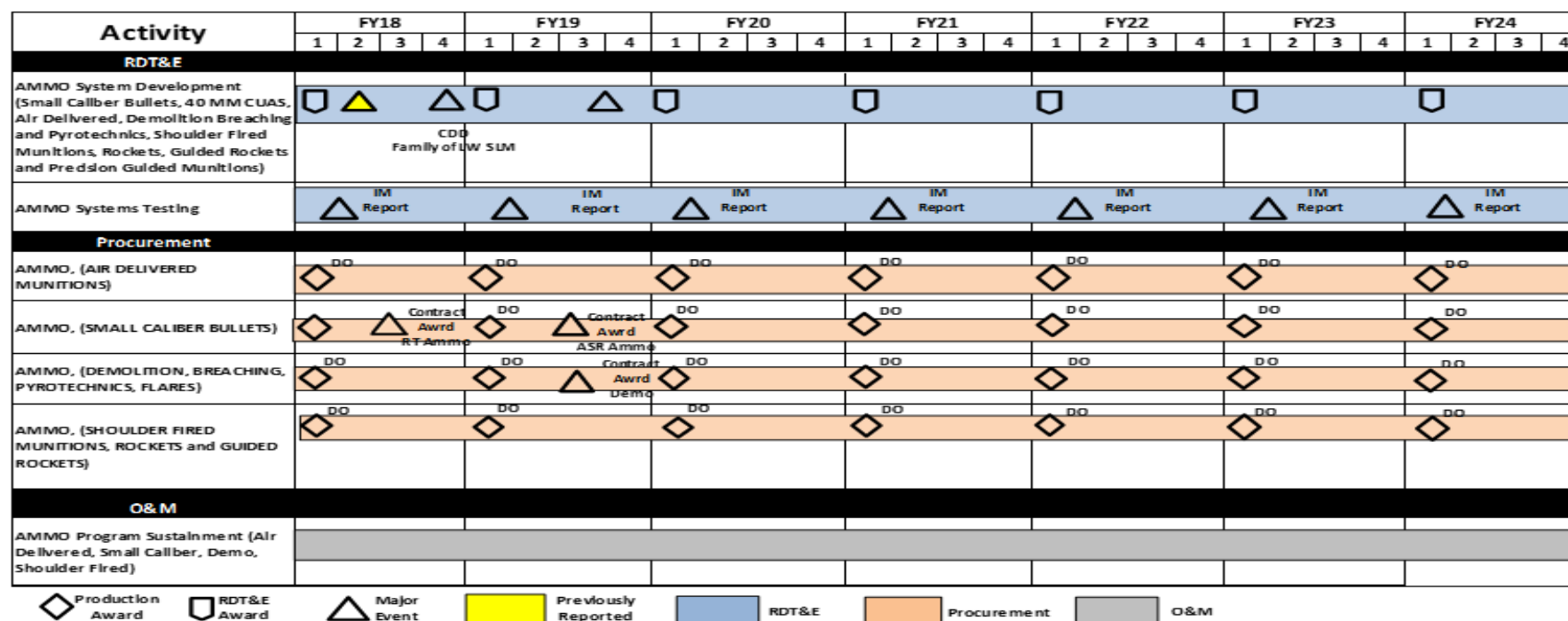
Date: March 2019

Appropriation/Budget Activity
0400 / 7

R-1 Program Element (Number/Name)
PE 1160431BB / Warrior Systems

Project (Number/Name)
S800 / Munitions Advanced Development

Ordinance Items < \$5M Schedule



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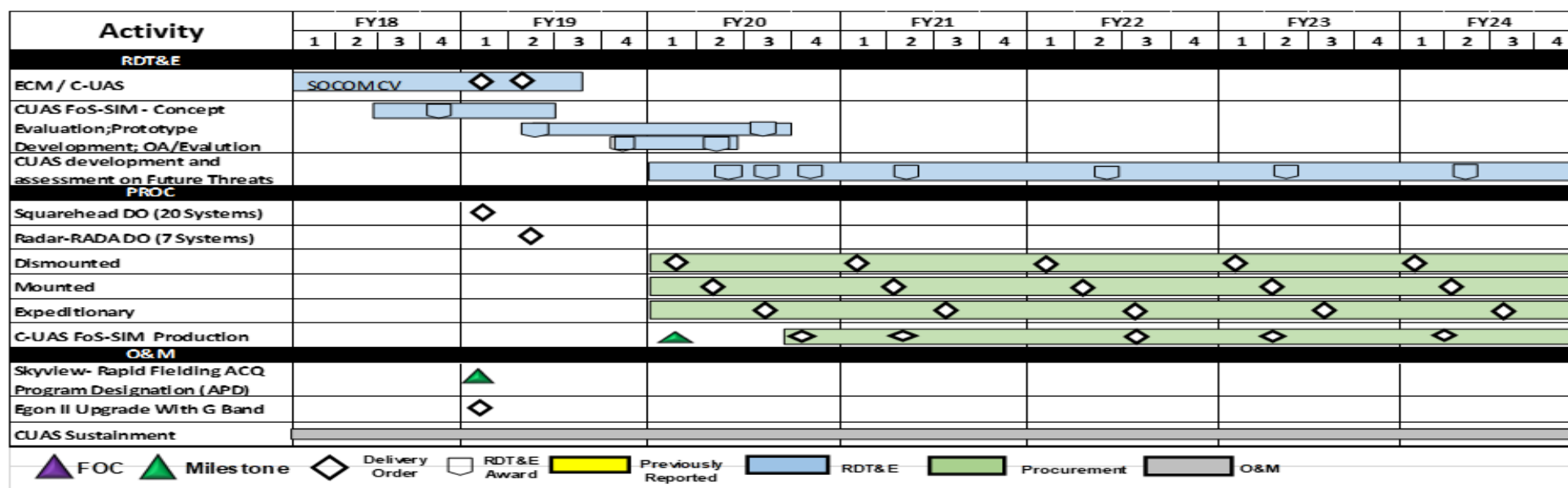
PE 1160431BB: *Warrior Systems*
United States Special Operations Command

R-1 Line #259

R-1 Program Element (Number/Name)
PE 1160431BB / <i>Warrior Systems</i>

Project (Number/Name) S800 / Munitions Advanced Development	
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Schedule



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Exhibit R-4A, RDT&E Schedule Details: PB 2020 United States Special Operations Command			Date: March 2019
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160431BB / <i>Warrior Systems</i>	Project (Number/Name) S800 / <i>Munitions Advanced Development</i>	

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Stand-off Precision Guided Munitions (SOPGM) Small Glide Munition(SGM) Integration</i>				
MQ-1C Integration/Test	1	2018	3	2019
MQ-9 Integration/Test	2	2019	2	2020
Platform Test	3	2018	4	2018
<i>SOPGM LSDB/SDB II Integration & Test</i>				
Software Development	1	2018	1	2018
Weapon Mount Hardware Development	1	2018	2	2019
Interation & Test	1	2019	2	2020
<i>Munitions (Ordnance Items)</i>				
Evaluations of munitions test articles	1	2018	4	2024
Munitions testing	1	2018	4	2024
Obtain munitions test articles	1	2018	4	2024
<i>Counter Unmanned Aerial Systems (C-UAS)</i>				
Counter Unmanned Aerial Systems (C-UAS)	2	2019	1	2020
<i>Precision Strike System (PSS)</i>				
Precision Strike System (PSS)	2	2019	4	2024