Department of Defense
Fiscal Year (FY) 2019 Budget Estimates

February 2018

United States Special Operations Command

Defense-Wide Justification Book Volume 5 of 5

Research, Development, Test & Evaluation, Defense-Wide

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Exhibit R-1 FY 2019 President's Budget
Total Obligational Authority
(Dollars in Thousands)

29 Jan 2018

Appropriation	FY 2017 (Base + OCO)	FY 2018 PB Request with CR Adj Base	FY 2018 Total PB Requests* with CR Adj Base	FY 2018 PB Request with CR Adj OCO	FY 2018 Total PB Requests+ with CR Adj OCO
Research, Development, Test & Eval, DW	547,484	639,325	639,325	4,920	4,920
Total Research, Development, Test & Evaluation	547,484	639,325	639,325	4,920	4,920

Department of Defense
FY 2019 President's Budget
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(Dollars in Thousands)

29 Jan 2018

Appropriation	FY 2018 Emergency Requests** Emergency	FY 2018 Less Enacted Div B P.L.115-96*** MDDE + Ship Repairs	FY 2018 Remaining Req Emergency	FY 2018 Total PB Requests* with CR Adj Base + OCO + Emergency**	FY 2018 Less Enacted DIV B P.L.115-96*** MDDE + Ship Repairs	FY 2018 Remaining Req with CR Adj Base + OCO + Emergency
Research, Development, Test & Eval, DW				644,245		644,245
Total Research, Development, Test & Evaluation				644,245		644,245

R-119PB: FY 2019 President's Budget (Published Version), as of January 29, 2018 at 13:06:34

Department of Defense
FY 2019 President's Budget
Exhibit R-1 FY 2019 President's Budget
Total Obligational Authority
(Dollars in Thousands)

29 Jan 2018

Appropriation	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Research, Development, Test & Eval, DW	575,154	27,097	602,251
Total Research, Development, Test & Evaluation	575,154	27,097	602,251

Department of Defense
FY 2019 President's Budget
Exhibit R-1 FY 2019 President's Budget
Total Obligational Authority
(Dollars in Thousands)

29 Jan 2018

Summary Recap of Budget Activities	FY 2017 (Base + OCO)	FY 2018 PB Request with CR Adj Base	FY 2018 Total PB Requests* with CR Adj Base	FY 2018 PB Request with CR Adj OCO	FY 2018 Total PB Requests+ with CR Adj OCO
Applied Research	44,857	34,493	34,493		
Advanced Technology Development	88,324	72,605	72,605		
Operational System Development	414,303	532,227	532,227	4,920	4,920
Total Research, Development, Test & Evaluation	547,484	639,325	639,325	4,920	4,920
Summary Recap of FYDP Programs					
Intelligence and Communications	5,415	5,496	5,496		
Special Operations Forces	542,069	633,829	633,829	4,920	4,920
Total Research, Development, Test & Evaluation	547,484	639,325	639,325	4,920	4,920

Department of Defense
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Applied Research				34,493		34,493
Advanced Technology Development				72,605		72,605
Operational System Development				537,147		537,147
Total Research, Development, Test & Evaluation				644,245		644,245
Summary Recap of FYDP Programs						
Intelligence and Communications				5,496		5,496
Special Operations Forces				638,749		638,749
Total Research, Development, Test & Evaluation				644,245		644,245

Department of Defense
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29 Jan 2018

Summary Recap of Budget Activities	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Applied Research	35,921		35,921
Advanced Technology Development	79,380		79,380
Operational System Development	459,853	27,097	486,950
Total Research, Development, Test & Evaluation	575,154	27,097	602,251

Summary Recap of FYDP Programs			
Intelligence and Communications	6,286		6,286
Special Operations Forces	568,868	27,097	595,965
Total Research, Development, Test & Evaluation	575,154	27,097	602,251

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Total Research, Development, Test & Evaluation				644,245		644,245

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Total Research, Development, Test & Evaluation	547,484	639,325	639,325	4,920	4,920

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Appropriation: 0400D Research, Development, Test & Eval, DW

Line No	Program Element Number	Item	Act	FY 2017 (Base + OCO)	FY 2018 PB Request with CR Adj Base	FY 2018 Total PB Requests* with CR Adj Base	FY 2018 PB Request with CR Adj OCO	FY 2018 Total PB Requests+ with CR Adj OCO	Sec
22	1160401BB	SOF Technology Development	02	44,857	34,493	34,493			U
		Applied Research		44,857	34,493	34,493			
67	1160402BB	SOF Advanced Technology Development	03	88,324	72,605	72,605			U
		Advanced Technology Development		88,324	72,605	72,605			
227	0305208BB	Distributed Common Ground/Surface Systems	07	5,415	5,496	5,496			U
246	1105219BB	MQ-9 UAV	07	17,155	37,863	37,863			U
247	1160279BB	Small Business Innovative Research/ Small Bus Tech Transfer Pilot Prog	07	17,633					U
248	1160403BB	Aviation Systems	07	156,054	259,886	259,886			U
249	1160405BB	Intelligence Systems Development	07	5,803	8,245	8,245			U
250	1160408BB	Operational Enhancements	07	52,495	79,455	79,455	1,920	1,920	U
251	1160431BB	Warrior Systems	07	67,086	45,935	45,935			U
252	1160432BB	Special Programs	07	2,267	1,978	1,978			U
253	1160434BB	Unmanned ISR	07	19,110	31,766	31,766	3,000	3,000	U
254	1160480BB	SOF Tactical Vehicles	07	3,211	2,578	2,578			U
255	1160483BB	Maritime Systems	07	52,199	42,315	42,315			U
256	1160489BB	Global Video Surveillance Activities	07	3,841	4,661	4,661			U

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Appropriation: 0400D Research, Development, Test & Eval, DW

Line No	Program Element Number	Item	Act	FY 2018 Emergency Requests** Emergency	FY 2018 Less Enacted Div B P.L.115-96*** MDDE + Ship Repairs	FY 2018 Remaining Req Emergency	FY 2018 Total PB Requests* with CR Adj Base + OCO + Emergency**	FY 2018 Less Enacted DIV B P.L.115-96*** MDDE + Ship Repairs	FY 2018 Remaining Req with CR Adj Base + OCO + Emergency	Sec
22	1160401BB	SOF Technology Development	02				34,493		34,493	U
		Applied Research					34,493		34,493	
67	1160402BB	SOF Advanced Technology Development	03				72,605		72,605	U
		Advanced Technology Development					72,605		72,605	
227	0305208BB	Distributed Common Ground/Surface Systems	07				5,496		5,496	U
246	1105219BB	MQ-9 UAV	07				37,863		37,863	U
247	1160279BB	Small Business Innovative Research/ Small Bus Tech Transfer Pilot Prog	07							U
248	1160403BB	Aviation Systems	07				259,886		259,886	U
249	1160405BB	Intelligence Systems Development	07				8,245		8,245	U
250	1160408BB	Operational Enhancements	07				81,375		81,375	U
251	1160431BB	Warrior Systems	07				45,935		45,935	U
252	1160432BB	Special Programs	07				1,978		1,978	U
253	1160434BB	Unmanned ISR	07				34,766		34,766	U
254	1160480BB	SOF Tactical Vehicles	07				2,578		2,578	U
255	1160483BB	Maritime Systems	07				42,315		42,315	U
256	1160489BB	Global Video Surveillance Activities	07				4,661		4,661	U

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Appropriation: 0400D Research, Development, Test & Eval, DW

Line No	Program Element Number	Item	Act	FY 2019 Base	FY 2019 OCO	FY 2019 Total	Sec
22	1160401BB	SOF Technology Development	02	35,921		35,921	U
		Applied Research		35,921		35,921	
67	1160402BB	SOF Advanced Technology Development	03	79,380		79,380	U
		Advanced Technology Development		79,380		79,380	
227	0305208BB	Distributed Common Ground/Surface Systems	07	6,286		6,286	U
246	1105219BB	MQ-9 UAV	07	18,403		18,403	U
247	1160279BB	Small Business Innovative Research/ Small Bus Tech Transfer Pilot Prog	07				U
248	1160403BB	Aviation Systems	07	184,993		184,993	U
249	1160405BB	Intelligence Systems Development	07	10,625		10,625	U
250	1160408BB	Operational Enhancements	07	102,307	3,632	105,939	U
251	1160431BB	Warrior Systems	07	46,942	11,040	57,982	U
252	1160432BB	Special Programs	07	2,479		2,479	U
253	1160434BB	Unmanned ISR	07	27,270	11,700	38,970	U
254	1160480BB	SOF Tactical Vehicles	07	1,121	725	1,846	U
255	1160483BB	Maritime Systems	07	42,471		42,471	U
256	1160489BB	Global Video Surveillance Activities	07	4,780		4,780	U

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257	1160490BB	Operational Enhancements Intelligence	07	12,034	12,049	12,049			U
		Operational System Development		414,303	532,227	532,227	4,920	4,920	
Total Research, Development, Test & Eval, DW				547,484	639,325	639,325	4,920	4,920	

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257	1160490BB	Operational Enhancements Intelligence	07				12,049		12,049	U
		Operational System Development					537,147		537,147	
Total Research, Development, Test & Eval, DW							644,245		644,245	

Defense-Wide
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Appropriation: 0400D Research, Development, Test & Eval, DW

Line No	Program Element Number	Item	Act	FY 2019 Base	FY 2019 OCO	FY 2019 Total	Sec
257	1160490BB	Operational Enhancements Intelligence	07	12,176		12,176	U
		Operational System Development		459,853	27,097	486,950	
Total Research, Development, Test & Eval, DW				575,154	27,097	602,251	

U.S., Special Operations Command
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22	1160401BB	SOF Technology Development	02	44,857	34,493	34,493			U
Applied Research				44,857	34,493	34,493			
67	1160402BB	SOF Advanced Technology Development	03	88,324	72,605	72,605			U
Advanced Technology Development				88,324	72,605	72,605			
227	0305208BB	Distributed Common Ground/Surface Systems	07	5,415	5,496	5,496			U
246	1105219BB	MQ-9 UAV	07	17,155	37,863	37,863			U
247	1160279BB	Small Business Innovative Research/ Small Bus Tech Transfer Pilot Prog	07	17,633					U
248	1160403BB	Aviation Systems	07	156,054	259,886	259,886			U
249	1160405BB	Intelligence Systems Development	07	5,803	8,245	8,245			U
250	1160408BB	Operational Enhancements	07	52,495	79,455	79,455	1,920	1,920	U
251	1160431BB	Warrior Systems	07	67,086	45,935	45,935			U
252	1160432BB	Special Programs	07	2,267	1,978	1,978			U
253	1160434BB	Unmanned ISR	07	19,110	31,766	31,766	3,000	3,000	U
254	1160480BB	SOF Tactical Vehicles	07	3,211	2,578	2,578			U
255	1160483BB	Maritime Systems	07	52,199	42,315	42,315			U
256	1160489BB	Global Video Surveillance Activities	07	3,841	4,661	4,661			U
257	1160490BB	Operational Enhancements Intelligence	07	12,034	12,049	12,049			U
Operational System Development				414,303	532,227	532,227	4,920	4,920	

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67	1160402BB	SOF Advanced Technology Development	03				72,605		72,605	U
	Advanced Technology Development						72,605		72,605	
227	0305208BB	Distributed Common Ground/Surface Systems	07				5,496		5,496	U
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249	1160405BB	Intelligence Systems Development	07				8,245		8,245	U
250	1160408BB	Operational Enhancements	07				81,375		81,375	U
251	1160431BB	Warrior Systems	07				45,935		45,935	U
252	1160432BB	Special Programs	07				1,978		1,978	U
253	1160434BB	Unmanned ISR	07				34,766		34,766	U
254	1160480BB	SOF Tactical Vehicles	07				2,578		2,578	U
255	1160483BB	Maritime Systems	07				42,315		42,315	U
256	1160489BB	Global Video Surveillance Activities	07				4,661		4,661	U
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247	1160279BB	Small Business Innovative Research/ Small Bus Tech Transfer Pilot Prog	07				U
248	1160403BB	Aviation Systems	07	184,993		184,993	U
249	1160405BB	Intelligence Systems Development	07	10,625		10,625	U
250	1160408BB	Operational Enhancements	07	102,307	3,632	105,939	U
251	1160431BB	Warrior Systems	07	46,942	11,040	57,982	U
252	1160432BB	Special Programs	07	2,479		2,479	U
253	1160434BB	Unmanned ISR	07	27,270	11,700	38,970	U
254	1160480BB	SOF Tactical Vehicles	07	1,121	725	1,846	U
255	1160483BB	Maritime Systems	07	42,471		42,471	U
256	1160489BB	Global Video Surveillance Activities	07	4,780		4,780	U
257	1160490BB	Operational Enhancements Intelligence	07	12,176		12,176	U
Operational System Development				459,853	27,097	486,950	

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Total U.S., Special Operations Command				547,484	639,325	639,325	4,920	4,920	

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Total U.S., Special Operations Command				575,154	27,097	602,251	

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Appropriation 0400: Research, Development, Test & Evaluation, Defense-Wide

Appropriation 0400: Research, Development, Test & Evaluation, Defense-Wide

Appropriation 0400: Research, Development, Test & Evaluation, Defense-Wide

Program Element Table of Contents (Alphabetically by Program Element Title)

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Exhibit R-2, RDT&E Budget Item Justification: PB 2019 United States Special Operations Command	Date: February 2018
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide* / BA 2: *Applied Research*	**R-1 Program Element (Number/Name)** PE 1160401BB / *SOF Technology Development*

COST ($ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
Total Program Element	474.372	44.857	34.493	35.921	-	35.921	40.757	46.884	49.890	50.890	Continuing	Continuing
S100: *SOF Technology Development*	474.372	44.857	34.493	35.921	-	35.921	40.757	46.884	49.890	50.890	Continuing	Continuing

A. Mission Description and Budget Item Justification

This program element enables USSOCOM to conduct studies and develop laboratory prototypes for applied research and advanced technology development, as well as leverage other organizations' technology projects that may not otherwise be affordable within MFP-11. Applying small incremental amounts of investments to Department of Defense (DOD), other government agencies, and commercial organizations allows USSOCOM to influence the direction of technology development or the schedule against which it is being pursued, and to acquire emerging technologies for Special Operations Forces. This project provides an investment strategy for USSOCOM to link technology opportunities with capability deficiencies, capability objectives, technology thrust areas, human endurance and sensory performance, and technology development objectives.

B. Program Change Summary ($ in Millions)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Previous President's Budget	37.820	34.493	37.036	-	37.036
Current President's Budget	44.857	34.493	35.921	-	35.921
Total Adjustments	7.037	0.000	-1.115	-	-1.115
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	8.400	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-1.363	-			
• Other adjustments	-	-	-1.115	-	-1.115

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2017	FY 2018
Project: S100: *SOF Technology Development*		
Congressional Add: *Program Increase*	3.400	-
Congressional Add: *Thermal Signature Management Technology Program*	5.000	-
Congressional Add Subtotals for Project: S100	8.400	-
Congressional Add Totals for all Projects	8.400	-

Exhibit R-2, RDT&E Budget Item Justification: PB 2019 United States Special Operations Command	Date: February 2018
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide* / BA 2: *Applied Research*	**R-1 Program Element (Number/Name)** PE 1160401BB / *SOF Technology Development*

Change Summary Explanation

Funding:

FY 2017: Net increase of $7.037 million is due to a transfer of -$1.363 million for Small Business Innovative Research/Small Business Technology Transfer programs and congressional adjustments ($3.400 million) for Program Increase and to fund the Thermal Signature Management Technology program ($5.000 million).

FY 2018: None.

FY 2019: Decrease of -$1.115 million is due to $0.326 million for Department economic assumptions decrease and $0.789 million due to realignment to higher command priorities.

Schedule: None.

Technical: None.

Exhibit R-2A, RDT&E Project Justification: PB 2019 United States Special Operations Command			Date: February 2018
Appropriation/Budget Activity 0400 / 2	R-1 Program Element (Number/Name) PE 1160401BB / *SOF Technology Development*	Project (Number/Name) S100 / *SOF Technology Development*	

COST ($ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
S100: *SOF Technology Development*	474.372	44.857	34.493	35.921	-	35.921	40.757	46.884	49.890	50.890	Continuing	Continuing

A. Mission Description and Budget Item Justification

This project conducts studies and develops laboratory prototypes for applied research and advanced technology developments, and leverages other organizations' technology projects that may not otherwise be affordable within MFP-11. Small incremental co-investments with DOD, other government agencies, and commercial organizations allow USSOCOM to influence the schedule and direction of technology developments, emerging technologies, and capabilities for Special Operations Forces (SOF), with significant economies of investment. This USSOCOM investment strategy is used to link technology opportunities with USSOCOM capability deficiencies, capability objectives; technology thrust areas, and technology objectives. Technology development needs in these areas may be advertised to industry and government research and development agencies via agency announcements and calls for white papers.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019
Title: SOF Technology Development	18.141	15.157	16.421
Description: This project conducts studies and develops laboratory prototypes for applied research and advanced technology developments, and leverages other organizations' technology projects that may not otherwise be affordable within MFP-11. ***FY 2018 Plans:*** Continue ongoing technology development sub-projects in areas such as, but not limited to: long duration small form factor power supplies, alternative fuel power systems, reduced signature technologies, high data-rate throughput, and advance lightweight armor and materials. Advance technologies for combat medical equipment, tactics, human performance, sensor and processing improvements, improve interfaces and displays, machine learning/artificial intelligence, and secure communications. Continue pursuit of methods to reduce operator load and provide advanced protection. Develop technologies for improved and widened window of target engagement (escalation of force), pursue enhancements to technologies that can aid in detection of enemy intentions and movement, and continued development and exploration across the electromagnetic spectrum. Based upon agreed technology maturity metrics, transfer successful projects into programs of record. Continue the integration of critical technologies focused on providing the dismounted special operator leap-ahead capabilities via innovative collaborative processes. Focus is on delivering prototype system for soldier protection and augmentation and continued development of situational awareness and command/control systems. ***FY 2019 Plans:*** Continues ongoing technology development sub-projects in areas such as, but not limited to: long duration small form factor power supplies, alternative fuel power systems, reduced signature technologies, high data-rate throughput, and advances lightweight armor and materials. Advances technologies for combat medical equipment, tactics, human performance, sensor and			

Exhibit R-2A, RDT&E Project Justification: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 2	**R-1 Program Element (Number/Name)** PE 1160401BB / *SOF Technology Development*	**Project (Number/Name)** S100 / *SOF Technology Development*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019
processing improvements, improves interfaces and displays, machine learning/artificial intelligence, and secure communications. Continues pursuit of methods to reduce operator load and provides advanced protection. Develops technologies for improved and widened window of target engagement (escalation of force), pursues enhancements to technologies that can aid in detection of enemy intentions and movement, and continues development and exploration across the electromagnetic spectrum. Based upon agreed technology maturity metrics, transfers successful projects into programs of record. Continues the integration of critical technologies focused on providing the dismounted special operator leap-ahead capabilities via innovative collaborative processes. Focus is on delivering prototype system for soldier protection and augmentation and continued development of situational awareness and command/control systems. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Increase of $1.264 million due to increased number of technology readiness level technology development efforts to support SOF needs.			
Title: Tagging, Tracking, and Locating Technologies (TTL) ***Description:*** TTL funds Applied Research projects identified in the USSOCOM Quick Look Capabilities Based Assessments (QL-CBA). TTL applies leading edge nanotechnology, biometric and biotechnology, and chemistry which is directed towards the development of revolutionary tags, taggants, sensors, communications, and data processing. ***FY 2018 Plans:*** Continue projects to exploit nanotechnology, biotechnology and chemistry for application to TTL and TTL-enabling systems. Initiate projects linked to the USSOCOM/DOD TTL Roadmap, which is updated via the JCS/J8-approved annual TTL QL-CBA. ***FY 2019 Plans:*** Continues projects to exploit nanotechnology, biotechnology and chemistry for application to TTL and TTL-enabling systems. Initiates projects linked to the USSOCOM/DOD TTL Roadmap, which is updated via the JCS/J8-approved annual TTL QL-CBA. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Increase of $0.124 million supports minor adjustments.	14.668	15.441	15.565
Title: Classified Sub-Project ***Description:*** Classified Sub-Project (provided under separate cover). ***FY 2018 Plans:*** Details provided under separate cover. ***FY 2019 Plans:***	3.648	3.895	3.935

Exhibit R-2A, RDT&E Project Justification: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 2	**R-1 Program Element (Number/Name)** PE 1160401BB / *SOF Technology Development*	**Project (Number/Name)** S100 / *SOF Technology Development*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019
Details provided under separate cover. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Details provided under separate cover.			
Accomplishments/Planned Programs Subtotals	36.457	34.493	35.921

	FY 2017	FY 2018
Congressional Add: Program Increase ***FY 2017 Accomplishments:*** BIO Medical Human Performance Small Molecule and C4 Immersive Training Technology.	3.400	-
Congressional Add: Thermal Signature Management Technology Program ***FY 2017 Accomplishments:*** Details provided under separate cover.	5.000	-
Congressional Adds Subtotals	8.400	-

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A

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Exhibit R-2, RDT&E Budget Item Justification: PB 2019 United States Special Operations Command	Date: February 2018
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide* / BA 3: *Advanced Technology Development (ATD)*	**R-1 Program Element (Number/Name)** PE 1160402BB / *SOF Advanced Technology Development*

COST ($ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
Total Program Element	1,196.512	88.324	72.605	79.380	-	79.380	89.565	101.181	107.638	109.767	Continuing	Continuing
S200: *Advanced Technology Development*	1,167.777	74.202	53.362	57.648	-	57.648	67.702	79.031	85.042	86.744	Continuing	Continuing
SF101: *Engineering Analysis*	14.188	8.911	14.827	17.140	-	17.140	17.283	17.461	17.795	18.126	Continuing	Continuing
S225: *Information and Broadcast Systems Adv Tech*	14.547	5.211	4.416	4.592	-	4.592	4.580	4.689	4.801	4.897	Continuing	Continuing

A. Mission Description and Budget Item Justification

Advanced Technology Development (project S200) conducts rapid prototyping and Advanced Technology Demonstrations (ATDs). ATDs provide a means for demonstrating and evaluating the utility of emerging/advanced technologies in as realistic an operational environment as possible by Special Operations Forces (SOF) users. Evaluation results are included in a transition package, which assists in the initiation of or insertion into an acquisition program. ATDs also address projects that are a result of unique joint special mission or area-specific needs for which a few-of-a-kind prototypes must be developed on a rapid response basis, or are of sufficient time sensitivity to accelerate the prototyping effort of a normal acquisition program in any phase.

Engineering Analysis (project SF101) provides rapid response capability for the investigation, evaluation, and demonstration of technologies for SOF platform (ground, air, and maritime) and soldier system-unique requirements. Timely application of SOF-unique technology is critical and necessary to meet requirements in such areas as: sensor integration; enhanced situational awareness; near-real-time intelligence to include data fusion, threat detection and avoidance; electronic support measures for threat geo-location and specific emitter identification; navigation; target detection; weapon performance integration; and future SOF platform and soldier system requirements. Provides additional engineering analysis and testing required to transition items from national forces to theater forces.

Information and Broadcast Systems Advanced Technology (project S225) conducts rapid prototyping, advanced technology demonstrations, and advanced concept technology demonstrations of information and broadcast systems technology. Includes planning, analyzing, evaluating, and production information systems capabilities and distribution/dissemination broadcast systems capabilities. It provides a means for demonstrating and evaluating the utility of emerging/advanced technologies in as realistic an operational environment as possible by SOF users. This project also integrates efforts with each other and conducts technology demonstrations in conjunction with joint experiments and other assessment events. Evaluation results are included in a transition package, which assists in the initiation of or insertion into an acquisition program. The project also addresses unique, joint special mission or area-specific needs for which prototypes must be developed on a rapid response basis, or are of sufficient time sensitivity to accelerate the prototyping effort of a normal acquisition program in any phase.

Exhibit R-2, RDT&E Budget Item Justification: PB 2019 United States Special Operations Command	Date: February 2018
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide* / BA 3: *Advanced Technology Development (ATD)*	**R-1 Program Element (Number/Name)** PE 1160402BB / *SOF Advanced Technology Development*

B. Program Change Summary ($ in Millions)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Previous President's Budget	61.620	72.605	79.132	-	79.132
Current President's Budget	88.324	72.605	79.380	-	79.380
Total Adjustments	26.704	0.000	0.248	-	0.248
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	28.029	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	0.800	-			
• SBIR/STTR Transfer	-2.125	-			
• Other	-	-	0.248	-	0.248

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2017	FY 2018
Project: S200: *Advanced Technology Development*		
Congressional Add: *S200: SOST Light Attack*	26.029	-
Congressional Add: *S200: Defense Technology Innovation*	2.000	-
Congressional Add Subtotals for Project: S200	28.029	-
Congressional Add Totals for all Projects	28.029	-

Change Summary Explanation

Funding:

FY 2017: Net increase of $26.704 million is due to a decrease for transfer of funds to Small Business Innovative Research/Small Business Technology Transfer programs (-$2.125 million), an increase reprogramming action for Phase II Directed Energy Study ($0.800 million), and Congressional adds of $26.029 million for Light Attack and $2.000 million for Defense Technology Innovation.

FY 2018: None.

FY 2019: Net increase of $0.248 million due to increase of $0.213 million for social media engagement incorporating Artificial Intelligence in the digital domain efforts, $0.693 million increase across numerous project tasks and a decrease of $0.658 million for Departmental economic assumption.

Schedule: None.

Exhibit R-2, RDT&E Budget Item Justification: PB 2019 United States Special Operations Command	Date: February 2018
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide I* BA 3: *Advanced Technology Development (ATD)*	**R-1 Program Element (Number/Name)** PE 1160402BB *I SOF Advanced Technology Development*

Technical: None.

Exhibit R-2A, RDT&E Project Justification: PB 2019 United States Special Operations Command			Date: February 2018
Appropriation/Budget Activity 0400 / 3	R-1 Program Element (Number/Name) PE 1160402BB / *SOF Advanced Technology Development*	Project (Number/Name) S200 / *Advanced Technology Development*	

COST ($ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
S200: *Advanced Technology Development*	1,167.777	74.202	53.362	57.648	-	57.648	67.702	79.031	85.042	86.744	Continuing	Continuing

A. Mission Description and Budget Item Justification

This project provides for rapid prototyping, Advanced Technology Demonstrations (ATDs) and Joint Capability Technology Demonstrations. It is a means for demonstrating and evaluating the utility of emerging/advanced technologies in operationally relevant environments with Special Operations Forces (SOF) users. This project integrates emerging technologies and presents them in technology demonstrations, in conjunction with joint experiments and other assessment events. Evaluation results often facilitate the initiation of new programs and the insertion of appropriate technologies to acquisition programs. The element also addresses unique, joint special mission or area-specific needs for which a few rapid prototypes must be developed on a responsive basis, or are of sufficient time sensitivity to accelerate prototyping efforts of a normal acquisition program in any phase.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019
Title: SOF Special Technology Sub-Project	25.164	30.003	33.046
Description: This sub-project integrates emerging technologies and presents them in technology demonstrations, in conjunction with joint experiments and other assessment events. This project received two congressional adds in FY 2017. ***FY 2018 Plans:*** Continue the development and insertion of technology into existing programs. Technologies include, but are not limited to: reduced signature profiles, improved weapons, communications, command, and control systems, machine learning/artificial intelligence, sensors, and situational awareness tools; lightweight armor and materials, alternative power systems, eco-friendly sustainable energy devices, long duration, reduced size, high output power supplies, and technologies that reduce the load of the operator. Continue development of technologies supporting undersea, air and ground mobility. Evaluate and develop sensors across the electromagnetic spectrum to meet operational requirements. Continue the integration of critical technologies focused on providing the dismounted special operator leap-ahead capabilities via innovative collaborative processes. Continue developing unique robotic systems to reduce the load of the operator and augment human performance. Continue to develop command, control, computer, and Intelligence Technology to implement a robust, ultra-wideband communication capability. Continue effort for field prototype system incorporating technologies likely to transition to fielded systems. Based upon agreed technology maturity metrics, transfer successful projects into programs of record, and conduct field experimentations at various venues to facilitate technology insertion. ***FY 2019 Plans:*** Continues the development and insertion of technology into existing programs. Technologies include, but are not limited to: reduced signature profiles, improved weapons, communications, command, and control systems, machine learning/artificial			

Exhibit R-2A, RDT&E Project Justification: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 3	**R-1 Program Element (Number/Name)** PE 1160402BB / *SOF Advanced Technology Development*	**Project (Number/Name)** S200 / *Advanced Technology Development*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019
intelligence, sensors, and situational awareness tools; lightweight armor and materials, alternative power systems, eco-friendly sustainable energy devices, long duration, reduced size, high output power supplies, and technologies that reduce the load of the operator. Continues development of technologies supporting undersea, air and ground mobility. Evaluates and develops sensors across the electromagnetic spectrum to meet operational requirements. Continues the integration of critical technologies focused on providing the dismounted special operator leap-ahead capabilities via innovative collaborative processes. Continues developing unique robotic systems to reduce the load of the operator and augment human performance. Continues to develop Command, Control, Computer, and Intelligence Technology to implement a robust, ultra-wideband communication capability. Continues effort for field prototype system incorporating technologies likely to transition to fielded systems. Based upon agreed technology maturity metrics, transfers successful projects into programs of record, and conducts field experimentations at various venues to facilitate technology insertion. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Increase of $2.730 million due to an increased number of higher technology readiness level technology development efforts to support SOF needs.			
Title: Tagging, Tracking, and Locating Technologies (TTL) Sub-Project ***Description:*** TTL funds SOF unique ATDs identified in the USSOCOM Quick Look Capabilities Based Assessments (QL-CBA). TTL rapidly prototypes and expeditiously transitions projects from laboratory to acquisition Programs of Record/operational use to address SOF capability deficiencies. ***FY 2018 Plans:*** Continue to exploit and integrate recently-proven and emerging technologies for TTL and TTL-enabling systems. Continue projects toward maturity that are linked to the USSOCOM/DOD TTL Roadmap, which is updated via the JCS/J8-approved annual TTL QL-CBA. Continue to increase focus on tactical sensors and enabling technologies in support of the special reconnaissance mission set. ***FY 2019 Plans:*** Continues to exploit and integrate recently-proven and emerging technologies for TTL and TTL-enabling systems. Continues projects toward maturity that are linked to the USSOCOM/DOD TTL Roadmap, which is updated via the JCS/J8-approved annual TTL QL-CBA. Continues to increase focus on tactical sensors and enabling technologies in support of the special reconnaissance mission set. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Increase of $1.178 million to address TTL shortfalls in the maritime and GPS denied environment.	15.553	17.572	18.750
Title: Classified Sub-Project	5.456	5.787	5.852

Exhibit R-2A, RDT&E Project Justification: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 3	**R-1 Program Element (Number/Name)** PE 1160402BB / *SOF Advanced Technology Development*	**Project (Number/Name)** S200 / *Advanced Technology Development*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019
Description: Classified Sub-Project (provided under separate cover). ***FY 2018 Plans:*** Details provided under separate cover. ***FY 2019 Plans:*** Details provided under separate cover. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Details provided under separate cover.			
Accomplishments/Planned Programs Subtotals	46.173	53.362	57.648

	FY 2017	FY 2018
Congressional Add: S200: SOST Light Attack ***FY 2017 Accomplishments:*** Released Light Attack support for USSOCOM Broad Agency Announcement (BAA). Topics of the BAA include platform agnostic capabilities (i.e. munitions, sensors and mission systems) applicable to Light Attack aircraft.	26.029	-
Congressional Add: S200: Defense Technology Innovation ***FY 2017 Accomplishments:*** SOST Advanced Manufacturing.	2.000	-
Congressional Adds Subtotals	28.029	-

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2019 United States Special Operations Command			Date: February 2018
Appropriation/Budget Activity 0400 / 3	R-1 Program Element (Number/Name) PE 1160402BB / *SOF Advanced Technology Development*	Project (Number/Name) SF101 / *Engineering Analysis*	

COST ($ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
SF101: *Engineering Analysis*	14.188	8.911	14.827	17.140	-	17.140	17.283	17.461	17.795	18.126	Continuing	Continuing

A. Mission Description and Budget Item Justification

This project provides a rapid response capability to support Special Operations Forces (SOF) platforms (ground, air and maritime), Unmanned Aerial Vehicle (UAV) payload sensors and soldier systems. The purpose is to correct system deficiencies, improve asset life, and enhance mission capability through the means of feasibility studies, analysis of alternatives, pre-developmental risk reduction studies, and engineering analyses. This project provides the engineering required to improve the design and performance integrity of the SOF platforms, UAV payload sensors and soldier support systems, sub-systems, equipment, and embedded computer software as they relate to the maintenance, overhaul, repair, quality assurance, modifications, materiel improvements, and service life extensions. This project also conducts risk reduction studies, analyses, and demonstrations to support emerging, time-critical weapons and sensor enhancements.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019
Title: Platform Engineering Analysis	5.647	10.649	10.483
Description: Funding supports the development of rapid response capabilities to support SOF platform and soldier systems. Rapidly addresses technology needs for insertion into Programs of Record. Supports technology development to correct system deficiencies, improve platform asset life, and enhance mission capabilities. ***FY 2018 Plans:*** Continue to assess concepts and prototypes that provide increased ballistic protection of air, ground and undersea mobility platforms to include manned and unmanned UAVs, and mobility platform improvements to meet emerging threats. Assess and evaluate advanced precision guided munitions and scalable effects weapons. Identify, assess and evaluate improved C4 systems that incorporate significant improvements to operate in contested environments, systems that improve situational awareness on the battlefield, and next generation manned and unmanned Intelligence, Surveillance, and Reconnaissance (ISR) systems and common sensors and sensor suites. ***FY 2019 Plans:*** Continues to assess concepts and prototypes that provide increased ballistic protection of air, ground and undersea mobility platforms to include manned and unmanned UAVs, and mobility platform improvements to meet emerging threats. Assess and evaluate advanced precision guided munitions and scalable effects weapons. Identify, assess and evaluate improved C4 systems that incorporate significant improvements to operate in contested environments, systems that improve situational awareness on the battlefield, and next generation manned and unmanned ISR systems and common sensors and sensor suites. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Increase of $0.103 million due to minor adjustments in funding required for individual taskings.			
Title: Soldier System Engineering Analysis	0.477	0.496	0.489

Exhibit R-2A, RDT&E Project Justification: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 3	**R-1 Program Element (Number/Name)** PE 1160402BB / *SOF Advanced Technology Development*	**Project (Number/Name)** SF101 / *Engineering Analysis*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019
Description: Funding supports engineering assessments and evaluation of technology feasibility, producibility, and integration readiness in the following areas: 1) next generation lightweight low-cost body armor and ballistic helmets 2) ballistic and laser variable light transmission protective eyewear 3) soldier worn sensors to assess ballistic and blast events as well as soldier health 4) next generation soldier worn load carriage systems 5) soldier worn head borne communications that provide greater situational awareness and hearing protection. ***FY 2018 Plans:*** Continue to assess advanced body armor and ballistic helmet materials, concepts and prototypes to reduce soldier load and provide increased ballistic protection against the latest emerging threats. Reduce the number of eyewear lenses needed and to have one lens that provides ballistic and laser protection as well as automatically darkens/lightens based on combat conditions. Evaluate soldier worn sensors and heads up displays for operability within soldier worn components and subsystems. Assess technologies feasibility and integration readiness of next generation load carriage systems such as exoskeletons and load-assist devices. Assess proof of concepts and technologies for next generation head borne communications systems that provide reliable and secure wireless transmission in all combat conditions, as well as provide 360 degree situational awareness and noise attenuation while increasing hearing protection. ***FY 2019 Plans:*** Continues to assess advanced body armor and ballistic helmet materials, concepts and prototypes to reduce soldier load and provide increased ballistic protection against the latest emerging threats. Reduces the number of eyewear lenses needed and to have one lens that provides ballistic and laser protection as well as automatically darkens/lightens based on combat conditions. Evaluates soldier worn sensors and heads up displays for operability within soldier worn components and subsystems. Assesses technologies feasibility and integration readiness of next generation load carriage systems such as exoskeletons and load-assist devices. Assesses proof of concepts and technologies for next generation head borne communications systems that provide reliable and secure wireless transmission in all combat conditions, as well as provide 360 degree situational awareness and noise attenuation while increasing hearing protection. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** None.			
Title: National to Theater Engineering Analysis	2.077	2.182	2.202
Description: Provides additional engineering analysis and testing required to transition items from national forces to theater forces. ***FY 2018 Plans:***			

Exhibit R-2A, RDT&E Project Justification: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 3	**R-1 Program Element (Number/Name)** PE 1160402BB / *SOF Advanced Technology Development*	**Project (Number/Name)** SF101 / *Engineering Analysis*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019
Conduct additional testing and evaluation required on various equipment items such as communications, intelligence, weapons, and operator protection planned for transition to SOF Theater Forces. ***FY 2019 Plans:*** Conducts additional testing and evaluation required on various equipment items such as communications, intelligence, weapons, and operator protection planned for transition to SOF Theater Forces. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Increase of $0.020 million is due to minor adjustments required for testing.			
Title: Aviation Mission Improved Survivability ***Description:*** Funding supports engineering analysis activities to address aviation survivability such as signature management, situational awareness, and versatile mission equipment (payloads, communications and weapons) to achieve SOF mission objectives. ***FY 2018 Plans:*** Continue engineering analysis activities to improve SOF aviation mission survivability. Activities include, but are not limited to signature management (acoustic, infrared, radio frequency), situational awareness with full spectrum threat warning and countermeasures, and versatile mission equipment (payloads, communications and weapons) to improve SOF survivability in less than permissive operating environments. Proof of concepts will be developed and evaluated for purposes of Advanced Technology Development. ***FY 2019 Plans:*** Continues engineering analysis activities to improve SOF aviation mission survivability. Activities include, but are not limited to signature management (acoustic, infrared, radio frequency), situational awareness with full spectrum threat warning and countermeasures, and versatile mission equipment (payloads, communications and weapons) to improve SOF survivability in less than permissive operating environments. Proof of concepts with potential from prior year will be further matured. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Increase of $2.466 million is due to expected maturation of early alternative technologies into advanced prototypes capable of flight testing.	0.710	1.500	3.966
Accomplishments/Planned Programs Subtotals	8.911	14.827	17.140

C. Other Program Funding Summary ($ in Millions)

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 3	**R-1 Program Element (Number/Name)** PE 1160402BB / *SOF Advanced Technology Development*	**Project (Number/Name)** SF101 / *Engineering Analysis*

C. Other Program Funding Summary ($ in Millions)

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2019 United States Special Operations Command			Date: February 2018
Appropriation/Budget Activity 0400 / 3	R-1 Program Element (Number/Name) PE 1160402BB / *SOF Advanced Technology Development*	Project (Number/Name) S225 / *Information and Broadcast Systems Adv Tech*	

COST ($ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
S225: *Information and Broadcast Systems Adv Tech*	14.547	5.211	4.416	4.592	-	4.592	4.580	4.689	4.801	4.897	Continuing	Continuing

A. Mission Description and Budget Item Justification

This project conducts rapid prototyping of information and broadcast system technology. Includes cyber capabilities that predict the best media channels to reach potential target audiences, data mining and information collections tools, propaganda and social behavior analytical tools, cultural analysis tool sets and emerging technologies that support the planning and analytical needs for the Military Information Support Operations (MISO) forces. It provides a means for demonstrating and evaluating the utility of emerging/advanced technologies in as realistic an operational environment as possible by SOF users. This project integrates efforts and conducts technology demonstrations in conjunction with joint experiments and other assessment events and performs market research on emerging technologies that support all phases of MISO. Evaluation results are included in a transition package, which assists in the initiation of or insertion into an acquisition program. The project also addresses unique, joint special mission or area-specific needs. Seeks technologies that will transform current MISO capabilities through two major objectives: 1) Exploit technologies capable of disseminating products to reach target audiences across a variety of media to include audiences in denied areas. 2) Automate and improve MISO planning and analytical capability through technologies that are integrated into SOF planning systems (Cultural Analysis, Targeting, Theme Development, Media & Product Selection, Distribution & Dissemination, and Measures of Effectiveness). Develops software applications that increases the efficiency and shortens the timeline to get MISO dissemination packages approved. Develops hardware/software tools that facilitate the collaboration and sharing of information and other critical data.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019
Title: Broadcast and Dissemination Modernization	5.211	4.416	4.592
Description: Develops emerging technologies available in the marketplace to transform and modernize planning, analysis, development, broadcast, distribution, dissemination, and feedback capabilities for MISO forces. This initiative will also continue development of appropriate emerging technologies initially identified by Advance Technology Demonstrations and Joint Capability Technology Demonstrations to transition to acquisition programs. Technologies include: multi-frequency broadcast systems; digital broadcast capabilities; remote controlled electronic paper; near-real-time command and control of unattended systems, especially in denied areas; focused/beam speaker sound technologies; visual projection technologies; advanced commercial broadcast technologies including amplitude modulation and frequency modulation radio transmitters and antenna; television transmitter and antenna systems; internet and telephony dissemination and broadcast systems; technologies capable of long-loiter broadcast and delivery in denied and permissive environment; and technologies that automate and improve planning and analytical capability through integrated capabilities.			
FY 2018 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 3	**R-1 Program Element (Number/Name)** PE 1160402BB / *SOF Advanced Technology Development*	**Project (Number/Name)** S225 / *Information and Broadcast Systems Adv Tech*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019
Continue performance of engineering studies, development, and demonstrations of planning, analysis, distribution, and broadcast capabilities. ***FY 2019 Plans:*** Continues performance of engineering studies, development, and demonstrations of planning, analysis, distribution, and broadcast capabilities. Incorporate social media engagement to include Artificial Intelligence in the digital domain. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Increase of $0.213 million due to social media engagement incorporating Artificial Intelligence in the digital domain.			
Accomplishments/Planned Programs Subtotals	5.211	4.416	4.592

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A

Exhibit R-2, RDT&E Budget Item Justification: PB 2019 United States Special Operations Command	Date: February 2018
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305208BB / *Distributed Common Ground/Surface Systems*

COST ($ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
Total Program Element	37.811	5.415	5.496	6.286	-	6.286	6.388	6.516	6.647	6.779	Continuing	Continuing
S400A: *Distributed Common Ground/Surface Systems*	37.811	5.415	5.496	6.286	-	6.286	6.388	6.516	6.647	6.779	Continuing	Continuing

A. Mission Description and Budget Item Justification

This program element is part of the Military Intelligence Program (MIP). The Distributed Common Ground/Surface System Special Operations Forces (DCGS-SOF) is part of a family of systems providing Intelligence, Surveillance, and Reconnaissance Processing, Exploitation, Dissemination (PED), and analytical capabilities at the Joint Task Force level and below through a combination of reach back, forward support, and collaboration. The mission tailored infrastructure interconnects the warfighter and sensors to find and fix High Value Targets and provides a network-enabled, interoperable construct allowing continual, unimpeded sharing of intelligence data, information and services with SOF and between the Services, other national intelligence agencies, combatant commands and multi-national partners. It connects the SOF warfighter with the essential intelligence information and provides situation awareness information to the SOF leadership at all echelons. The four components of DCGS-SOF include the following: The Enterprise provides infrastructure and processing capability to allow for worldwide SOF intelligence information sharing. Full Motion Video PED provides (FMV) PED capabilities in garrison and deployed environments of manned and unmanned sensors. SILENT DAGGER provides Signals Intelligence exploitation capability in both garrison and deployed environments. The All Source Information Fusion (ASIF) will provide the intelligence analytical tools via a global and disconnected architecture.

B. Program Change Summary ($ in Millions)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Previous President's Budget	5.415	5.496	6.345	-	6.345
Current President's Budget	5.415	5.496	6.286	-	6.286
Total Adjustments	0.000	0.000	-0.059	-	-0.059
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-	-	-0.059	-	-0.059

Change Summary Explanation

Funding:

FY 2017: None.

Exhibit R-2, RDT&E Budget Item Justification: PB 2019 United States Special Operations Command	Date: February 2018
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide I* BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305208BB *I Distributed Common Ground/Surface Systems*

FY 2018: None.

FY 2019: Decrease of $0.059 million is due to Departmental economic assumption decrease.

Schedule: Schedule slip due to additional user requirement refinement and Market Research.

Technical: None.

Exhibit R-2A, RDT&E Project Justification: PB 2019 United States Special Operations Command			Date: February 2018
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0305208BB / *Distributed Common Ground/Surface Systems*	Project (Number/Name) S400A / *Distributed Common Ground/ Surface Systems*	

COST ($ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
S400A: *Distributed Common Ground/Surface Systems*	37.811	5.415	5.496	6.286	-	6.286	6.388	6.516	6.647	6.779	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This program element is part of the Military Intelligence Program (MIP). The Distributed Common Ground/Surface System Special Operations Forces (DCGS-SOF) is part of a family of systems providing Intelligence, Surveillance and Reconnaissance (ISR) Processing, Exploitation, Dissemination (PED), and analytical capabilities at the Joint Task Force level and below through a combination of reach back, forward support, and collaboration. The mission tailored infrastructure interconnects the warfighter and sensors to find and fix High Value Targets and provides a network-enabled, interoperable construct allowing continual, unimpeded sharing of intelligence data, information and services with SOF and between the Services, other national intelligence agencies, combatant commands and multi-national partners. It connects the SOF warfighter with the essential intelligence information and provides situation awareness information to the SOF leadership at all echelons. The four components of DCGS-SOF include the following: The Enterprise provides infrastructure and processing capability to allow for worldwide SOF intelligence information sharing. Full Motion Video (FMV) PED provides PED capabilities in garrison and deployed environments of manned and unmanned sensors. SILENT DAGGER provides Signals Intelligence exploitation capability in both garrison and deployed environments. The All Source Information Fusion (ASIF) will provide the intelligence analytical tools via a global and disconnected architecture.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019
Title: DCGS	5.415	5.496	6.286
FY 2018 Plans: Continue integration of emerging technologies and capability for Enterprise and ASIF such as: Advanced analytics, user interface, natural language processing (NLP), cloud, language translations, and disconnected operations into the DCGS-SOF baseline. Continue refining and integration of FMV PED emerging technologies and capabilities such as: over-watch/compound monitoring, develop analyst trip wire tools, next generation analytics processing, upgrading imaging and video exploitation tools, patterns of movement characterization and detection for single mission. Continue DCGS-SOF Limited Objective Events and exercise participation to test integration efforts. Continue development of the interoperability with Coalition partners, Defense Intelligence Information Environment (DI2E), and Joint Information Environment.			
FY 2019 Plans: Continues integration of emerging technologies and capability for Enterprise and ASIF such as: Advanced analytics, user interface, natural language processing (NLP), cloud, language translations and disconnected operations into the DCGS-SOF baseline. Continues refining and integration of FMV PED emerging technologies and capabilities such as: over-watch/compound monitoring, develop analyst trip wire tools, next generation analytics processing, upgrading imaging and video exploitation tools, patterns of movement characterization and detection for single mission. Continues DCGS-SOF Limited Objective Events and			

Exhibit R-2A, RDT&E Project Justification: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 0305208BB / *Distributed Common Ground/Surface Systems*	**Project (Number/Name)** S400A / *Distributed Common Ground/ Surface Systems*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019
exercise participation to test integration efforts. Continues development of the interoperability with Coalition partners, Defense Intelligence Information Environment (DI2E), and Joint Information Environment. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Net increase of $0.790 million provides funding for technical expertise and technology proof of concepts associated with integrating emerging technology enhancements.			
Accomplishments/Planned Programs Subtotals	5.415	5.496	6.286

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
• PROC/020401INTL: *Distributed Common Ground/Surface System*	18.146	11.042	17.863	-	17.863	16.436	13.918	15.683	17.781	Continuing	Continuing

Remarks

D. Acquisition Strategy

DCGS-SOF leverages SOF programs, DoD partners, National labs, and other Government Agencies to integrate commercial/government off-the-shelf systems, and other mature technologies into the Program of Record which resides within the SOF Information Enterprise and enables more agile access to (searchable, discoverable) and sharing of data and services to meet SOF-peculiar documented requirements. The technology allows for seamless integration and federation with DoD, interagency, and Coalition tactical ISR PED systems. The DCGS-SOF program office employs an agile development process with capability insertions into the development baseline for assessment and future deployment into the operational baseline. All development requirements are prioritized through the DCGS Requirements Working Group (DRWG) chaired by J2. Once approved, the requirements are evaluated and scheduled by an engineering development team. Using this methodology allows capabilities to be inserted in a fast and agile manner based on user requirements and priorities. All evolutionary technology insertions (ETIs) in the R-4 schedule are based on current program office projections. If requirements change based on the DRWG, the ETI and version capabilities identified may change.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 United States Special Operations Command			Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 0305208BB / *Distributed Common Ground/Surface Systems*	**Project (Number/Name)** S400A / *Distributed Common Ground/ Surface Systems*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Distributed Common Ground System (DCGS) Capabilities Modernization	Various	Various : Various	15.100	0.747	Jan 2017	0.734	Jan 2018	0.749	Jan 2019	-		0.749	Continuing	Continuing	-
Development and Integration - All Source Information Fusion	C/FFP	SITEC : Various	6.091	2.256	Jan 2017	2.301	Jan 2018	2.347	Jan 2019	-		2.347	Continuing	Continuing	-
Independent Verification and Validation	MIPR	MITRE : Bedford, MA	1.436	0.289	Mar 2017	0.295	Mar 2018	0.301	Mar 2019	-		0.301	Continuing	Continuing	-
Prior Year Funding - Completed Efforts	Various	Various : Various	1.788	-		-		-		-		-	Continuing	Continuing	-
		Subtotal	24.415	3.292		3.330		3.397		-		3.397	Continuing	Continuing	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Support	C/FFP	SITEC : Various	3.210	0.928	Jun 2017	0.947	Mar 2018	1.646	Mar 2019	-		1.646	Continuing	Continuing	-
Prior Year Funding - Completed Efforts	Various	Various : Various	0.576	-		-		-		-		-	Continuing	Continuing	-
		Subtotal	3.786	0.928		0.947		1.646		-		1.646	Continuing	Continuing	N/A

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test and Evaluation	MIPR	SPAWAR : Charleston, SC	1.956	-		-		-		-		-	Continuing	Continuing	-
Independent Verification and Validation	MIPR	MITRE : Bedford, MA	2.591	0.289	Oct 2016	0.295	Oct 2017	0.295	Oct 2018	-		0.295	Continuing	Continuing	-
Interoperability Support	MIPR	JITC : Ft Huachuca, AZ	1.422	0.217	Feb 2017	0.221	Feb 2018	0.225	Feb 2019	-		0.225	Continuing	Continuing	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 United States Special Operations Command			Date: February 2018
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0305208BB / *Distributed Common Ground/Surface Systems*	Project (Number/Name) S400A / *Distributed Common Ground/ Surface Systems*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Interoperability Testing	C/FFP	SITEC : Various	3.641	0.689	Mar 2017	0.703	Mar 2018	0.723	Mar 2019	-		0.723	Continuing	Continuing	-
		Subtotal	9.610	1.195		1.219		1.243		-		1.243	Continuing	Continuing	N/A

	Prior Years	FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	37.811	5.415		5.496		6.286		-		6.286	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 0305208BB / *Distributed Common Ground/Surface Systems*	**Project (Number/Name)** S400A / *Distributed Common Ground/ Surface Systems*

DCGS-SOF
Enterprise & ASIF Schedule

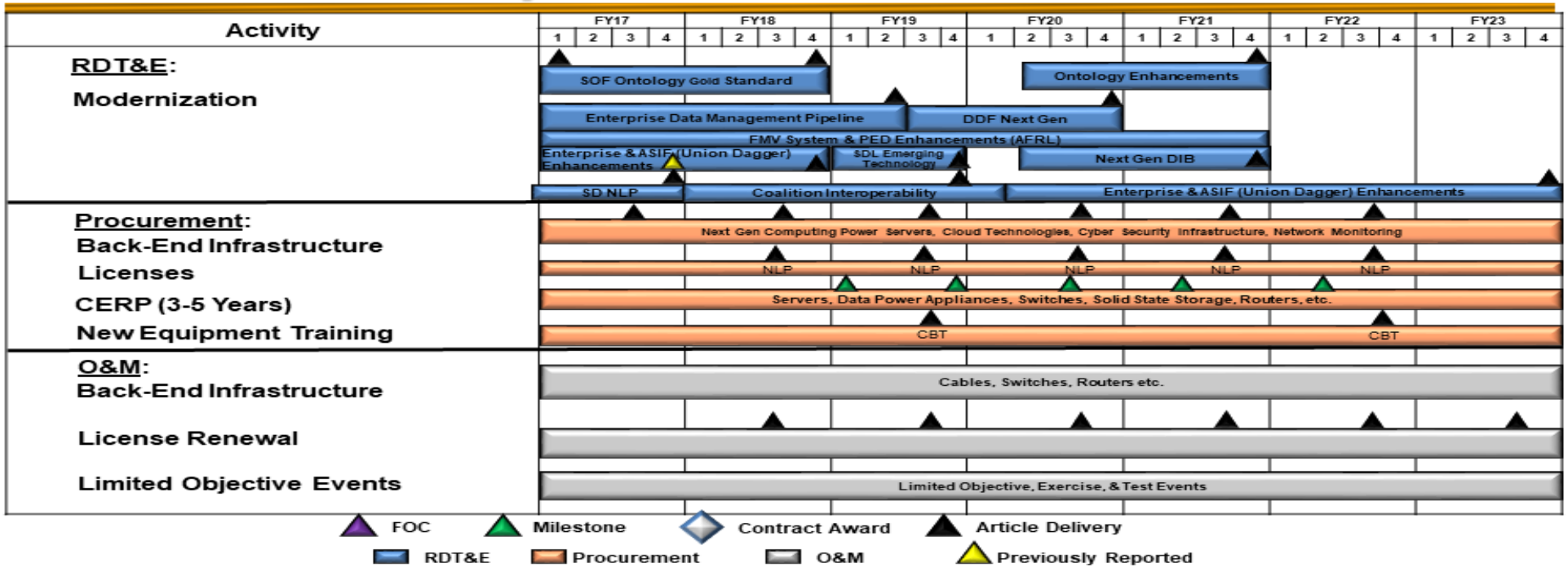

Exhibit R-4, RDT&E Schedule Profile: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 0305208BB / *Distributed Common Ground/Surface Systems*	**Project (Number/Name)** S400A / *Distributed Common Ground/ Surface Systems*

DCGS-SOF
FMV Schedule

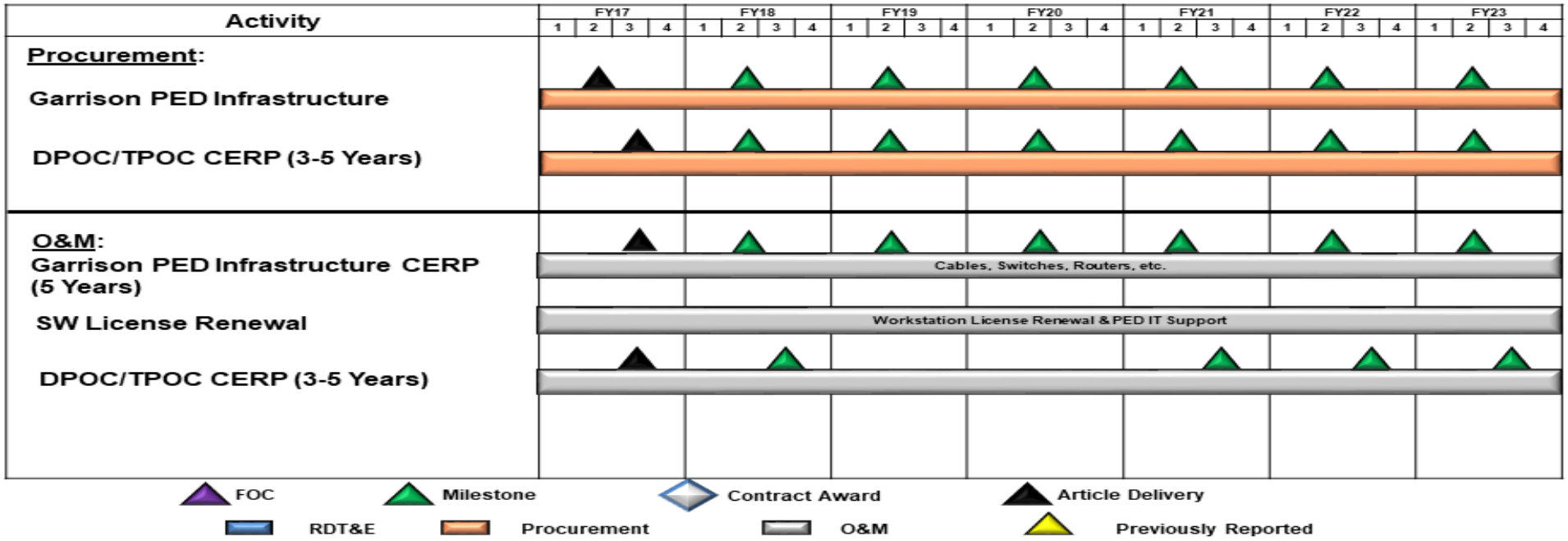

Exhibit R-4, RDT&E Schedule Profile: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 0305208BB / *Distributed Common Ground/Surface Systems*	**Project (Number/Name)** S400A / *Distributed Common Ground/ Surface Systems*

DCGS-SOF
Silent Dagger Schedule

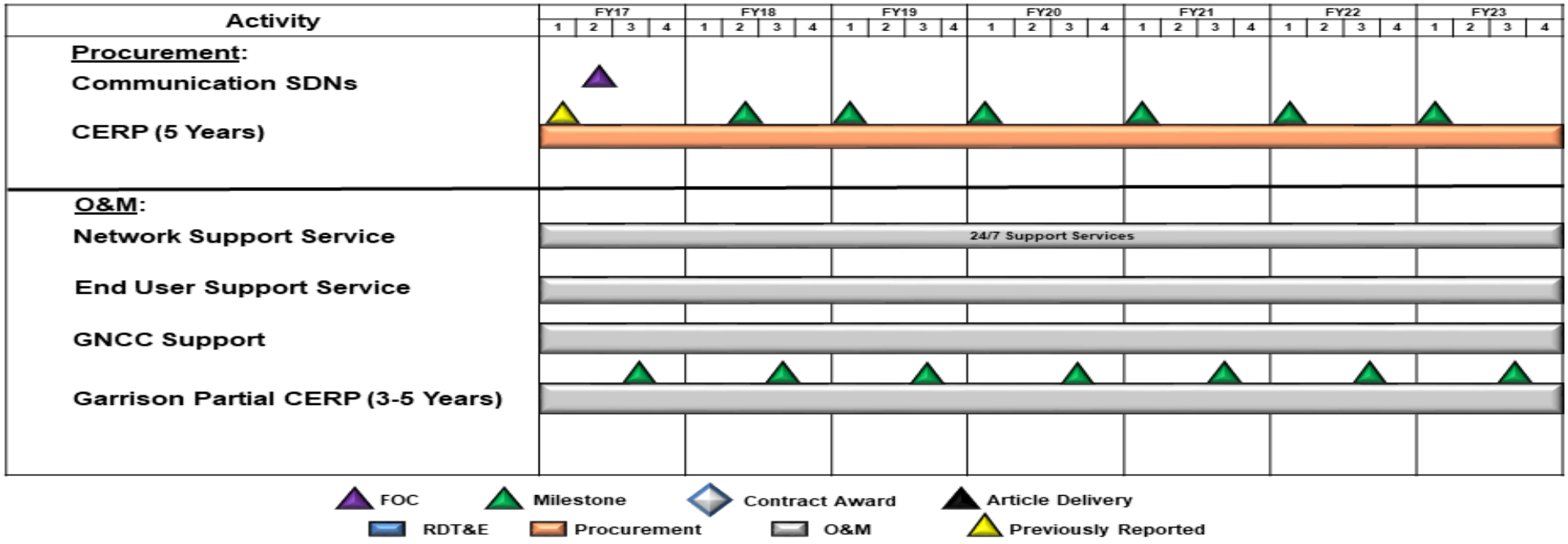

Exhibit R-4A, RDT&E Schedule Details: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 0305208BB / *Distributed Common Ground/Surface Systems*	**Project (Number/Name)** S400A / *Distributed Common Ground/ Surface Systems*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Distributed Common Ground/Surface Systems				
Develop, integrate, and test emerging technologies and capabilities for Enterprise and ASIF enhancements to include: advanced analytics, user interface, disconnected operations into DCGS-SOF baseline	1	2017	4	2021
Develop, integrate, test next gen FMV PED tech, capabilities to include: language transl., upgrading imaging, video exploitation tools, voice-to-text transl., human detection and characterization	1	2017	4	2021
Develop, integrate, and test sharing of DCGS-SOF information with Coalition partners	1	2010	1	2021
Develop, integrate, and test next generation DCGS-SOF pipeline to automatically tag and geolocate data from ingested documents	1	2017	4	2021
Develop, integrate, and test SOF Data Layer (SDL) next generation to refine back end design and infrastructure	1	2019	4	2021
Develop, integrate, and test the next generation DCGS Distributed Framework (DDF) providing compliance with DISR/ICSR/DI2E content discovery and retrieval data standards and IdAM/PKI standards	1	2018	4	2021
Develop, integrate, and test the next generation DCGS-SOF Information Backbone to provide integration of services in to the DCGS-SOF Enterprise baseline	1	2018	4	2021
Limited Objective Events to test technology insertion capabilities across the Enterprise, ASIF, FMV PED, and Silent Dagger	1	2017	4	2021
Participate in Exercise events to include: Trident Spectre, Enterprise Challenge, Storm Force, and D12E Plugfest (annually); United Vision (even fiscal years)	1	2017	4	2021

Exhibit R-2, RDT&E Budget Item Justification: PB 2019 United States Special Operations Command	Date: February 2018
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 1105219BB / *MQ-9 Unmanned Aerial Vehicle (UAV)*

COST ($ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
Total Program Element	63.298	17.155	37.863	18.403	-	18.403	20.793	21.361	19.522	19.912	Continuing	Continuing
S851: *MQ-9 Unmanned Aerial Vehicle (UAV)*	63.298	17.155	37.863	18.403	-	18.403	20.793	21.361	19.522	19.912	Continuing	Continuing

A. Mission Description and Budget Item Justification

This program element identifies, develops, integrates, and tests Special Operations Forces (SOF) - peculiar mission kits, mission payloads, weapons, and modifications on MQ-9 Unmanned Aerial Vehicles (UAVs), Ground Control Stations (GCSs), and training systems as a component of the Medium Altitude Long Endurance Tactical program. USSOCOM is designated as the DOD lead for planning, synchronizing, and as directed, executing Overseas Contingency Operations (OCO) against terrorist networks. USSOCOM requires the capability to find, fix, finish, exploit, and analyze time-sensitive high-value targets. These targets can often only be identified with patient collection of information and require rapid, decisive action during the short periods in which they present themselves. This program element addresses the primary areas of Intelligence, Surveillance, Reconnaissance, and Target (ISR&T) Acquisition, and Strike.

B. Program Change Summary ($ in Millions)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Previous President's Budget	17.804	37.863	14.259	-	14.259
Current President's Budget	17.155	37.863	18.403	-	18.403
Total Adjustments	-0.649	0.000	4.144	-	4.144
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.649	-			
• OTHER	-	-	4.144	-	4.144

Change Summary Explanation

Funding:

FY 2017: Decrease of -$0.649 million is due to a transfer of funds to Small Business Innovative Research/Small Business Technology Transfer programs.

FY 2018: None.

Exhibit R-2, RDT&E Budget Item Justification: PB 2019 United States Special Operations Command	Date: February 2018
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide I* BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 1105219BB *I MQ-9 Unmanned Aerial Vehicle (UAV)*

FY 2019: Net increase of $4.144 million is due to fact of life missions support to field and maintain SOF peculiar modifications ($4.300 million) and a decrease of -$0.156 million due to a Departmental economic assumption adjustment.

Schedule: None.

Technical: None.

Exhibit R-2A, RDT&E Project Justification: PB 2019 United States Special Operations Command			Date: February 2018
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1105219BB / *MQ-9 Unmanned Aerial Vehicle (UAV)*	Project (Number/Name) S851 / *MQ-9 Unmanned Aerial Vehicle (UAV)*	

COST ($ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
S851: *MQ-9 Unmanned Aerial Vehicle (UAV)*	63.298	17.155	37.863	18.403	-	18.403	20.793	21.361	19.522	19.912	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

As the supported combatant command in Overseas Contingency Operations (OCO), USSOCOM requires the capability to find, fix, finish, exploit, and analyze time-sensitive high-value targets. These targets can often only be identified with patient collection of information and require rapid, decisive action during the short periods in which they present themselves. This project addresses the primary areas of Intelligence, Surveillance, Reconnaissance, and Target (ISR&T) Acquisition and Strike.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019
Title: MQ-9 UAV	17.155	37.863	18.403
Description: Identifies, develops, integrates, and tests Special Operations Forces (SOF)-peculiar mission kits, mission payloads, weapons, and modifications on MQ-9 UAVs, ground control stations, and training systems. ***FY 2018 Plans:*** Develop, test, and integrate SOF-peculiar emerging technology mission kits, mission payloads, weapons and modifications on MQ-9 UAVs, GCSs, and training systems. ***FY 2019 Plans:*** Develops, tests, and integrates SOF-peculiar emerging technology mission kits, mission payloads, weapons and modifications on MQ-9 UAVs, GCSs, and training systems. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Decrease of $19.304 million due to the MQ-9 program receiving FY 2018 funding to develop Automatic Takeoff & Landing and Global Positioning System Hardening technologies.			
Accomplishments/Planned Programs Subtotals	17.155	37.863	18.403

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
• PROC/1108MQ9: *MQ-9 Unmanned Aerial Vehicle*	84.723	41.440	24.621	-	24.621	5.363	5.470	10.717	10.931	Continuing	Continuing

Exhibit R-2A, RDT&E Project Justification: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1105219BB / *MQ-9 Unmanned Aerial Vehicle (UAV)*	**Project (Number/Name)** S851 / *MQ-9 Unmanned Aerial Vehicle (UAV)*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost

Remarks

D. Acquisition Strategy

MQ-9 UAV implements an Agile acquisition approach for aircraft and Electro-Optical/Infrared (EO/IR) sensor Operational Flight Program (OFP) software development. Contract types include a mix of cost type and fixed priced. Proprietary issues with aircraft and EO/IR sensor OFP software and aircraft modification considerations dictate sole source contracts. MQ-9 UAV leverages service common Contractor Logistics Support (CLS) contracts for aircraft and ancillary equipment sustainment.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 United States Special Operations Command			Date: February 2018
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1105219BB / *MQ-9 Unmanned Aerial Vehicle (UAV)*	Project (Number/Name) S851 / *MQ-9 Unmanned Aerial Vehicle (UAV)*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
MQ-9 UAVs, Ground Control Stations, and Training Systems	SS/ Various	General Atomics Aeronautical Services : San Diego, CA	26.383	10.421	Jun 2017	30.669	Jun 2018	14.698	Jun 2019	-		14.698	Continuing	Continuing	-
MQ-9 UAVs, Ground Control Stations, and Training Systems	SS/ Various	Raytheon : McKinney, TX	5.000	2.445	Jul 2017	2.500	Jul 2018	1.292	Jul 2019	-		1.292	Continuing	Continuing	-
Prior Years Completed Projects	Various	Various : Various	15.900	-		-		-		-		-	0.000	15.900	-
		Subtotal	47.283	12.866		33.169		15.990		-		15.990	Continuing	Continuing	N/A

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
MQ-9 UAVs, Ground Control Stations, and Training Systems	SS/ Various	General Atomics Aeronautical Services : San Diego, CA	10.715	4.289	Jun 2017	4.694	Jun 2018	2.413	Jun 2019	-		2.413	Continuing	Continuing	-
Prior Years Completed Projects	Various	Various : Various	5.300	-		-		-		-		-	0.000	5.300	-
		Subtotal	16.015	4.289		4.694		2.413		-		2.413	Continuing	Continuing	N/A

	Prior Years	FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	63.298	17.155		37.863		18.403		-		18.403	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1105219BB / *MQ-9 Unmanned Aerial Vehicle (UAV)*	**Project (Number/Name)** S851 / *MQ-9 Unmanned Aerial Vehicle (UAV)*

MALET MQ-9 Schedule

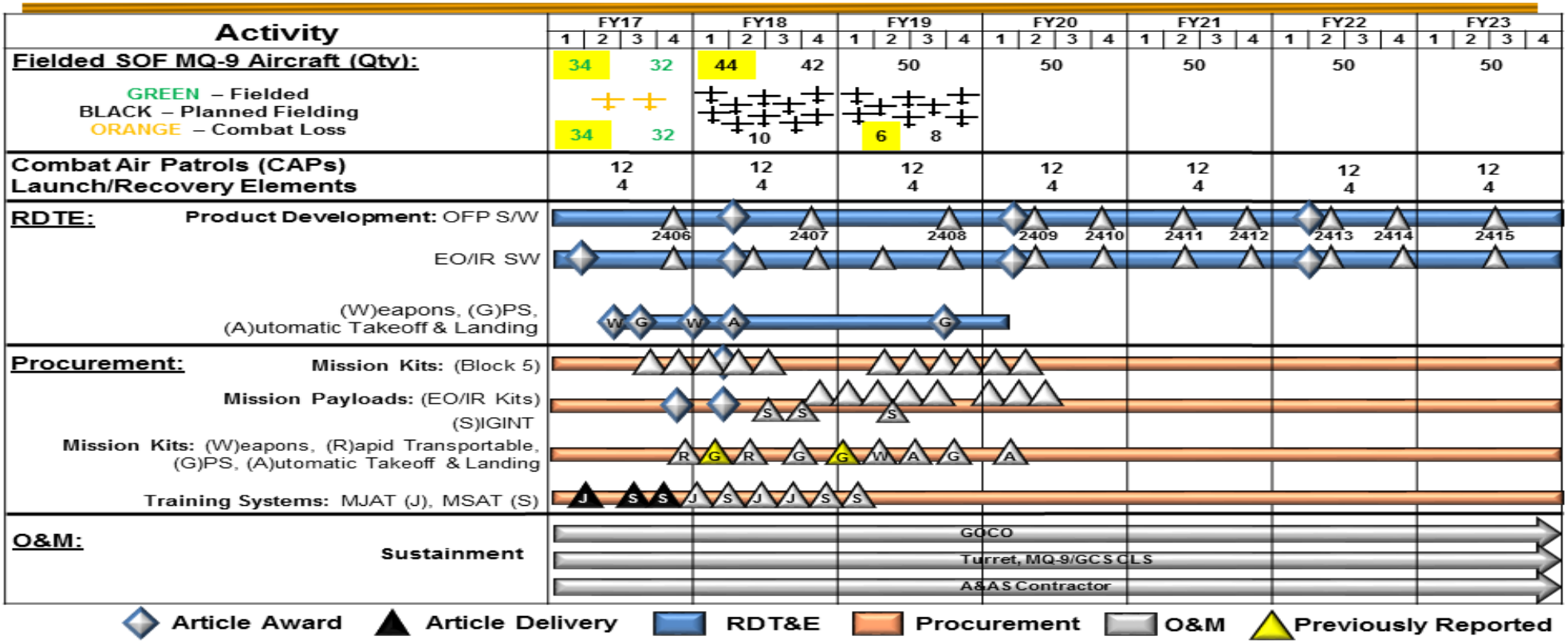

Exhibit R-4A, RDT&E Schedule Details: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1105219BB / *MQ-9 Unmanned Aerial Vehicle (UAV)*	**Project (Number/Name)** S851 / *MQ-9 Unmanned Aerial Vehicle (UAV)*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
MQ-9 UAVs, GCSs, and Training Systems				
Operational Flight Program Software (SW)	1	2017	4	2023
Electro-optical/Infrared (EO/IR) Software (SW)	1	2017	4	2023
Weapons	2	2017	4	2019
Global Positioning System	3	2017	4	2019
Automated Takeoff and Landing	2	2018	2	2022

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Exhibit R-2, RDT&E Budget Item Justification: PB 2019 United States Special Operations Command	Date: February 2018
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 1160279BB / *Small Business Innovative Research/Small Bus Tech Transfer*

COST ($ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
Total Program Element	203.268	17.633	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
S050: *Small Business Innovative Research*	198.145	15.459	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
S051: *Small Business Technology Transfer*	5.123	2.174	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

A. Mission Description and Budget Item Justification

This program element consists of a highly competitive three-phase award system that provides qualified small businesses with the opportunity to propose high quality innovative ideas that meet specific research and development needs of USSOCOM. Small Business Innovative Research (SBIR) is a result of the Small Business Development Act of 1992. It was enacted by Congress in Public Law 97-219, reenacted by Public Law 99-443, and reauthorized by the SBIR Program Reauthorization Act of 2012. Starting in FY 1994, the SBIR program was refocused toward dual use and defense reinvestment efforts. Phase I projects evaluate the scientific technical merit and feasibility of an idea. Phase II projects expand the results of, and further pursue, the developments of Phase I. Phase III is for commercialization of the results of Phase II and requires the use of private or non-SBIR federal funding. USSOCOM participates annually in the DOD Request for Proposal process. USSOCOM then awards its proposed SBIR projects. FY 2014 was the first year USSOCOM participated in the Small Business Technology Transfer (STTR) program. The STTR goal is similar to the SBIR program, but the STTR program has the additional goal to expand public/private sector partnerships between small business and nonprofit U.S. research institutions.

B. Program Change Summary ($ in Millions)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Previous President's Budget	0.000	0.000	0.000	-	0.000
Current President's Budget	17.633	0.000	0.000	-	0.000
Total Adjustments	17.633	0.000	0.000	-	0.000
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	17.633	-			

Change Summary Explanation

Funding:

Exhibit R-2, RDT&E Budget Item Justification: PB 2019 United States Special Operations Command	Date: February 2018
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide I* BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 1160279BB *I Small Business Innovative Research/Small Bus Tech Transfer*

FY 2017: Increase of $17.633 million is due to reprogramming from various program elements for the congressionally mandated Small Business Innovative Research ($15.459 million) and Small Business Technology Transfer ($2.174 million) programs.

FY 2018: None.

FY 2019: None.

Schedule: None.

Technical: None.

Exhibit R-2A, RDT&E Project Justification: PB 2019 United States Special Operations Command			Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160279BB / *Small Business Innovative Research/Small Bus Tech Transfer*	**Project (Number/Name)** S050 / *Small Business Innovative Research*	

COST ($ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
S050: *Small Business Innovative Research*	198.145	15.459	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project consists of a highly competitive three-phase award system that provides qualified small businesses with the opportunity to propose high quality innovative ideas that meet specific research and development needs of USSOCOM. Small Business Innovative Research (SBIR) is a result of the Small Business Development Act of 1992. It was enacted by Congress in Public Law 97-219, reenacted by Public Law 99-443, and reauthorized by the SBIR Program Reauthorization Act of 2012. Starting in FY 1994, the SBIR program was refocused toward dual use and defense reinvestment efforts. Phase I projects evaluate the scientific technical merit and feasibility of an idea. Phase II projects expand the results of, and further pursue, the developments of Phase I. Phase III is for commercialization of the results of Phase II and requires the use of private or non-SBIR federal funding. USSOCOM participates annually in the DOD Request for Proposal process. USSOCOM then awards its proposed SBIR projects.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019
Title: SBIR	15.459	-	-
Accomplishments/Planned Programs Subtotals	15.459	-	-

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

SBIR is a three-phase program that provides early-stage Research and Development (R&D) to small companies. Eligible projects must fulfill an R&D need identified by DOD and have the potential to be developed into a product or service for commercial or defense markets. SBIR is designed to stimulate technological innovation, increase private sector commercialization of federal R&D, increase small business participation in federally funded R&D and foster participation by minority and disadvantaged firms in technological innovation.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 United States Special Operations Command			Date: February 2018
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160279BB / *Small Business Innovative Research/Small Bus Tech Transfer*	Project (Number/Name) S050 / *Small Business Innovative Research*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Phase I <$150K	C/Various	Various : Various	-	8.078	Jan 2017	-		-		-		-	Continuing	Continuing	-
Phase II >$750K	C/Various	Various : Various	-	7.015	Jan 2017	-		-		-		-	Continuing	Continuing	-
Pilot Admin Fund	C/Various	Various : Various	-	0.366	Apr 2017	-		-		-		-	Continuing	Continuing	-
Prior Year Funding	C/Various	Various : Various	198.145	-		-		-		-		-	Continuing	Continuing	-
		Subtotal	198.145	15.459		-		-		-		-	Continuing	Continuing	N/A

Remarks

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	Prior Years	FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	198.145	15.459		0.000		-		-		-	Continuing	Continuing	N/A

Remarks

Due to multiple awards, the dates listed above reflect the last Phase I and II awarded

Exhibit R-4, RDT&E Schedule Profile: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160279BB / *Small Business Innovative Research/Small Bus Tech Transfer*	**Project (Number/Name)** S050 / *Small Business Innovative Research*

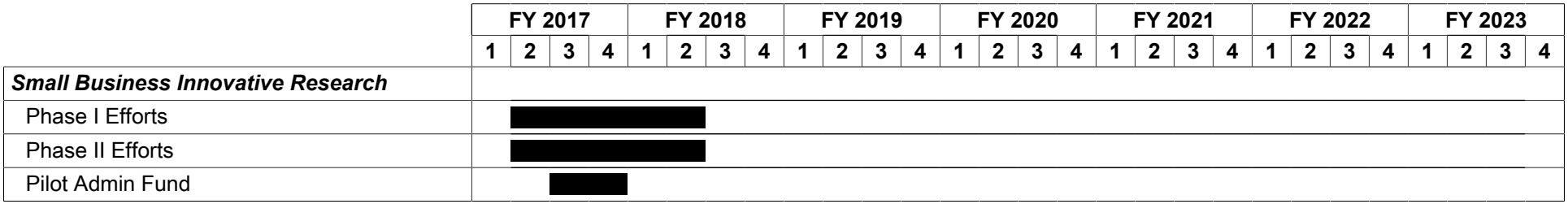

Exhibit R-4A, RDT&E Schedule Details: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160279BB / *Small Business Innovative Research/Small Bus Tech Transfer*	**Project (Number/Name)** S050 / *Small Business Innovative Research*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Small Business Innovative Research				
Phase I Efforts	2	2017	2	2018
Phase II Efforts	2	2017	2	2018
Pilot Admin Fund	3	2017	4	2017

Exhibit R-2A, RDT&E Project Justification: PB 2019 United States Special Operations Command			Date: February 2018
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160279BB / *Small Business Innovative Research/Small Bus Tech Transfer*	Project (Number/Name) S051 / *Small Business Technology Transfer*	

COST ($ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
S051: *Small Business Technology Transfer*	5.123	2.174	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Small Business Technology Transfer (STTR) goal is to expand public/private sector partnerships between small business and nonprofit U.S. research institutions.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019
Title: STTR	2.174	-	-
Accomplishments/Planned Programs Subtotals	2.174	-	-

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

STTR provides early-stage R&D funding directly to small companies working cooperatively with researchers at universities and other research institutions. STTR program is also a three-phased program and designed to stimulate technological innovation, increase private sector commercialization of federal R&D, increase small business participation in federally funded R&D and foster participation by minority and disadvantaged firms in technological innovation.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 United States Special Operations Command			Date: February 2018
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160279BB / *Small Business Innovative Research/Small Bus Tech Transfer*	Project (Number/Name) S051 / *Small Business Technology Transfer*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Phase II	C/FFP	Advanced System Supportability Engineer : Mannassas, VA 20109	-	1.499	Sep 2017	-		-		-		-	Continuing	Continuing	-
STTR <$1M	C/Various	Various : Various	-	0.675	Dec 2017	-		-		-		-	Continuing	Continuing	-
Prior Year Funding	C/Various	Various : Various	5.123	-		-		-		-		-	Continuing	Continuing	-
		Subtotal	5.123	2.174		-		-		-		-	Continuing	Continuing	N/A

	Prior Years	FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	5.123	2.174		0.000		-		-		-	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160279BB / *Small Business Innovative Research/Small Bus Tech Transfer*	**Project (Number/Name)** S051 / *Small Business Technology Transfer*

	FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
*** *SMALL BUSINESS TECHNOLOGY TRANSFER* ***																												
Phase II Efforts																												

Exhibit R-4A, RDT&E Schedule Details: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160279BB / *Small Business Innovative Research/Small Bus Tech Transfer*	**Project (Number/Name)** S051 / *Small Business Technology Transfer*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
****** SMALL BUSINESS TECHNOLOGY TRANSFER ******				
Phase II Efforts	2	2017	2	2018

Exhibit R-2, RDT&E Budget Item Justification: PB 2019 United States Special Operations Command	Date: February 2018
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*

COST ($ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
Total Program Element	903.435	156.054	259.886	184.993	-	184.993	137.242	120.290	98.819	99.664	Continuing	Continuing
SF100: *Aviation Systems Advanced Development*	709.490	100.429	175.543	118.028	-	118.028	51.144	30.170	12.874	3.952	Continuing	Continuing
SF200: *CV-22*	2.993	0.651	14.259	22.344	-	22.344	28.211	10.139	9.672	18.000	Continuing	Continuing
S750: *Mission Training and Preparation Systems*	19.647	6.745	8.181	7.520	-	7.520	8.635	9.673	9.596	9.788	Continuing	Continuing
S875: *AC/MC-130J*	29.906	8.020	9.351	17.091	-	17.091	23.900	52.613	54.103	55.122	Continuing	Continuing
D615: *Rotary Wing Aviation*	141.399	40.209	52.552	20.010	-	20.010	25.352	17.695	12.574	12.802	Continuing	Continuing

Program MDAP/MAIS Code:
Project MDAP/MAIS Code(s): 212

A. Mission Description and Budget Item Justification

SF100 Aviation Systems Advanced Development:
This project provides for the development, demonstration, and integration of current and maturing technologies for Special Operations Forces (SOF)-unique aviation and training requirements. Timely application of SOF-unique technology is critical and necessary to meet requirements in such areas as: SOF specific avionics; Low Probability of Intercept/Low Probability of Detection Terrain Following/Terrain Avoidance (TF/TA) radar; Defensive Countermeasures; Electronic Warfare (EW) - Radio Frequency Countermeasures (RFCM); Precision Strike Package (PSP); PSP High Energy Laser; AC-130H/W/U and MC-130E/H/P, AC-130W, and AC-130U Recapitalization, and other SOF airborne platforms; digital terrain elevation data and electronic order of battle; digital maps; Airborne Mission Networking; near real-time Intelligence, Surveillance and Reconnaissance (ISR); data fusion; threat detection and avoidance; navigation, target detection, and identification technologies; weapons integration; digital broadcast capabilities; aerial refueling; survivability; and ISR payload technological improvements with size, weight, power and integration onto all SOF unmanned aircraft system (UAS) ISR platforms.

SF200 CV-22 Development/Test and Evaluation:
The CV-22 is a SOF variant of the V-22 vertical medium lift, multi-mission aircraft. The CV-22 project provides long range, high speed, infiltration, exfiltration, and resupply to Special Forces teams in hostile, denied, and politically sensitive areas. This is a capability not currently provided by other existing aircraft. The funding in this project supports integration, design, development, and test to provide improved capabilities to include, but not limited to, more robust performance in situational awareness, ISR, weapons, avionics, survivability, maneuverability, mission deployment and improved reliability and maintainability of the CV platform. CV-22 SOF Common TF/TA radar best known as Silent Knight Radar (SKR) or APQ-187, provides long-range, night/adverse weather, clandestine penetration of medium-to-high threat areas to infill, exfill, and resupply SOF forces. Provides more sustainable/capable replacement to obsolescing and tech limited terrain following/avoidance radar. There is a plan to develop a Defensive Weapon System (DWS) that gives a ~360 degree field of fire to suppress/eliminate enemy targets. This effort integrates the SOF unique Color Helmet Mounted Display (CHMD) with DWS providing necessary capability improvements identified during operational use and interim contract support.

Exhibit R-2, RDT&E Budget Item Justification: PB 2019 United States Special Operations Command	Date: February 2018
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*

S750 Mission Training and Preparation Systems:
The Special Operations Mission Planning and Execution (SOMPE) project funds the definition, design, development, prototyping, integration, and testing of SOMPE systems to support mission planning, rehearsal, and execution requirements to meet SOF-unique mission requirements and correct deficiencies in current mission planning, rehearsal, and execution capabilities. The Mission Training and Preparation Systems project also includes program management, systems engineering, configuration management, architecture development, risk reduction, and trade study initiatives, as well as initiatives to assure interoperability and commonality between diverse mission planning, rehearsal, and execution systems.

S875 AC/MC-130J:
The AC/MC-130J project funds core SOF-unique modifications to replace aging/retired AC-130H Spectre, AC-130W Stinger II, AC-130U Spooky, MC-130E Combat Talon I, MC-130P Combat Shadow, MC-130H Combat Talon II aircraft. The 8 AC-130H Spectre, 12 AC-130W Stinger II and 17 AC-130U Spooky airframes will be replaced with MC-130J aircraft modified with the PSP to achieve the AC-130J configuration. The AC-130J aircraft will provide close air support, air interdiction, and armed reconnaissance capability. The 14 MC-130E Talon I, 23 MC-130P Combat Shadow, and 20 MC-130H Talon II airframes will be replaced by MC-130J Commando II aircraft with SOF mission modifications. The MC-130J Commando II aircraft perform clandestine or low visibility, single or multi-ship low-level missions intruding politically-sensitive or hostile territories; provide air refueling for special operations helicopters and CV-22 aircraft; and airdrop of leaflets, insert small special operations teams, resupply bundles and combat rubber raiding craft. The Air Force procures and fields the basic aircraft, common support equipment, and trainers for USSOCOM. An incremental upgrade approach will be used to integrate SOF capabilities onto the aircraft and training systems. SOF capabilities include, but are not limited to, Airborne Mission Networking, data fusion, threat detection and avoidance, integrated terrain following/terrain avoidance, electronic warfare, and embedded training. Integrating and automating SOF mission systems that deliver these capabilities is critical to fielding SOF-capable AC/MC-130J aircraft to recapitalize Air Force Special Operations Command's legacy C-130 fleet.

D615 Rotary Wing Aviation:
This project develops SOF-unique modifications and upgrades to SOF rotary wing aircraft that operate in increasingly hostile environments. This project also includes modifications to Aircraft Survivability Equipment (ASE) and weapons systems to counter rapidly emerging threats, improve lethality and improve aircraft self-protection in contested environments. Rotary wing aircraft supported by this project include: MH-60M, MH-47G, and A/MH-6M. These aircraft provide aviation support to SOF in worldwide contingency operations and low-intensity conflicts. They must be capable of rapid deployment, undetected penetration of hostile areas, and operating at extended ranges under adverse weather conditions to infiltrate, provide logistics for, reinforce, and extract SOF. The anti-access/area denial (A2/AD) threat is characterized by an extensive and sophisticated ground based air defense system and an upgraded air-to-air capability targeted against helicopters.

Exhibit R-2, RDT&E Budget Item Justification: PB 2019 United States Special Operations Command	Date: February 2018
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*

B. Program Change Summary ($ in Millions)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Previous President's Budget	163.543	259.886	177.606	-	177.606
Current President's Budget	156.054	259.886	184.993	-	184.993
Total Adjustments	-7.489	0.000	7.387	-	7.387
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-0.890	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-0.671	-			
• SBIR/STTR Transfer	-5.928	-			
• Other	-	-	7.387	-	7.387

Change Summary Explanation

Funding:

FY 2017: Net decrease of -$7.489 million is due to a transfer of funds to Small Business Innovative Research/Small Business Technology Transfer programs (-$5.928 million), a congressional reduction for prior year carryover for SOMPE (-$0.890 million), and a decrease for higher command priorities (-$0.671 million).

FY 2018: None.

FY 2019: Net increase of $7.387 million is for completion of Phase III integration, testing, and Air Worthiness Release (AWR) for the A/MH-6 Block 3.0 Upgrade ($3.120 million); to complete development and testing of trial kit installation of EC-130J Block Upgrade ($1.263 million); testing of flares and chaff to address emerging threats for RW ASE Upgrades ($4.192 million); flight qualification and AWR testing of the Degraded Visual Environment solution ($3.222 million); continues PSP High Energy Laser (HEL) development of system architecture, acquire beam director subsystem and laser subsystem, interface control documentation, and completes risk reduction for AC-130J aircraft ($30.020 million); continues integration/testing of CV-22 SF Common TF/TA (Silent Knight) Radar ($0.898 million); higher command priorities (-$4.024 million); a Departmental economic assumption adjustment (-$1.482 million); and the FY 2019 funding request was reduced by -$29.822 million to account for the availability of prior year execution balances.

Schedule: Silent Knight Radar (SKR): Hardware failures with first 3 LRIP IIA radars delivered delayed Regression Testing and have delayed Initial Operational Test for the MH-60/MH-47 into 4th Quarter FY 2018. EC-130J SOF-Unique 7.0/8.1 development delay was due to a delay in the 7.0/8.1 Air Force modification contract.

Technical: None.

Exhibit R-2A, RDT&E Project Justification: PB 2019 United States Special Operations Command			Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** SF100 / *Aviation Systems Advanced Development*	

COST ($ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
SF100: *Aviation Systems Advanced Development*	709.490	100.429	175.543	118.028	-	118.028	51.144	30.170	12.874	3.952	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project provides for the investigation, evaluation, development, demonstration, and integration of current and maturing technologies for Special Operations Forces (SOF)-unique aviation and training requirements. Timely application of SOF-unique technology is critical and necessary to meet requirements in such areas as: SOF specific avionics; low probability of intercept/low probability of detection (LPI/LPD), terrain following/terrain avoidance (TF/TA) radar; Defensive Countermeasures (DCM) which includes Electronic Warfare – Radio Frequency Countermeasures (EW-RFCM); Precision Strike Package (PSP); AC-130H, AC-130W, and AC-130U recapitalization, and other SOF airborne platforms; digital terrain elevation data and electronic order of battle; digital maps; Airborne Mission Networking (AbMN); near-real-time intelligence to include data fusion, threat detection and avoidance; navigation, target detection and identification technologies; digital broadcast capability; aerial refueling; Survivability; and Intelligence, Surveillance, and Reconnaissance (ISR) payload technological improvements with size, weight, power and integration onto all SOF UAS ISR platforms.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Title: EC-130J Upgrades	5.161	-	1.252	-	1.252
Description: EC-130J Upgrades provides for integration of SOF-unique implementation of the C-130J block cycle upgrade to be installed on the EC-130J Commando Solo aircraft and development of digital broadcast capabilities.					
FY 2019 Base Plans: Develops a risk reduction plan for delayed development.					
FY 2018 to FY 2019 Increase/Decrease Statement: Increase of $1.252 million is to develop a risk reduction plan for delayed development.					
Title: EC-130J Commando Solo	-	-	1.179	-	1.179
Description: EC-130J Commando Solo supports development, integration and testing of digital broadcast capabilities on the EC-130J Commando Solo aircraft.					
FY 2019 Base Plans:					

Exhibit R-2A, RDT&E Project Justification: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** SF100 / *Aviation Systems Advanced Development*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Develops and integrates emerging digital broadcast and antenna technologies into the Removable Airborne Military Information Support Operations (MISO) System (RAMS) Program. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Increase of $1.179 million supports development and integration of emerging digital broadcast and antenna technologies into the RAMS program.					
Title: EW – RFCM ***Description:*** EW-RFCM supports development, integration and test activities to provide EW capability against RF threats for SOF AC/MC-130J aircraft. The Defensive Countermeasures (DCM) suite is an integrated package of existing and future aircraft defensive systems which provides situational awareness and threat response processing that includes the RFCM system, and future defensive systems. The RFCM program provides SOF-unique aircraft defensive capabilities required for SOF missions. ***FY 2018 Plans:*** Complete fabrication, assembly and contractor hardware/software qualification testing for 5 Group A and 4 Group B systems. Continue integration and testing. Begin Government developmental ground, developmental flight and operational test activities to provide EW capability against RF threats for SOF AC/MC-130J aircraft. ***FY 2019 Base Plans:*** Continues integration and testing. Continues Government developmental and operational flight test activities to provide EW capability against RF threats for SOF AC/MC-130J aircraft. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Decrease of $47.816 million supports the completion of fabrication & assembly and contractor qualification testing in FY 2018.	44.818	57.248	9.432	-	9.432
Title: PSP for SOF ***Description:*** PSP for SOF supports systems engineering, analysis, development, and enhancement of the baseline PSP and integration, installation, and test on host MC-130J aircraft provided by the U.S. Air Force for the AC-130H, AC-130W and AC-130U recapitalization, as well as current SOF AC-130Js and AC-130Ws, and other SOF platforms. Missions for the AC-130 aircraft include, but are not limited to, Close Air Support, Air Interdiction, and Armed Reconnaissance. PSP is modular, scalable, and platform neutral. ***FY 2018 Plans:***	9.919	13.512	18.354	-	18.354

Exhibit R-2A, RDT&E Project Justification: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** SF100 / *Aviation Systems Advanced Development*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Continue development, integration, test, and system improvement of the PSP, to include defensive systems, EO/IR sensors and adverse weather capabilities on SOF C-130s and other SOF aircraft. ***FY 2019 Base Plans:*** Continues development, integration, test, and system improvement of the PSP, to include defensive systems, EO/IR sensors, adverse weather and special mission processor capabilities on SOF C-130s and other SOF aircraft. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Increase of $4.842 million is for the development, integration, test, and system improvement of all-weather capabilities of the PSP on SOF C-130s and other SOF aircraft.					
Title: PSP High Energy Laser (HEL) ***Description:*** The HEL demonstration will integrate a next generation Directed Energy Weapon System onto an AC-130. The effort demonstration will integrate mature laser sub-systems, (Beam Director, Laser, Thermal, and Power) to develop a prototype system. The prototype will be utilized for an operational evaluation and inform future requirements. The HEL components will be designed for modular upgrades and integrated with the PSP system. ***FY 2018 Plans:*** Develop system architecture, design trades, interface control documentation, and risk reduction for AC-130J aircraft. ***FY 2019 Base Plans:*** Continues development of system architecture, acquire beam director subsystem and laser subsystem, interface control documentation, and completes risk reduction for AC-130J aircraft. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Increase of $18.336 million to complete purchase of prototype laser and beam director subsystems.	-	15.650	33.986	-	33.986
Title: C-130 SOF Common TF/TA (Silent Knight) Radar ***Description:*** C-130 SOF Common TF/TA (Silent Knight) Radar supports integration and test of a TF/TA radar and on-board processor to provide a multi-mode terrain following capability on MC-130J aircraft. Crew systems integration efforts include modifications to aircraft controls and displays to automate TF/TA flight management	32.875	87.530	51.355	-	51.355

Exhibit R-2A, RDT&E Project Justification: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** SF100 / *Aviation Systems Advanced Development*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
and reduce pilot, copilot and Combat Systems Officer workload during missions previously performed by five aircrew members on legacy C-130 tankers and penetrators. ***FY 2018 Plans:*** Continue SOF Common TF/TA (Silent Knight) radar and aircraft control and display integration efforts. Install TF radar system kits on two MC-130Js and begin MC-130J TF/TA developmental flight test. Begin training system development. Begin developing software for safety critical capabilities. ***FY 2019 Base Plans:*** Continues SOF Common TF/TA (Silent Knight) radar and aircraft control and display integration efforts. Installs TF radar system kits on a third MC-130J and continues MC-130J TF/TA developmental flight test. Continues training system development. Develops hardware and software for safety critical capabilities and integration issues on the Silent Knight Radar. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Decrease of $36.175 million is due to completion of two MC-130J TF/TA radar installs and ramp down of TF/TA controls and display software.					
Title: SOF Common TF/TA (Silent Knight) Radar ***Description:*** SOF Common TF/TA (Silent Knight) Radar supports Engineering and Manufacturing Development (EMD), qualification, and operational flight testing of a SOF common TF/TA LPI/LPD radar to defeat advanced passive detection threats while maintaining ability to fly safe TF. The funding also supports design, development, integration, and testing for improved system capabilities to include, but not limited to, Aircraft Survivability Equipment (ASE) interoperability improvements and reduced TF signature management. This radar is targeted for use on MH-47G heavy assault helicopters, MH-60M medium assault helicopters, MC-130J Commando II and CV-22 Osprey aircraft. ***FY 2019 Base Plans:*** Begins design, development, integration, and testing of Silent Knight Radar ASE interoperability improvements and sensor fusion TF initiatives. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Increase of $1.212 million for design, development, integration, and testing of Silent Knight Radar ASE interoperability improvements and reduced TF signature management initiatives.	6.227	-	1.212	-	1.212
Title: ISR Payload	1.429	1.603	1.258	-	1.258

Exhibit R-2A, RDT&E Project Justification: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** SF100 / *Aviation Systems Advanced Development*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Description: ISR Payload Sensor Technology supports development, integration, and testing of sensor miniaturization efforts to adapt large (Group 4-5) unmanned aircraft system (UAS) ISR capabilities on all SOF UAS ISR platforms. ***FY 2018 Plans:*** Continue spiral development to increase the smaller SOF ISR platforms' capabilities through incremental development, integration, and testing. ***FY 2019 Base Plans:*** Continues spiral development to increase the smaller SOF ISR platforms' capabilities through incremental development, integration, and testing. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Decrease of $0.345 million is due to higher command priorities.					
Accomplishments/Planned Programs Subtotals	100.429	175.543	118.028	-	118.028

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
• PROC/5000C13000: *C-130 Modifications*	42.942	31.809	80.274	-	80.274	21.730	21.233	16.164	16.487	Continuing	Continuing
• PROC/2012C130J: *AC/MC-130J*	68.333	179.934	165.813	-	165.813	170.323	180.730	221.927	285.871	Continuing	Continuing
• PROC/1202PSP: *Precision Strike Package*	227.882	229.728	226.965	-	226.965	228.510	232.704	148.680	66.870	Continuing	Continuing
• PROC0201RWUPGR: *Rotary Wing Upgrades and Sustainment*	164.596	158.988	148.351	-	148.351	143.788	149.300	152.009	155.215	Continuing	Continuing

Remarks

D. Acquisition Strategy

• EC-130J Upgrades: Operational Flight Program Block Cycle is being developed by the Air Force program office using existing development and production contracts.

• EC-130J Commando SOLO: Digital broadcast capabilities are being developed through an incremental acquisition strategy to incorporate and test readily available equipment into the EC-130J aircraft.

Exhibit R-2A, RDT&E Project Justification: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** SF100 / *Aviation Systems Advanced Development*

• EW – RFCM: Awarded competitive EMD contract for development. Down selected to the best overall solution to integrate and test an RFCM System on AC/MC-130J aircraft.

• PSP for SOF: Incremental acquisition strategy to integrate and test the PSP and capability enhancements on donor MC-130J aircraft provided by the U.S. Air Force and other SOF aircraft. Multiple contract awards.

• PSP HEL: AC-130 HEL program utilizes Naval Surface Warfare Center Dahlgren Division as the government Lead System Integrator of HEL components. HEL system components purchased under Defense Ordinance Technology Consortium broad area announcement using incremental Cost Plus Fixed Fee contracts and cost sharing agreements.

• C-130 SOF Common TF/TA (Silent Knight) Radar: Awarded delivery order on Cost Plus Incentive Fee contract to integrate and test the SOF Common TF/TA (Silent Knight) radar on MC-130J aircraft and develop modifications to aircraft displays and controls. Government developmental test and evaluation, FY 2018 - FY 2020; Operational Test and Evaluation, FY 2021; Required Assets Available, Q1FY2022.

• SOF Common TF/TA (Silent Knight) Radar: Competitive EMD contract was awarded to Raytheon in FY 2007 for radar B Kit design, development, and testing. Subsequent MH-47G and MH-60M A Kit design, integration, and test efforts awarded to Lockheed Martin (SOFSA). Cost Plus Fixed Fee (CPFF) awarded to Raytheon in January 2017 for software development of Software Version (SW ver) 7.14 (outcome of 2017 Limited Users Test). Continued software development to enhance interoperability with other on aircraft systems in FY18/19 followed by operational capability additions and move to sensor fusion TF FY20-24.

• ISR Payload Sensor Technology: Effort is being executed via a spiral development, integration and testing acquisition strategy based on leveraging existing sensor technology. The focus will be on reducing the size, weight, power and cost of state of the art ISR sensors fielded on larger ISR platforms, such as Group 4-5 unmanned aircraft systems (UAS), in order to make them usable by smaller SOF ISR platforms, such as Group 2-3 UAS. This development will include the integration of the ISR capability with the platform's C2 and Communications systems as appropriate.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 United States Special Operations Command			Date: February 2018
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160403BB / *Aviation Systems*	Project (Number/Name) SF100 / *Aviation Systems Advanced Development*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
EC-130J Upgrades	C/CPIF	Lockheed Martin : Marietta, GA	5.811	5.161	Dec 2016	-		1.252	Dec 2018	-		1.252	0.000	12.224	-
EC-130J Commando Solo Removable Airborne Military Information Support Operations System (RAMS)	C/CPFF	Johns Hopkins University APL : Baltimore, MD	3.396	-		-		1.179	Mar 2019	-		1.179	0.000	4.575	-
Electronic Warfare - Radio Frequency Countermeasures (EW-RFCM)	C/CPIF	BAE Systems, Inc. : Totowa, NJ	55.925	41.918	Jan 2017	41.133	Jan 2018	1.003	Jan 2019	-		1.003	Continuing	Continuing	-
Precision Strike Package (PSP) for SOF - CSO Station	C/FFP	Various : Various	-	3.607	Jan 2017	-		-		-		-	Continuing	Continuing	-
PSP for SOF - Situational Awarness	C/FFP	Various : Various	-	4.825	Jan 2017	-		-		-		-	Continuing	Continuing	-
PSP for SOF - Defensive Systems	C/TBD	Various : Various	-	-		4.845	Jan 2018	2.085	Jan 2019	-		2.085	0.000	6.930	-
PSP for SOF - EO/IR Sensor	C/TBD	Various : Various	-	-		0.705	Jan 2018	1.889	Jan 2019	-		1.889	Continuing	Continuing	-
PSP for SOF - Adverse Weather	C/TBD	Various : Various	-	-		6.057	Jan 2018	10.575	Jan 2019	-		10.575	Continuing	Continuing	-
PSP for SOF - SMP/PSP Integration	C/TBD	Various : Various	-	-		-		1.202	Jan 2019	-		1.202	Continuing	Continuing	-
PSP High Energy Laser (HEL) - High Power Beam Director	C/CPFF	MZA Associates Corporation : Albuquerque, NM	-	-		8.000	Mar 2018	4.000	Feb 2019	-		4.000	0.000	12.000	-
PSP HEL - Prototype Integration, Power, Isolation Structure	C/CPFF	Naval Surface Warfare Center : Dahlgren, VA	-	-		3.000	Mar 2018	7.136	Jan 2019	-		7.136	Continuing	Continuing	-
PSP HEL - High Power Laser	C/CPFF	TBD : TBD	-	-		4.650	Apr 2018	22.850	Feb 2019	-		22.850	0.000	27.500	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** SF100 / *Aviation Systems Advanced Development*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
C-130 SOF Common TF/ TA (Silent Knight) Radar	C/CPIF	Lockheed Martin Aero : Marietta, GA	76.499	24.296	Jan 2017	71.821	Jan 2018	36.894	Jan 2019	-		36.894	Continuing	Continuing	-
Intelligence, Surveillance, and Reconnaissance Payload	TBD	Various : Various	1.288	1.495	Apr 2017	1.603	Apr 2018	1.258	Apr 2019	-		1.258	Continuing	Continuing	-
SOF Common TF/TA (Silent Knight) Radar	C/FFP	Raytheon : Forest, MS	-	3.898	Jan 2017	-		-		-		-	Continuing	Continuing	-
Prior Year Funding - Completed Efforts	Various	Various : Various	313.802	-		-		-		-		-	0.000	313.802	-
		Subtotal	456.721	85.200		141.814		91.323		-		91.323	Continuing	Continuing	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
C-130 SOF Common TF/ TA (Silent Knight) Radar	C/CPIF	Various : Various	6.949	3.358	Dec 2016	7.305	Dec 2017	3.811	Dec 2018	-		3.811	Continuing	Continuing	-
EW-RFCM	C/Various	Robins AFB : Warner Robins, GA	14.164	2.155	May 2017	3.820	Jan 2018	2.182	Jan 2019	-		2.182	Continuing	Continuing	-
Prior Year Funding - Completed Efforts	Various	Various : Various	28.802	-		-		-		-		-	0.000	28.802	-
		Subtotal	49.915	5.513		11.125		5.993		-		5.993	Continuing	Continuing	N/A

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
EW-RFCM	C/Various	Robins AFB : Warner Robins, GA	4.165	0.700	Feb 2017	12.295	Jan 2018	6.247	Jan 2019	-		6.247	Continuing	Continuing	-
PSP for SOF	C/Various	Various : Various	18.740	1.487	Dec 2016	1.905	Dec 2017	2.603	Dec 2018	-		2.603	Continuing	Continuing	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 United States Special Operations Command		Date: February 2018
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Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
C-130 SOF Common TF/ TA (Silent Knight) Radar	C/CPIF	Various : Various	13.431	3.455	Dec 2016	6.441	Dec 2017	9.372	Dec 2018	-		9.372	Continuing	Continuing	-
SOF Common TF/TA (Silent Knight) Radar	C/CPIF	Various : Various	119.565	2.179	Jan 2017	-		1.212	Jan 2019	-		1.212	Continuing	Continuing	-
Prior Year Funding - Completed Efforts	Various	Various : Various	8.903	-		-		-		-		-	0.000	8.903	-
		Subtotal	164.804	7.821		20.641		19.434		-		19.434	Continuing	Continuing	N/A

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
C-130 SOF Common TF/ TA (Silent Knight) Radar	C/CPIF	Various : Various	7.034	1.745	Dec 2016	1.963	Dec 2017	1.278	Dec 2018	-		1.278	Continuing	Continuing	-
SOF Common TF/TA (Silent Knight) Radar	C/Various	Various : Various	-	0.150	Oct 2016	-		-		-		-	Continuing	Continuing	-
Prior Year Funding - Completed Efforts	Various	Various : Various	31.016	-		-		-		-		-	0.000	31.016	-
		Subtotal	38.050	1.895		1.963		1.278		-		1.278	Continuing	Continuing	N/A

	Prior Years	FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	709.490	100.429		175.543		118.028		-		118.028	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** SF100 / *Aviation Systems Advanced Development*

EC-130J Upgrade Schedule

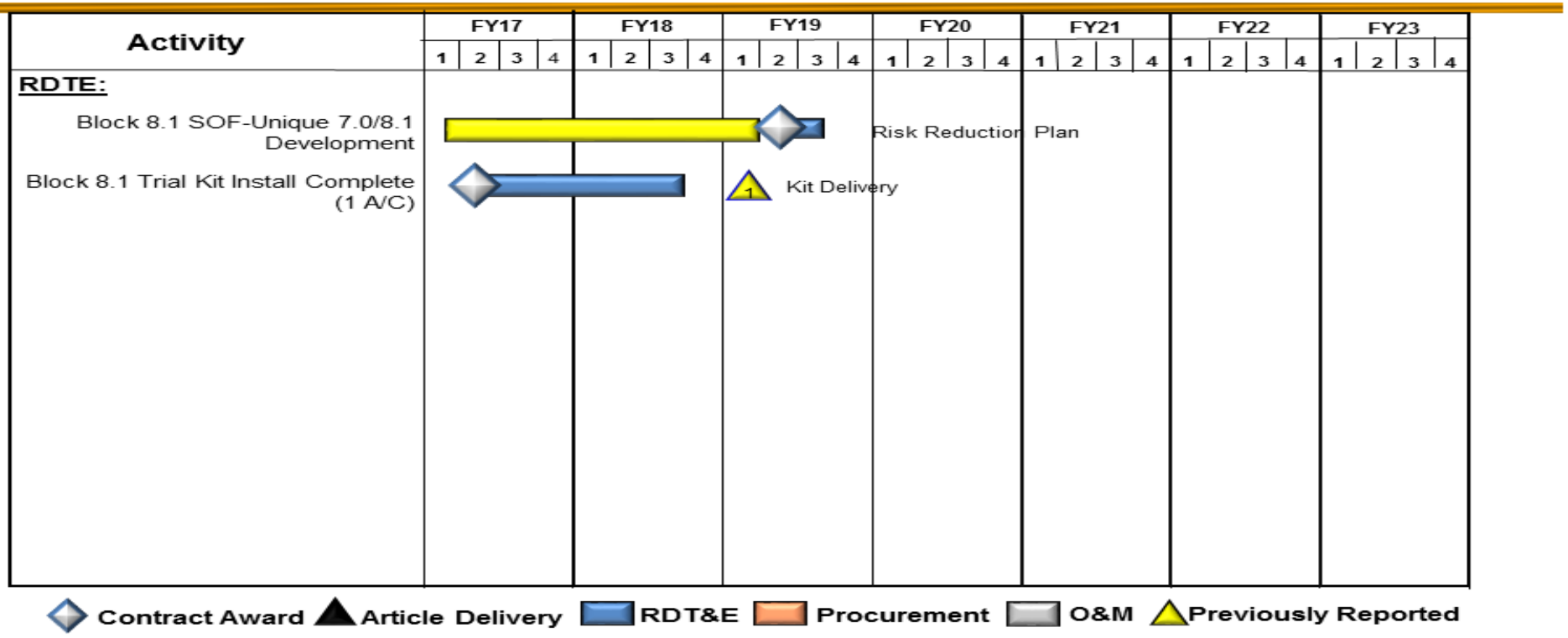

Exhibit R-4, RDT&E Schedule Profile: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** SF100 / *Aviation Systems Advanced Development*

EC-130J CSOLO
RAMS and De-Mod Schedule

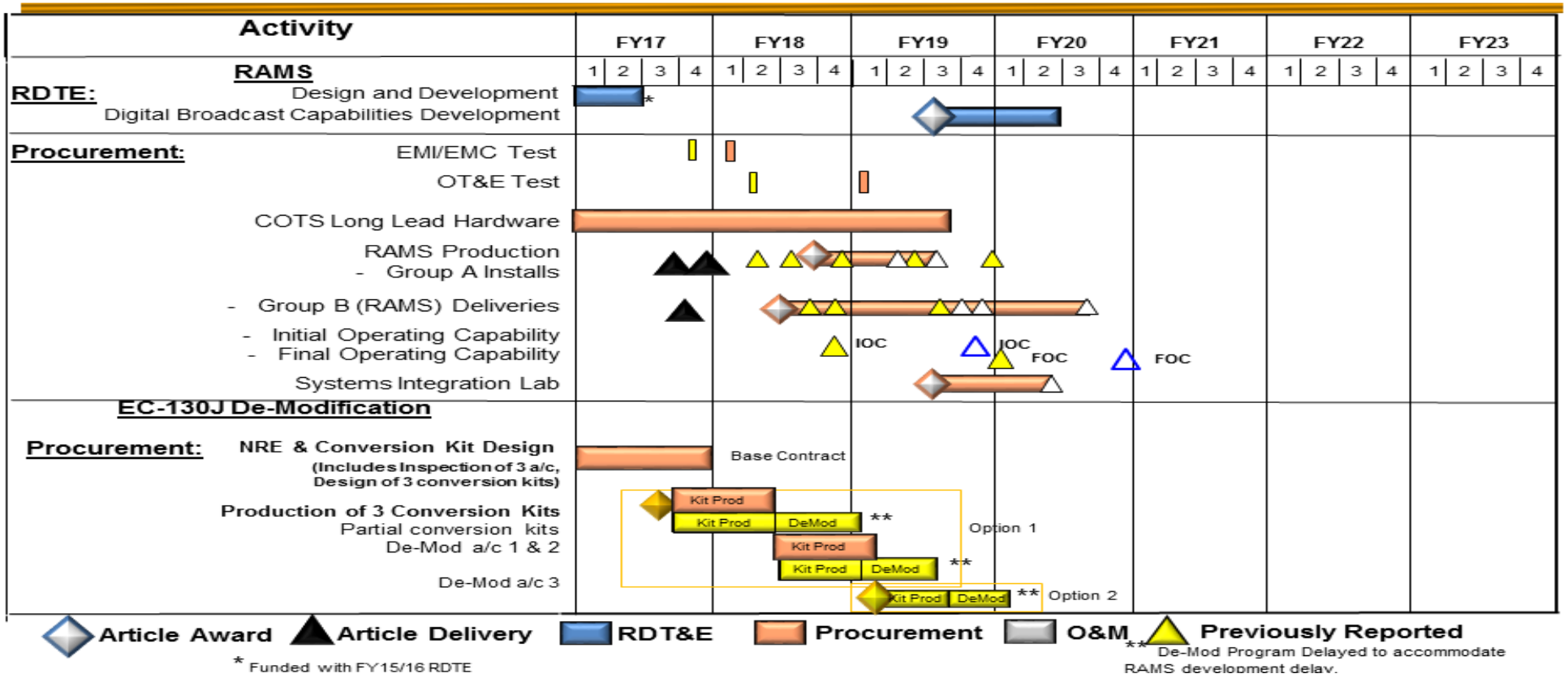

Exhibit R-4, RDT&E Schedule Profile: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** SF100 / *Aviation Systems Advanced Development*

AC/MC-130J RFCM Schedule

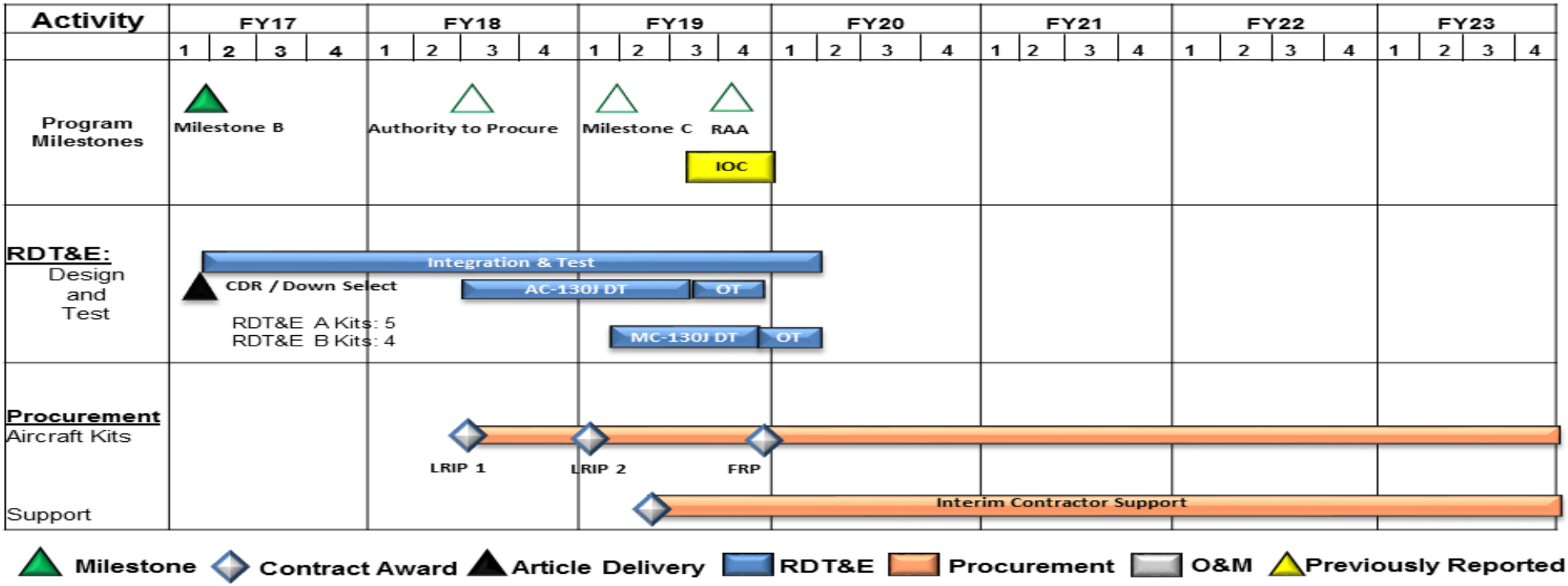

Exhibit R-4, RDT&E Schedule Profile: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** SF100 / *Aviation Systems Advanced Development*

AC-130J/PSP Schedule

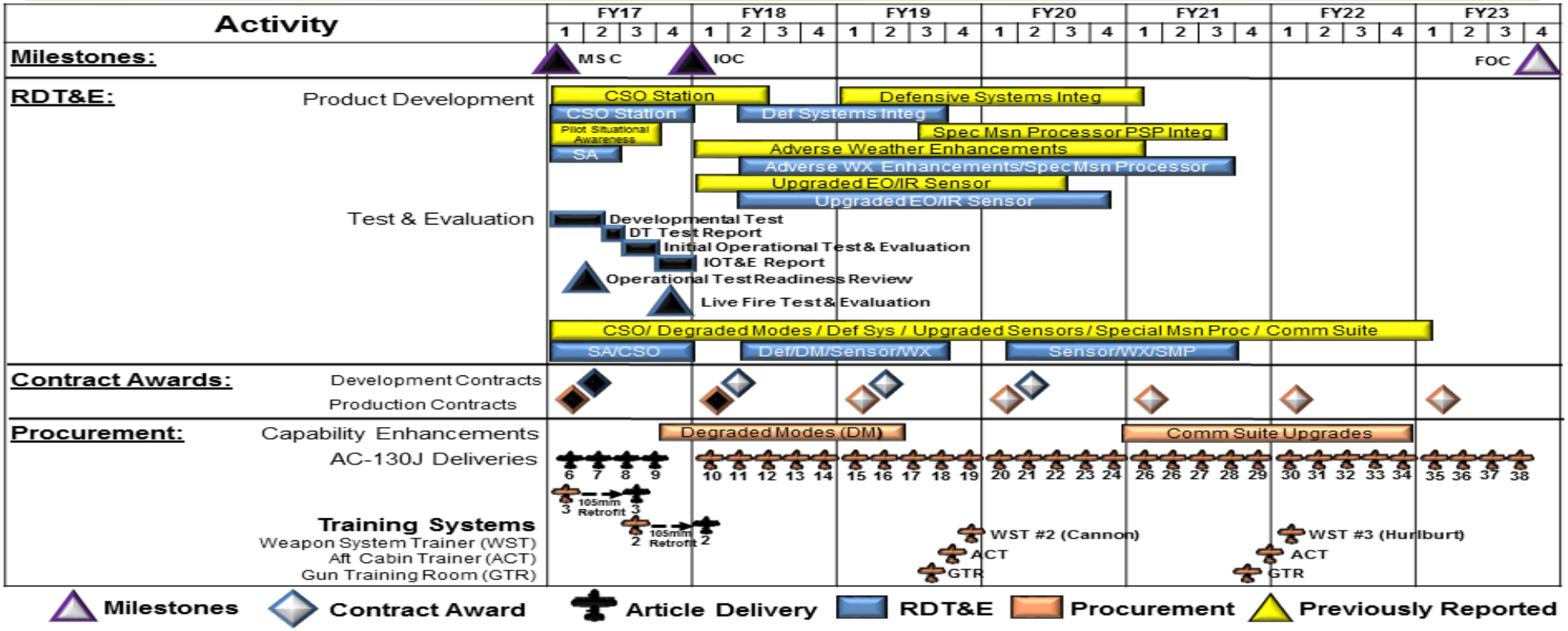

Exhibit R-4, RDT&E Schedule Profile: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** SF100 / *Aviation Systems Advanced Development*

AC-130 High Energy Laser Schedule

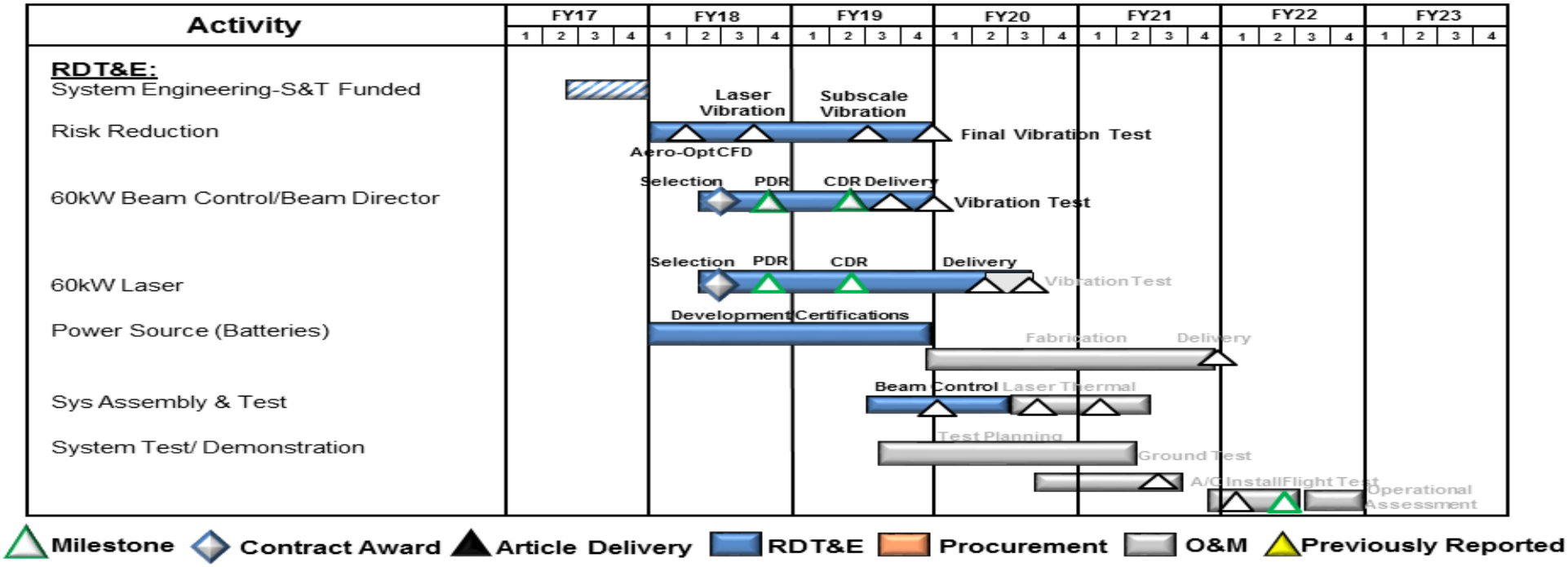

Exhibit R-4, RDT&E Schedule Profile: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** SF100 / *Aviation Systems Advanced Development*

C-130 SOF Common TF/TA Radar Schedule

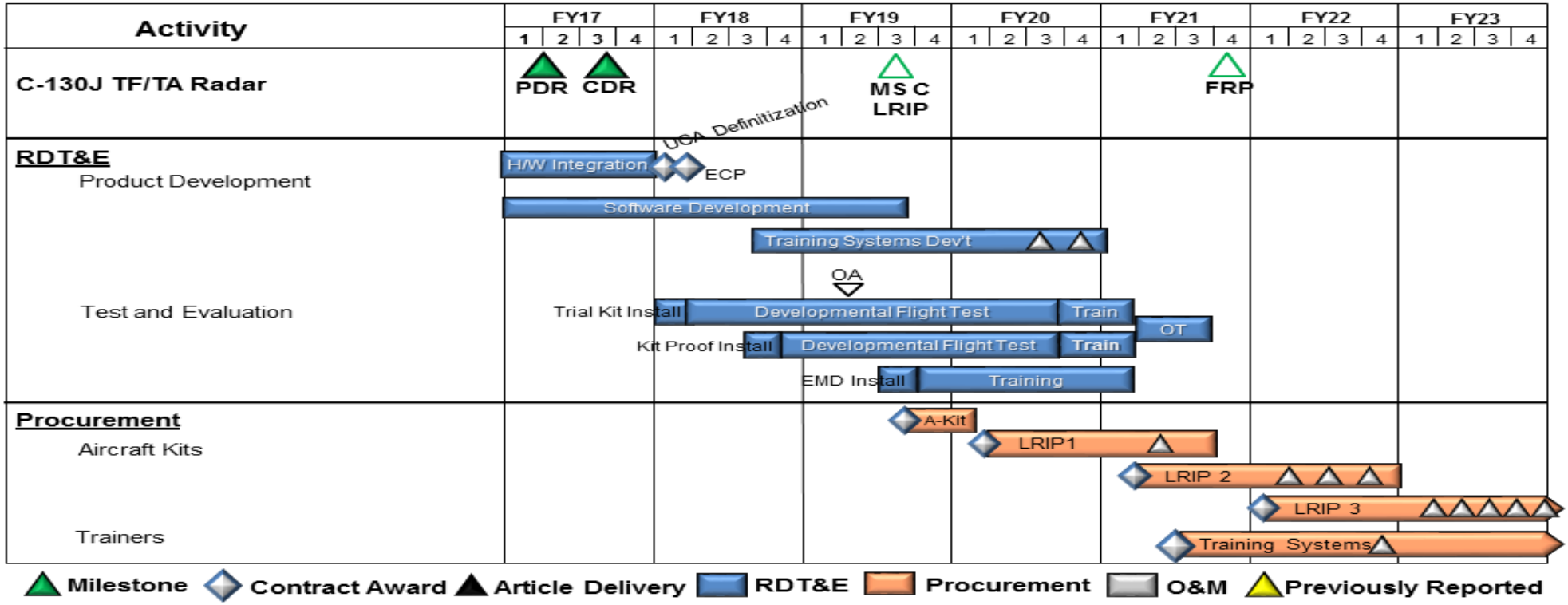

Exhibit R-4, RDT&E Schedule Profile: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** SF100 / *Aviation Systems Advanced Development*

SOF Common (Silent Knight) TF/TA Radar Schedule

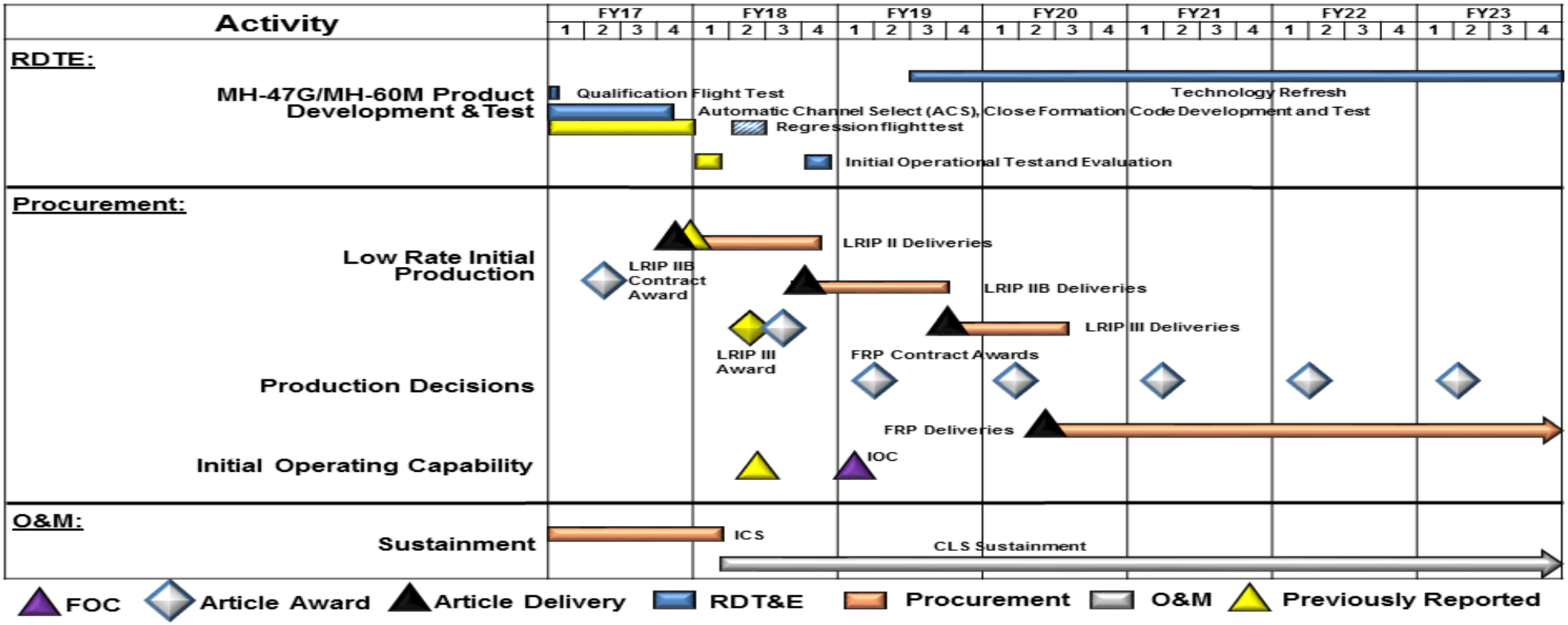

Exhibit R-4, RDT&E Schedule Profile: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** SF100 / *Aviation Systems Advanced Development*

ISR Payload Sub-Project Schedule

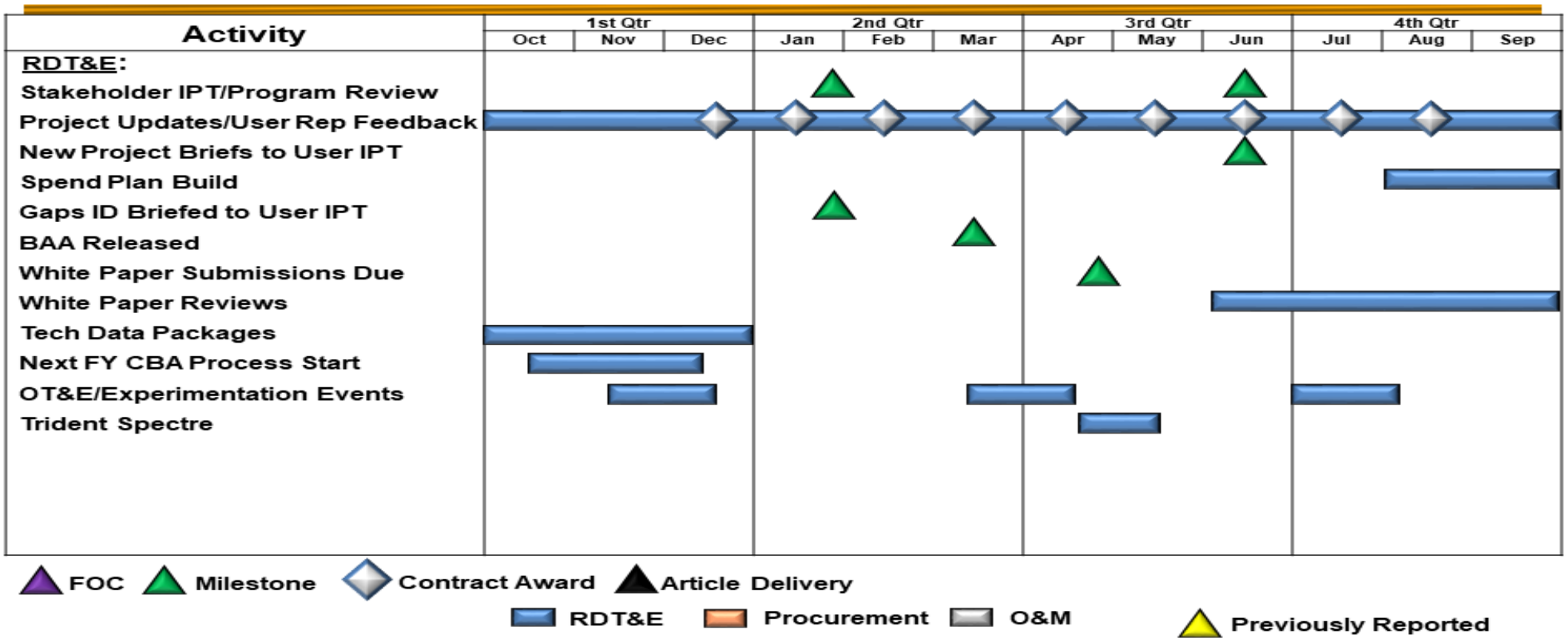

Exhibit R-4A, RDT&E Schedule Details: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** SF100 / *Aviation Systems Advanced Development*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
EC-130J Upgrades				
Block 8.1 Development and Trial Kit Install	1	2017	1	2021
EC-130J Commando Solo Removeable Airborne Military Information Support Operations System (RAMS)				
Development and Design	2	2019	2	2020
Electronic Warfare - Radio Frequency Countermeasures (EW-RFCM)				
Integration and Testing	2	2017	2	2020
Precision Strike Package (PSP) for SOF				
Block 20 Developmental Test/Initial Operational Test and Evaluation	1	2017	3	2017
Capability Enhancements Product Development	2	2017	4	2022
Capability Enhancements Test and Evaluation	1	2017	4	2023
PSP High Energy Laser (HEL)				
PSP HEL Risk Reduction Demonstration	2	2017	1	2020
PSP HEL Prototype Demonstration and Operator Evaluation	2	2018	4	2022
C-130 SOF Common Terrain Following/Terrain Avoidance (TF/TA) (Silent Knight) Radar				
Software Development	2	2017	3	2019
Development/Flight Testing	4	2018	3	2020
Operational Testing	2	2021	3	2021
Training System Development	1	2018	1	2021
SOF Common (TF/TA) (Silent Knight) Radar				
Qualification, Automatic Channel Select, Close Formation Code & Regression Flight Testing	1	2017	4	2017

Exhibit R-4A, RDT&E Schedule Details: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** SF100 / *Aviation Systems Advanced Development*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Operational Testing	2	2018	2	2018
Aircraft Survivability Equipment interoperability and reduced Terrain Following signature management initiatives	1	2019	4	2023
Intelligence, Surveillance, and Reconnaissance (ISR) Payload				
Payload Development	3	2017	4	2023
Payload Integration (Phase 1)	1	2018	2	2019
Payload Integration (Phase 2)	4	2020	1	2022
Payload Testing (Phase 1)	2	2019	3	2019
Payload Testing (Phase 2)	1	2022	2	2022

Exhibit R-2A, RDT&E Project Justification: PB 2019 United States Special Operations Command			Date: February 2018
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160403BB / *Aviation Systems*	Project (Number/Name) SF200 / *CV-22*	

COST ($ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
SF200: *CV-22*	2.993	0.651	14.259	22.344	-	22.344	28.211	10.139	9.672	18.000	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Project MDAP/MAIS Code: 212

A. Mission Description and Budget Item Justification

The CV-22 is a SOF variant of the V-22 vertical medium lift, multi-mission aircraft. The CV-22 project provides long range, high speed, infiltration, exfiltration, and resupply to Special Forces teams in hostile, denied, and politically sensitive areas. This is a capability not currently provided by other existing aircraft. The funding in this program supports integration, design, development, and test to provide improved capabilities to include, but not limited to, more robust performance in situational awareness, ISR, weapons, avionics, survivability, maneuverability, mission deployment and improved reliability and maintainability of the CV-22 platform.

Block 20: Design, integrate, test, and validate enhancements required to meet SOF-unique mission requirements and correct deficiencies identified in previous testing. This incremental development will provide improved capabilities to include, but not limited to, robust performance in situational awareness, weapons, avionics, survivability, maneuverability, mission deployment, improved reliability and maintainability of the CV platform.

CV-22 SF Common TF/TA (Silent Knight) Radar: Provides long-range, night/adverse weather, clandestine penetration of medium-to-high threat areas to infiltration, exfiltration, and resupply SOF forces. Provides more sustainable/capable radar to replace obsolescing and APQ-186 terrain following/avoidance radar.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Title: CV-22 SOF Common TF/TA (Silent Knight) Radar	0.651	14.259	22.344	-	22.344
Description: Provides long-range, night/adverse weather, clandestine penetration of medium-to-high threat areas to infil, exfil, and resupply SOF forces. Provides more sustainable/capable radar to replace obsolescing and tech limited APQ-186 terrain following/avoidance radar. ***FY 2018 Plans:*** Continue integration/testing of the CV-22 SF Common TF/TA (Silent Knight) Radar. ***FY 2019 Base Plans:*** Continues integration/testing of CV-22 SF Common TF/TA (Silent Knight) Radar. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Increase of $8.085 million is to support developmental flight testing.					
Accomplishments/Planned Programs Subtotals	0.651	14.259	22.344	-	22.344

Exhibit R-2A, RDT&E Project Justification: PB 2019 United States Special Operations Command			Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** SF200 / *CV-22*	

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
• PROC/1000CV22: *CV-22 SOF Modification*	47.786	42.178	32.529	-	32.529	27.491	31.285	56.535	50.918	Continuing	Continuing
• PROC/V022A0: *Aircraft Procurement CV-22 (MYP)*	97.000	-	-	-	-	-	-	-	-	0.000	4,415.234
• RDT&E1/0401318F: *RDT&E, USAF*	27.704	22.519	16.641	-	16.641	14.731	14.985	15.293	15.600	64.350	225.577
• RDT&E/0604262N: *V-22 RDT&E, N BA-05*	149.113	171.386	135.522	-	135.522	134.939	93.363	117.119	119.461	184.398	1,105.301

Remarks

D. Acquisition Strategy

The Silent Knight Radar (SKR) was developed by USSOCOM to replace the existing, obsolescing APQ-186 TF/TA multimode radar on the CV-22. The acquisition strategy for the CV-22 SF Common TF/TA (Silent Knight) Radar program is to procure radar units and radar software modifications through the USSOCOM SKR Program Management Office. Contracts will be awarded to integrate SKR into the V-22 platform and buy aircraft modification kits, using a mixture of both sole source and competitive contracts.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** SF200 / *CV-22*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
CV-22 SF Common TF/ TA (Silent Knight) Radar - Operational Flight Program (OFP) Development	TBD	Various : Various	-	-		6.384	Jan 2018	7.910	Nov 2018	-		7.910	Continuing	Continuing	-
CV-22 SF Common TF/ TA (Silent Knight) Radar - Integration	TBD	Various : Various	-	-		6.774	Feb 2018	12.099	Feb 2019	-		12.099	Continuing	Continuing	-
Block 20	Various	Various : Various	1.057	-		-		-		-		-	0.000	1.057	-
		Subtotal	1.057	-		13.158		20.009		-		20.009	Continuing	Continuing	N/A

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
CV-22 SF Common TF/ TA (Silent Knight) Radar - OFP	TBD	Various : Various	-	0.651	Nov 2017	0.590	Jan 2018	1.110	Nov 2018	-		1.110	Continuing	Continuing	-
CV-22 SF Common TF/ TA (Silent Knight) Radar - Integration	TBD	Various : Various	-	-		0.511	Feb 2018	1.225	Feb 2019	-		1.225	Continuing	Continuing	-
Block 20	Various	Various : Various	1.936	-		-		-		-		-	0.000	1.936	-
		Subtotal	1.936	0.651		1.101		2.335		-		2.335	Continuing	Continuing	N/A

	Prior Years	FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	2.993	0.651		14.259		22.344		-		22.344	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** SF200 / *CV-22*

CV-22 Schedule

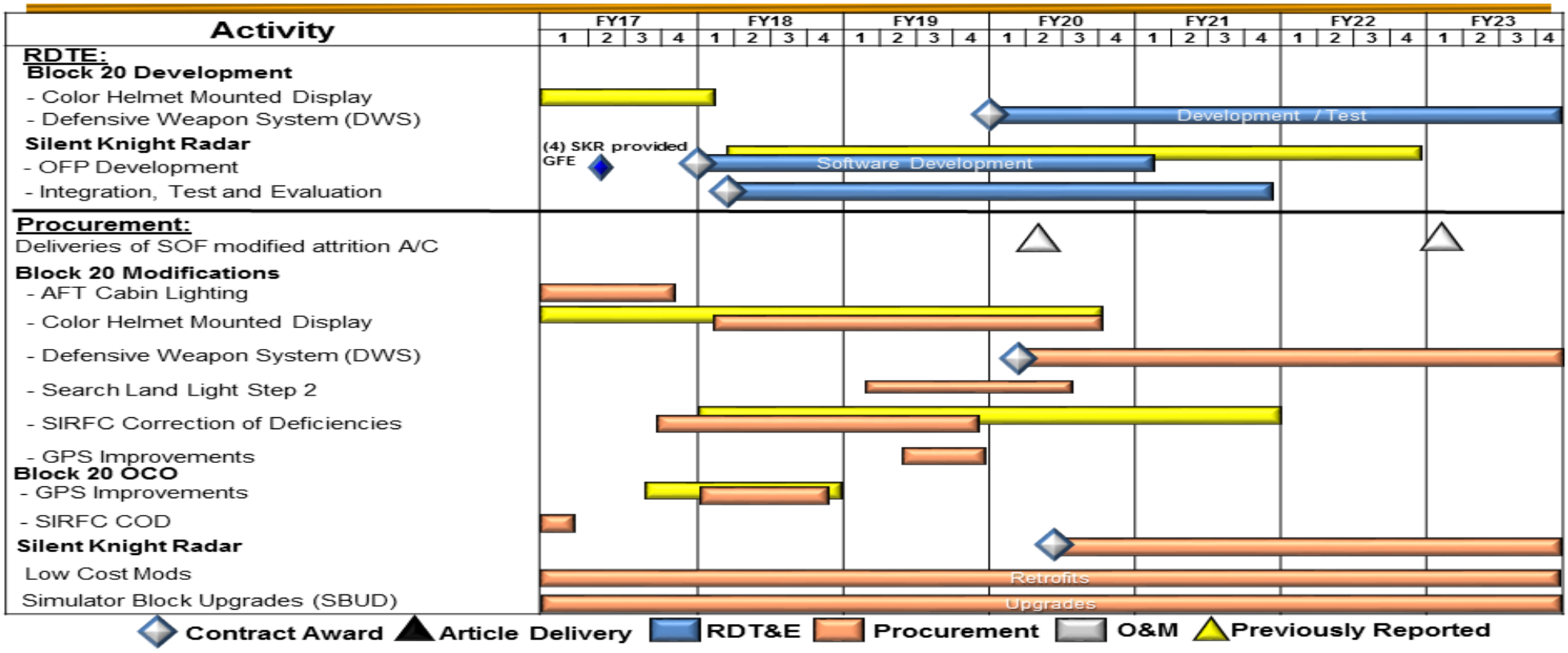

Exhibit R-4A, RDT&E Schedule Details: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** SF200 / *CV-22*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
CV-22				
Block 20 Development/Test	1	2017	1	2018
Defensive Weapon System (DWS)	1	2020	4	2023
SF Common TF/TA (Silent Knight) Radar - OFP Development	2	2018	4	2021
SF Common TF/TA (Silent Knight) - Radar Integration	2	2018	4	2021

Exhibit R-2A, RDT&E Project Justification: PB 2019 United States Special Operations Command			Date: February 2018
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160403BB / *Aviation Systems*	Project (Number/Name) S750 / *Mission Training and Preparation Systems*	

COST ($ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
S750: *Mission Training and Preparation Systems*	19.647	6.745	8.181	7.520	-	7.520	8.635	9.673	9.596	9.788	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project funds the definition, design, development, prototyping, integration, and testing of Mission Training and Preparation Systems (MTPS) to support training, avoid obsolescence, and maintain simulator concurrency with weapon system configurations; support mission planning and rehearsal systems enhancements required to meet Special Operations Force (SOF)-unique mission requirements and correct deficiencies identified in previous testing; and support mission planning and rehearsal capabilities in current MTPS. The MTPS project also includes program management, systems engineering, configuration management, architecture development, risk reduction, and trade study initiatives, as well as initiatives to assure interoperability and commonality between diverse SOF training systems.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Title: SOMPE	6.745	8.181	7.520	-	7.520
Description: Special Operations Mission Planning and Execution (SOMPE) develops, integrates, tests, and validates software enhancements required to meet SOF-unique requirements for, and correct deficiencies to, mission planning, preview, and execution software tools to support all phases of SOF operations from deliberate to time-critical. The SOMPE project automates time-sensitive planning activities and provides enhanced situational awareness during mission execution. SOMPE provides the interoperable environment for SOF adaptive planning to integrate global operations including, but not limited to, precision strike software, digital navigation, and unmanned aerial systems command and control. This project also provides the integration of SOMPE with multi-dimensional visualization systems, providing immersive mission rehearsal in minimal timeframes from the SOMPE mission plan. SOMPE is embedded in the USSOCOM Headquarters, Theater Special Operations Commands, Joint Special Operations Task Forces, Joint Special Operations Aviation Components, SOF warfighters, and SOF warfighter platforms.					
FY 2018 Plans: Continue development of software applications to address SOF-unique aviation, ground and maritime mission planning requirements, data transfer software from mission planning systems to SOF helicopters, airplanes, and simulator/rehearsal systems, and automated performance models and performance prediction software.					

Exhibit R-2A, RDT&E Project Justification: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** S750 / *Mission Training and Preparation Systems*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Continue updating of mission planning, data transfer and performance software. Continue development of software applications for smaller mobile computer devices (tablets, smart phones, etc). ***FY 2019 Base Plans:*** Continues development of software applications to address SOF-unique aviation, ground and maritime mission planning requirements, data transfer software from mission planning systems to SOF helicopters, airplanes, and simulator/rehearsal systems, and automated performance models and performance prediction software. Continues updating of mission planning, data transfer and performance software. Continues development of software applications for smaller mobile computer devices (tablets, smart phones, etc). ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Increase of $0.592 million is for minor adjustments.					
Accomplishments/Planned Programs Subtotals	6.745	8.181	7.520	-	7.520

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

SOMPE comprises multiple mission planning software development contracts awarded to developers for each project effort. Acquisition strategies depend on the type of development effort. For minor software development projects, contracts may be awarded as sole source acquisitions from existing contract vehicles. For major software development projects, contracts may be awarded as limited or full and open competition acquisitions. Individual acquisition strategies are developed as the scope of software development projects are identified and defined.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 United States Special Operations Command			Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** S750 / *Mission Training and Preparation Systems*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Special Operations Mission Planning and Execution (SOMPE) Software Development and Integration	MIPR	Various : Various	15.372	5.260	Jan 2017	6.682	Jan 2018	6.073	Jan 2019	-		6.073	Continuing	Continuing	-
		Subtotal	15.372	5.260		6.682		6.073		-		6.073	Continuing	Continuing	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
SOMPE Software	MIPR	Special Operations Mission Planning Office : Fort Eustis, VA	1.570	0.371	Feb 2017	0.385	Feb 2018	0.371	Feb 2019	-		0.371	Continuing	Continuing	-
		Subtotal	1.570	0.371		0.385		0.371		-		0.371	Continuing	Continuing	N/A

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
SOMPE Software	C/CPFF	Wyle-CAS : Huntsville, AL	2.705	1.114	Jan 2017	1.114	Jan 2018	1.076	Jan 2019	-		1.076	Continuing	Continuing	-
		Subtotal	2.705	1.114		1.114		1.076		-		1.076	Continuing	Continuing	N/A

	Prior Years	FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	19.647	6.745		8.181		7.520		-		7.520	Continuing	Continuing	N/A

Remarks

*** PLEASE ADD COSTS OR ENTER REMARKS ***

Exhibit R-4, RDT&E Schedule Profile: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** S750 / *Mission Training and Preparation Systems*

SOMPE SCHEDULE

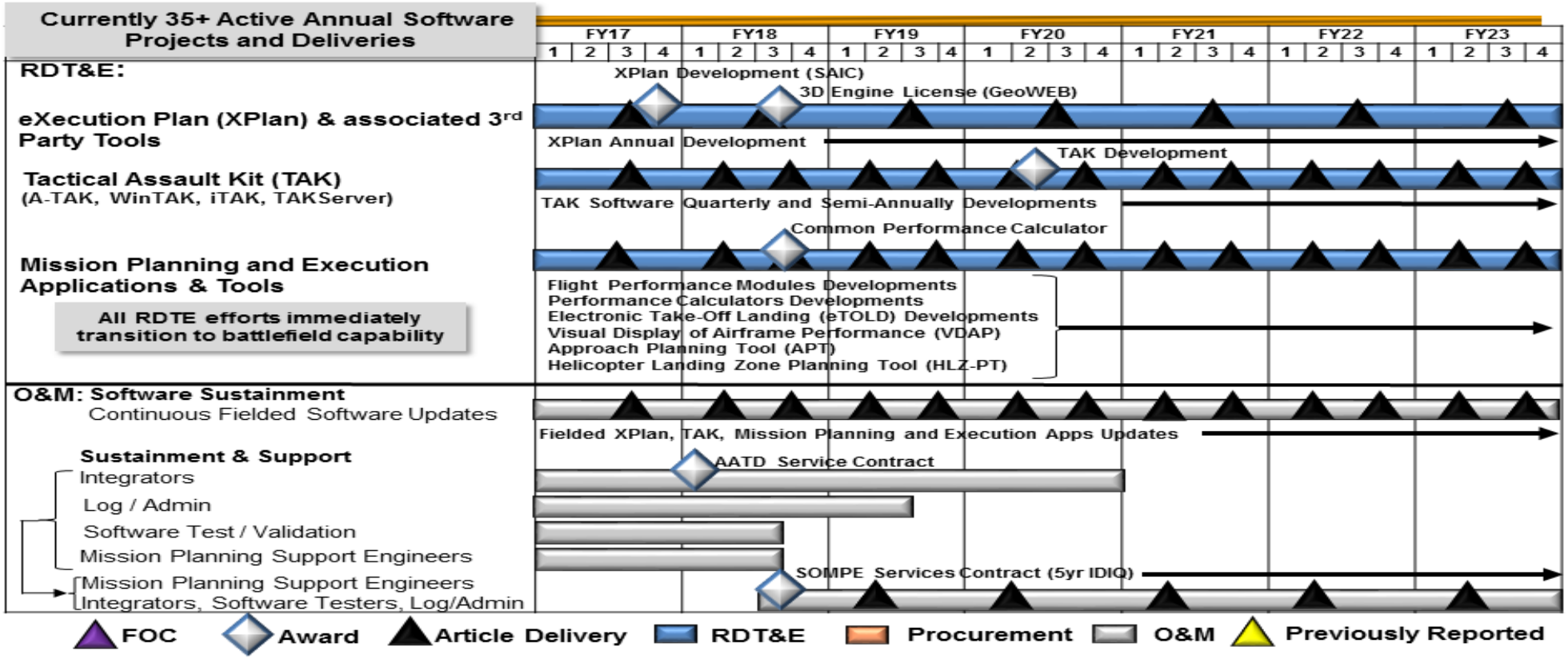

Exhibit R-4A, RDT&E Schedule Details: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** S750 / *Mission Training and Preparation Systems*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Special Operations Mission Planning and Execution (SOMPE)				
Product Development	2	2017	4	2023
Support (Software)	2	2017	4	2023
Test and Evaluation (Software)	2	2017	4	2023

Exhibit R-2A, RDT&E Project Justification: PB 2019 United States Special Operations Command			Date: February 2018
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160403BB / *Aviation Systems*	Project (Number/Name) S875 / *AC/MC-130J*	

COST ($ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
S875: *AC/MC-130J*	29.906	8.020	9.351	17.091	-	17.091	23.900	52.613	54.103	55.122	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The AC/MC-130J project funds core SOF-unique modifications to replace aging/retired AC-130H Spectre, AC-130W Stinger II, AC-130U Spooky, MC-130E Combat Talon I, MC-130P Combat Shadow, MC-130H Combat Talon II aircraft. The 8 AC-130H Spectre, 12 AC-130W Stinger II and 17 AC-130U Spooky airframes will be replaced with MC-130J aircraft modified with the PSP to achieve the AC-130J configuration. The AC-130J aircraft will provide close air support, air interdiction, and armed reconnaissance capability. The 14 MC-130E Talon I, 23 MC-130P Combat Shadow, and 20 MC-130H Talon II airframes will be replaced by MC-130J Commando II aircraft with SOF mission modifications. The MC-130J Commando II aircraft perform clandestine or low visibility, single or multi-ship low-level missions intruding politically-sensitive or hostile territories; provide air refueling for special operations helicopters and CV-22 aircraft; and airdrop of leaflets, insert small special operations teams, resupply bundles and combat rubber raiding craft. The Air Force procures and fields the basic aircraft, common support equipment, and trainers for USSOCOM. An incremental upgrade approach will be used to integrate SOF capabilities onto the aircraft and training systems. SOF capabilities include, but are not limited to, Airborne Mission Networking, data fusion, threat detection and avoidance, integrated terrain following/terrain avoidance, electronic warfare, and embedded training. Integrating and automating SOF mission systems that deliver these capabilities is critical to fielding SOF-capable AC/MC-130J aircraft to recapitalize Air Force Special Operations Command's legacy C-130 fleet.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Title: MC-130J Airborne Mission Networking (AbMN)	7.627	8.936	4.324	-	4.324
Description: AbMN provides aircrew and mission personnel aboard MC-130J aircraft with an integrated networked solution to rapidly and effectively send and receive mission-critical data to/from tactical and operational nodes in the battlespace. Capabilities include, but are not limited to, secure Line-of-Sight/Beyond Line-of-Sight voice/data communications, friendly force identification, mission tracking, threat identification, full-motion video, collaboration, chat, e-mail, and data links. AbMN improves SOF ability to streamline command and control, improve situational awareness, and reduce operational risk through real time exchange of digital information among aircraft, SOF components, and other tactical and operational nodes.					
FY 2018 Plans: Completes system design and conduct test in System Integration Lab (SIL) for ground and flight testing.					
FY 2019 Base Plans: Completes trial installation and begins ground and flight testing.					
FY 2018 to FY 2019 Increase/Decrease Statement:					

Exhibit R-2A, RDT&E Project Justification: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** S875 / *AC/MC-130J*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Decrease of $4.612 million is due to completion of system design and SIL testing in FY 2018.					
Title: AC-130J ***Description:*** Develops, integrates, and tests aircraft enhancements to meet SOF-unique mission requirements. Enhancements include providing PSP aircraft infrastructure development. ***FY 2018 Plans:*** Continue development and tests aircraft modification designs for PSP kit installation. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Decrease of $0.415 million is due to completion of development phase.	0.393	0.415	-	-	-
Title: Integrated Tactical Mission Systems (ITMS) ***Description:*** ITMS resolves aircrew workload by merging SOF mission systems data with green aircraft flight information and automating displays and controls. Capabilities include, but are not limited to, automated route replanning, tactical flight management, integrated aircraft defensive systems, and defensive countermeasures embedded training. ITMS provides reduced aircrews with real-time information and decision-making data for safe terrain following/terrain avoidance flight (MC-130J aircraft) and seamless employment of the Precision Strike Package (AC-130J aircraft). ***FY 2019 Base Plans:*** Begins integration, interoperability risk reduction and test of SOF tactical mission systems, including but not limited to terrain following/terrain avoidance capabilities, situational awareness capabilities, electronic warfare capabilities, and special mission systems (SMS). Begins development of SMS capabilities required to automate tactical mission systems (including, but not limited to, data fusion, threat correlation, machine learning). ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Increase of $12.698 million supports development of an integrated special mission system (SMS) capable of automating SOF tactical mission systems.	-	-	12.767	-	12.767
Accomplishments/Planned Programs Subtotals	8.020	9.351	17.091	-	17.091

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
• PROC/2012C130J: *AC/MC-130J*	68.333	179.934	165.813	-	165.813	170.323	180.730	221.927	285.871	Continuing	Continuing

Exhibit R-2A, RDT&E Project Justification: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** S875 / *AC/MC-130J*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
• PROC/1202PSP: *Precision Strike Package*	227.882	229.728	226.965	-	226.965	228.510	232.704	148.680	66.870	Continuing	Continuing

Remarks

D. Acquisition Strategy

MC-130J AbMN: Award sole source Cost-Plus-Fixed-Fee contract to develop a battlespace information exchange system for the MC-130J consisting of Government/ Commercial-off-the-shelf communications and computing hardware and Government/developmental software. This approach leverages portions of the AC-130J gunship infrastructure design applicable to the MC-130J. After completing developmental and operational flight testing, award a sole source contract for Low Rate Initial Production followed by a competitive Firm-Fixed Price contract for production, aircraft integration, and fielding.

The basic AC-130J aircraft will be acquired under the U.S. Air Force HC/MC-130J Recapitalization procurement program. USSOCOM will fund development, integration, and testing of capability enhancements for SOF-unique mission equipment using an incremental acquisition strategy. Multiple contract awards.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 United States Special Operations Command			Date: February 2018
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160403BB / *Aviation Systems*	Project (Number/Name) S875 / *AC/MC-130J*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
MC-130J Airborne Mission Networking (AbMN)	C/CPFF	Sierra Nevada Corporation : Centenial, CO	-	7.486	Jul 2017	7.954	Dec 2017	1.824	Dec 2018	-		1.824	Continuing	Continuing	-
Integrated Tactical Mission System (ITMS) - Tactical Flight Managment System Development	C/Various	TBD : TBD	-	-		-		6.667	Jan 2019	-		6.667	Continuing	Continuing	-
Prior Year	C/Various	Various : Various	29.906	-		-		-		-		-	Continuing	Continuing	-
		Subtotal	29.906	7.486		7.954		8.491		-		8.491	Continuing	Continuing	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
ITMS - Support	C/Various	Various : Various	-	-		-		1.200	Dec 2018	-		1.200	Continuing	Continuing	-
		Subtotal	-	-		-		1.200		-		1.200	Continuing	Continuing	N/A

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
AC-130J	C/Various	Lockheed Martin : Atlanta, GA	-	0.393	Jan 2017	0.415	Jan 2018	-		-		-	0.000	0.808	-
ITMS - Integration and Test	Allot	USSOCOM Detachment 1 : Eglin AFB, FL	-	-		-		4.900	Jan 2019	-		4.900	Continuing	Continuing	-
MC-130J AbMN Integration and Test	MIPR	USSOCOM Detachment 1 Joint Test Interoperability Command : Eglin AFB, FL	-	0.141	Apr 2017	0.982	Dec 2017	2.500	Dec 2018	-		2.500	Continuing	Continuing	-
		Subtotal	-	0.534		1.397		7.400		-		7.400	Continuing	Continuing	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 United States Special Operations Command			Date: February 2018
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160403BB / *Aviation Systems*	Project (Number/Name) S875 / *AC/MC-130J*	

	Prior Years	FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	29.906	8.020		9.351		17.091		-		17.091	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** S875 / *AC/MC-130J*

MC-130J AbMN Schedule

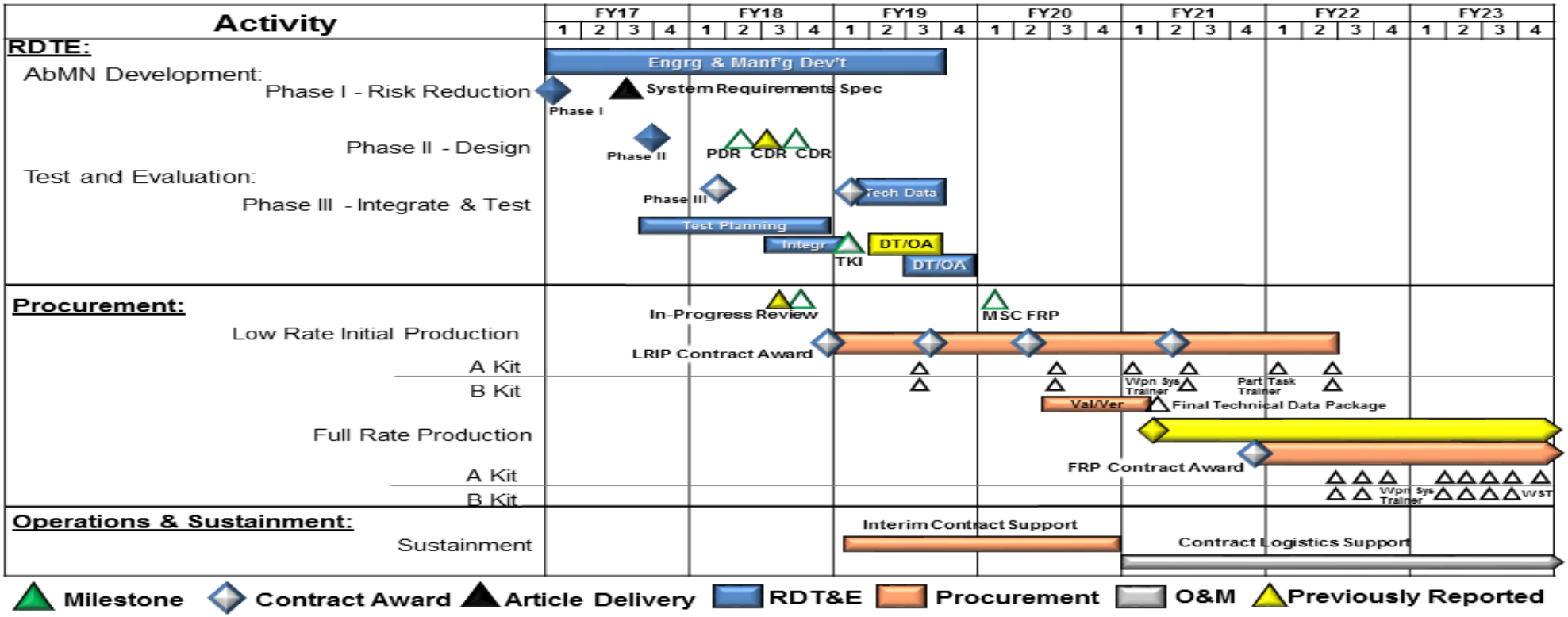

Exhibit R-4, RDT&E Schedule Profile: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** S875 / *AC/MC-130J*

AC-130J/PSP Schedule

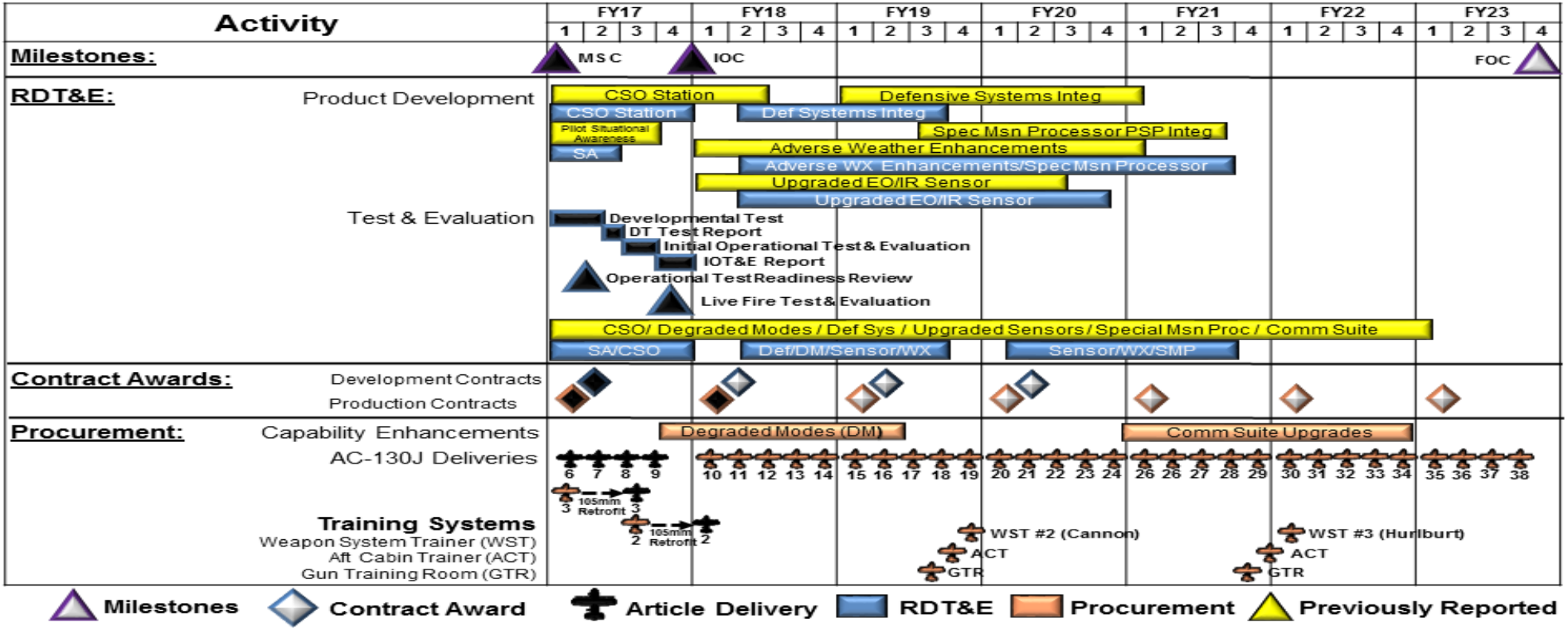

Exhibit R-4, RDT&E Schedule Profile: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** S875 / *AC/MC-130J*

AC/MC-130J Mission Systems and MC-130J Modifications Schedule

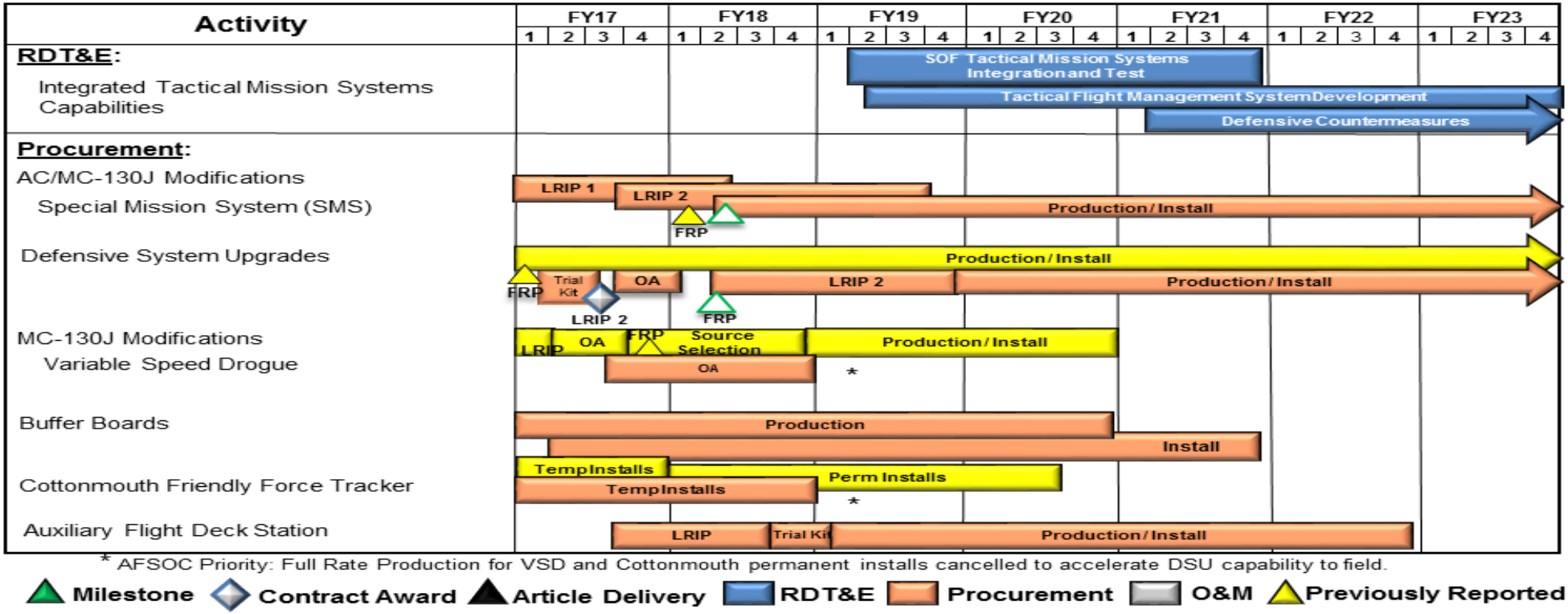

Exhibit R-4A, RDT&E Schedule Details: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** S875 / *AC/MC-130J*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
MC-130J Airborne Mission Networking (AbMN)				
Development and Test	4	2017	3	2019
Trial Kit Installation	1	2019	2	2019
Integrated Tactical Mission Systems (ITMS)				
Tactical Flight Management System Development	2	2019	4	2023
Integration and Test	2	2019	4	2021

Exhibit R-2A, RDT&E Project Justification: PB 2019 United States Special Operations Command			Date: February 2018
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COST ($ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
D615: *Rotary Wing Aviation*	141.399	40.209	52.552	20.010	-	20.010	25.352	17.695	12.574	12.802	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project develops/upgrades Special Operation Forces (SOF) rotary wing aircraft systems that operate in increasingly hostile environments. This project includes modifications to Aircraft Survivability Equipment (ASE) and weapons systems to counter rapidly merging threats, improve lethality and enhance aircraft self-protection. Rotary wing aircraft supported by this project include: A/MH-6M, MH-60M, and MH-47G. These aircraft provide aviation support to SOF in world-wide contingency operations and low-intensity conflicts and they must be capable of rapid deployment, undetected penetration of hostile areas, and operating at extended ranges under adverse weather conditions to infiltrate, provide logistics for, reinforce, and extract SOF. The threat is characterized by an extensive and sophisticated ground based air defense system and an upgraded air-to-air capability targeted against helicopters.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Title: A/MH-6M Block 3.0 Upgrade	13.420	13.384	3.120	-	3.120
Description: Upgrade is necessary to restore structural, performance, and safety margins for the aircrews. An airframe structural modification and/or airframe replacement will address recurring structural failures due to high intensity, high gross weight operations, and a decade of battle damage. A main/tail rotor drive train and engine control improvement efforts will reduce airframe loads and restore sufficient safety and performance margins. An avionics upgrade will replace obsolescent components to the extent possible and provide improved battlefield situational awareness to the aircrews and customers necessary to support time sensitive mission requirements. This upgrade is critical in keeping the A/MH-6M aircraft operational beyond FY 2020 and until a suitable replacement aircraft is available. The non-recurring effort supports development, fabrication of test hardware, qualification of components and systems, and data items to support issuance of Government airworthiness releases for structural and software modifications.					
FY 2018 Plans: Continue software qualification, Airworthiness and Flight Characteristics (A&FC) testing efforts.					
FY 2019 Base Plans: Completes software qualification and A&FC testing efforts.					
FY 2018 to FY 2019 Increase/Decrease Statement:					

Exhibit R-2A, RDT&E Project Justification: PB 2019 United States Special Operations Command		Date: February 2018
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B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Decrease of $10.264 million is due to completion of software and airframe qualification efforts and the government A&FC.					
Title: MH-60M Modifications and Upgrades ***Description:*** Develops technologies to improve safety of the MH-60 and decrease operational costs. Efforts include, but are not limited to, DoD MH-60 engineering changes, product improvements to SOF-unique equipment and munitions during testing. This sub-project also includes modifications to ASE and weapons systems to counter rapidly emerging threats, improve lethality and enhance aircraft self-protection. The MH-60M Block Upgrades provide the development, integration, and qualification efforts on the MH-60 helicopter to include flight test support, engineering analysis, documentation, and airworthiness substantiation. ***FY 2018 Plans:*** Continue integration and testing of technologies to improve safety and decrease operational costs to include aircraft survivability equipment, weapons systems improvement and munitions during testing. Start NRE efforts in support of Upturned Exhaust System (UES) II qualification. ***FY 2019 Base Plans:*** Continues integration and testing of UES II and other technologies to improve safety and decrease operational costs to include aircraft survivability equipment, weapons systems improvement and munitions during testing. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Decrease of $1.297 million was adjusted to account for the availability of prior year execution balances.	0.952	3.479	2.182	-	2.182
Title: Degraded Visual Environment (DVE) ***Description:*** Solution will fuse information from aircraft sensors to display real-time reference points, obstacles, and landing zone information to the aircrew. The DVE solution will provide MH-47/60 aircrews with visual cues for obstacle avoidance and aircraft control during all phases of flight and significantly increase crew and passenger survivability in DVE. This program addresses SOF-unique requirements for rapid fielding and weight limitations, and capitalizes integration of SOF-unique avionics with the unique skills of the SOF aviator. ***FY 2019 Base Plans:*** Completes aircraft integration and testing of the DVE two sensor solution on SOF MH-47 and MH-60. ***FY 2018 to FY 2019 Increase/Decrease Statement:***	9.117	-	1.672	-	1.672

Exhibit R-2A, RDT&E Project Justification: PB 2019 United States Special Operations Command		Date: February 2018
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B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Increase of $1.672 million completes the aircraft integration and testing associated with the design change from a three sensor solution to a two sensor solution.					
Title: Future Vertical Lift (FVL) ***Description:*** Provides for the long-term replacement of an aging fleet of aircraft and provides a significant increase in range, speed, payload, survivability, reliability, and maintainability of vertical lift aircraft to meet emerging mission requirements. USSOCOM will participate in the service-common development of a joint future vertical lift aircraft by injecting USSOCOM requirements and equities into the initial development and design efforts to minimize SOF-unique modifications to the common aircraft. ***FY 2018 Plans:*** Continue to participate in providing guidance and infrastructure necessary for FVL to implement a mission systems architecture that enables the integration of SOF capabilities into the aircraft. ***FY 2019 Base Plans:*** Continues to participate in providing guidance and infrastructure necessary for FVL to implement a mission systems architecture that enables the integration of SOF capabilities into the aircraft. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Decrease of $0.323 million is due to adjustments for Departmental economic assumption ($0.093 million) and a decrease to account for prior year execution balances ($0.230 million).	0.514	1.123	0.800	-	0.800
Title: Infrared Countermeasures (IRCM) ***Description:*** Provides a low Size, Weight, and Power (SWaP) IRCM capability suitable for the A/MH-6 Mission Enhanced Little Bird with potential use on the MH-60 and MH-47 aircraft. The IRCM program will leverage the Department of Navy developed Distributed Aperture Infrared Countermeasure System by integrating and testing a complete lightweight IRCM systems to include a missile warning system and countermeasure capability. The IRCM program includes development of an infrared exhaust suppressor for the A/MH-6. The A/MH-6 is the only tactical aircraft in the SOF inventory without protection from infrared guided and other advanced Man Portable Air Defense missiles. ***FY 2018 Plans:*** Continue qualification testing of missile warning and lightweight IRCM systems for the A/MH-6 aircraft. ***FY 2019 Base Plans:***	3.442	2.277	2.461	-	2.461

Exhibit R-2A, RDT&E Project Justification: PB 2019 United States Special Operations Command		Date: February 2018
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B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Continues qualification testing of missile warning and lightweight IRCM systems for the A/MH-6 aircraft. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Increase of $0.184 million partially funds aircraft testing, addressing SOF-unique hardware and software improvements.					
Title: MH-47 Modifications and Upgrades ***Description:*** Develops technologies to improve performance and safety of the MH-47G and decrease operational costs. Efforts include, but are not limited to, the Active Parallel Actuator System (APAS) and Engine Barrier Filter. This sub-project also includes modifications to ASE and weapons systems to counter rapidly emerging threats and enhance aircraft self-protection. ***FY 2018 Plans:*** Continue APAS development, including integration with MH-47G subsystems. ***FY 2019 Base Plans:*** Continues APAS development, including integration with MH-47G subsystems. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Decrease of $5.416 million is due to lower level of APAS development, including integration with MH-47G subsystems ($1.882 million), a decrease of $0.093 million due to a Departmental economic assumption adjustment and a decrease of $3.441 million is to account for the availability of prior year execution balances.	11.191	10.721	5.305	-	5.305
Title: Mission Processor Upgrades (MPU) ***Description:*** Provides for non-recurring engineering (NRE), systems engineering/testing, and future aircraft architecture studies that support the replacement and upgrade of the current mission and video processors for all Army Special Operations Aviation (ARSOA) rotary wing aircraft. Upgrading all internal processors increases the processing power to support critical functionality and emerging technologies that will be integrated into the Common Avionics Architecture System. This MPU provides the processing and memory resources required to incorporate the following functions into the General Purpose Processing Unit: (1) Global Air Traffic Management replaces ground-based navigation aids with a capability that meets the international requirement that all aircraft be compliant with digital and space-based navigation systems; (2) Cognitive Decision Aiding System fuses information on threat, route, weather, terrain, and friendly forces instantaneously adjusting an aircraft's route to protect the flight crew in hazardous weather, low levels, and night conditions. ***FY 2018 Plans:***	-	5.087	0.362	-	0.362

Exhibit R-2A, RDT&E Project Justification: PB 2019 United States Special Operations Command		Date: February 2018
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B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Begin exploration of the next generation ARSOA cockpit, to include mission video processor development and testing. ***FY 2019 Base Plans:*** Continues exploration of the next generation ARSOA cockpit, to include mission video processor development and testing. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Decrease of $4.494 is due to lower level of exploration of the next generation ARSOA cockpit.					
Title: Aircraft Survivability Equipment (ASE) Upgrades ***Description:*** Develops, integrates, and tests critical active and passive SOF-unique aircraft survivability equipment to counter the acknowledged high proliferation of advanced Surface-to-Air threat systems for the A/MH-6, MH-60, and MH-47. Additionally, these threat systems are technically evolving at an unprecedented rate, requiring rapid counter measure system development and immediate spiraled improvements that will reduce the probability of successful engagement, increase the probability of detecting and countering threat systems, and improve the aircraft's ability to continue operating after sustained battle damage. This program includes development and testing of both new systems and pre-planned product improvements (P3I)/upgrades of fielded survivability equipment, flares, and associated qualification testing. P3I upgrades may include, but are not limited to, expansion of frequency ranges on existing systems, modernization of legacy components, and studies directed at potential "collaborative off-boarding/on-boarding" detect/countermeasure capabilities to provide expanded coverage for aircrews in a high threat environment. ***FY 2018 Plans:*** Begin development of new systems, P3I/upgrades of fielded survivability equipment, and continue development of flare countermeasures. ***FY 2019 Base Plans:*** Continues development of new systems, P3I/upgrades of fielded survivability equipment, and continues development of flare countermeasures. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Decrease of $11.781 million is due to completing the development effort associated with Block I Radio Frequency Countermeasures in FY 2018 ($9.162 million) and a decrease of $2.619 million to account for the availability of prior year execution balances.	1.573	15.889	4.108	-	4.108
Title: Secure Real Time Video	-	0.592	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2019 United States Special Operations Command		Date: February 2018
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B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Description: Ensures that SOF aircrews and operators have access to the latest data collected on the objective enabling them to maintain situational awareness enroute and improve survivability. This project will integrate and test software and hardware improvements to provide SOF helicopters with access to rapidly evolving, real-time Full Motion Video (FMV) intelligence. ***FY 2018 Plans:*** Conduct evaluations of candidate FMV Transceivers having reduced size, weight, and power (SWaP). ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Decrease of $0.592 million is due to higher command priorities.					
Accomplishments/Planned Programs Subtotals	40.209	52.552	20.010	-	20.010

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
• PROC/0201RWUPGR: *Rotary Wing Upgrades and Sustainment*	164.596	158.988	148.351	-	148.351	143.788	149.300	152.009	155.215	Continuing	Continuing
• 0201MH60: *MH-60 Blackhawk*	18.600	-	0.000	27.600	27.600	-	-	-	-	953.413	953.413
• 0601MH47: *MH-47 Chinook*	29.022	97.615	167.533	-	167.533	174.617	175.266	178.771	182.346	Continuing	Continuing

Remarks

D. Acquisition Strategy

• A/MH-6M Block 3.0 Upgrade comprises of two distinct efforts: airframe and avionics upgrades. Additionally within the airframe upgrade, there are two sub efforts (new rotor blades/flight control kits and new integrated airframe shells). The airframe efforts (new rotor blades/flight control kits and new shells) will be a sole-source contract to Boeing, owner of the technical data associated with the A/MH-6 airframes. The cockpit avionics architecture will be developed by Rockwell-Collins. Any new hardware components will be Non Developmental Item/Commercial-Off-The-Shelf to the extent possible and will be competitively selected. Airframe modification and integration work will be conducted at the Special Operations Forces Support Activity (SOFSA) by the incumbent contractor.

• MH-60M Modifications and Upgrades supports systems integration and qualification efforts on the prototype MH-60M helicopter. This includes, but is not limited to, government and contractor flight test support, engineering analysis, documentation, and airworthiness substantiation. Airframe modification and integration work will be conducted at SOFSA by the incumbent contractor.

• MH-60M Block Upgrades are accomplished for 72 MH-60M base aircraft with various contractors and acquisition vehicles. The SOFSA executes SOF-unique upgrade modifications onto the MH-60M base aircraft.

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• DVE integrates and qualifies a solution to address a safety of flight issue while flying in DVE. A competitive source selection process was conducted for the DVE solution which will procure, integrate, and install components to provide real-time “see through” imagery and visual cues for obstacle avoidance and landing zone information during all phases of flight.

• FVL is the SOF aviation participation in the Joint FVL effort to develop the next generation of vertical takeoff and landing aircraft and establishes the foundation for the transformation of DOD vertical lift aviation capabilities over the next forty years.

• IRCM integrates a mission configurable Missile Warning System and IRCM capability at a weight suitable for the A/MH-6 aircraft. Procurement of systems for integration and test will leverage Department of Navy IRCM development efforts and contracts. The Government will integrate the systems onto the A/MH-6 utilizing existing aircraft modification contracts.

• MH-47 Modifications and Upgrades will develop technologies to improve performance and safety of the MH-47G and decrease operational costs. Efforts include the APAS and Engine Barrier Filter. The upgrades and modifications mostly consist of Government executed integration, testing, and qualification efforts with some analytical engineering services to be completed.

• MPU - Provides for future cockpit architecture studies that will help define the replacement of current mission and video processors for all ARSOA platforms. Additionally it will address near term required upgrades to existing components. Potential upgrades will be through existing OEMs, while the future cockpit architecture studies will be competitively awarded.

• The ASE Upgrades program develops and tests both new systems and pre-planned product improvements/upgrades of fielded survivability equipment and flares. For new systems, other services’ development and testing contracts are leveraged to the maximum extent possible. Upgrades of fielded equipment are typically accomplished by the OEM.

• The SRTV project integrates and tests software and hardware improvements to provide SOF helicopters with access to rapidly evolving, real-time FMV intelligence. A variety of contracting methods will be used for acquiring test assets, accomplishing SOF-unique modifications and testing to include use of other services’ contracts, competition, sole source awards, and directed efforts of government organizations.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 United States Special Operations Command			Date: February 2018
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Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Degraded Visual Environment (DVE)	C/Various	PM TAPO : Fort Eustis, VA	37.301	9.117	Sep 2017	-		1.672	Apr 2019	-		1.672	0.000	48.090	-
MH-47 Modifications and Upgrades	C/Various	PM TAPO : Fort Eustis, VA	17.826	11.191	Oct 2016	10.721	Nov 2017	5.305	Nov 2018	-		5.305	Continuing	Continuing	-
Aircraft Survivability Equipment (ASE) Upgrades	C/Various	PM TAPO : Fort Eustis, VA	-	1.573	Nov 2017	15.889	Mar 2018	4.108	Mar 2019	-		4.108	Continuing	Continuing	-
Secure Real Time Video	C/Various	PM TAPO : Fort Eustis, VA	-	-		0.592	Feb 2018	-		-		-	Continuing	Continuing	-
Prior Years Funding	C/Various	PM MELB : Fort Eustis, VA	59.820	-		-		-		-		-	Continuing	Continuing	-
		Subtotal	114.947	21.881		27.202		11.085		-		11.085	Continuing	Continuing	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Future Vertical Lift	C/Various	PEO-RW : MacDill AFB, FL	1.605	0.514	Feb 2017	1.123	Feb 2018	0.800	Feb 2019	-		0.800	Continuing	Continuing	-
		Subtotal	1.605	0.514		1.123		0.800		-		0.800	Continuing	Continuing	N/A

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
A/MH-6M Block 3.0 Upgrades	C/Various	PM MELB : Fort Eustis, VA	-	13.420	Dec 2016	13.384	Nov 2017	3.120	Nov 2018	-		3.120	Continuing	Continuing	-
MH-60M Modification and Upgrades	C/Various	Various : Various	-	0.952	Mar 2017	3.479	Apr 2018	2.182	Apr 2019	-		2.182	Continuing	Continuing	-
IRCM Integration and Testing	C/Various	PM TAPO : Fort Eustis, VA	-	3.442	Jun 2017	2.277	Feb 2018	2.461	Feb 2019	-		2.461	Continuing	Continuing	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 United States Special Operations Command			Date: February 2018
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Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
MPU	C/Various	PM TAPO : Fort Eustis, VA	-	-		5.087	Apr 2018	0.362	Apr 2019	-		0.362	Continuing	Continuing	-
Prior Years Funding	C/Various	Various : Various	24.847	-		-		-		-		-	0.000	24.847	-
		Subtotal	24.847	17.814		24.227		8.125		-		8.125	Continuing	Continuing	N/A

	Prior Years	FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	141.399	40.209		52.552		20.010		-		20.010	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2019 United States Special Operations Command		Date: February 2018
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A/MH-6 Program Schedule

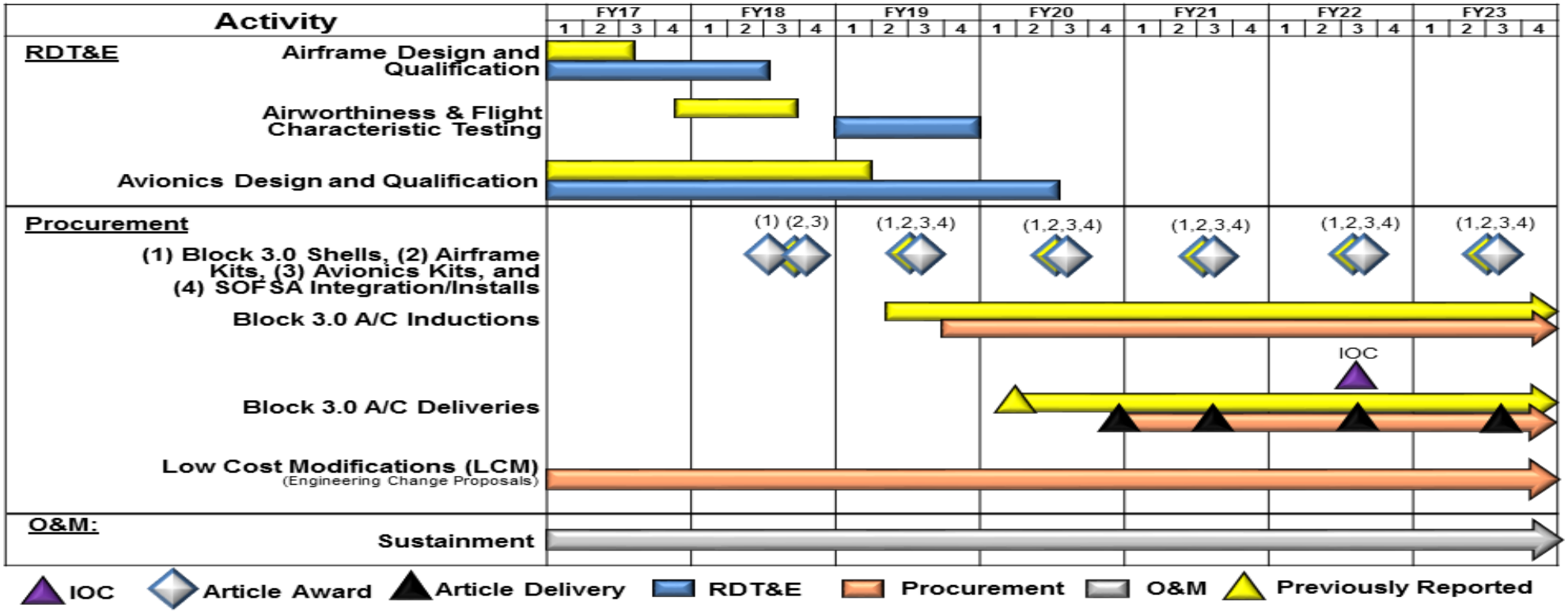

Exhibit R-4, RDT&E Schedule Profile: PB 2019 United States Special Operations Command		Date: February 2018
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MH-60M Program Schedule

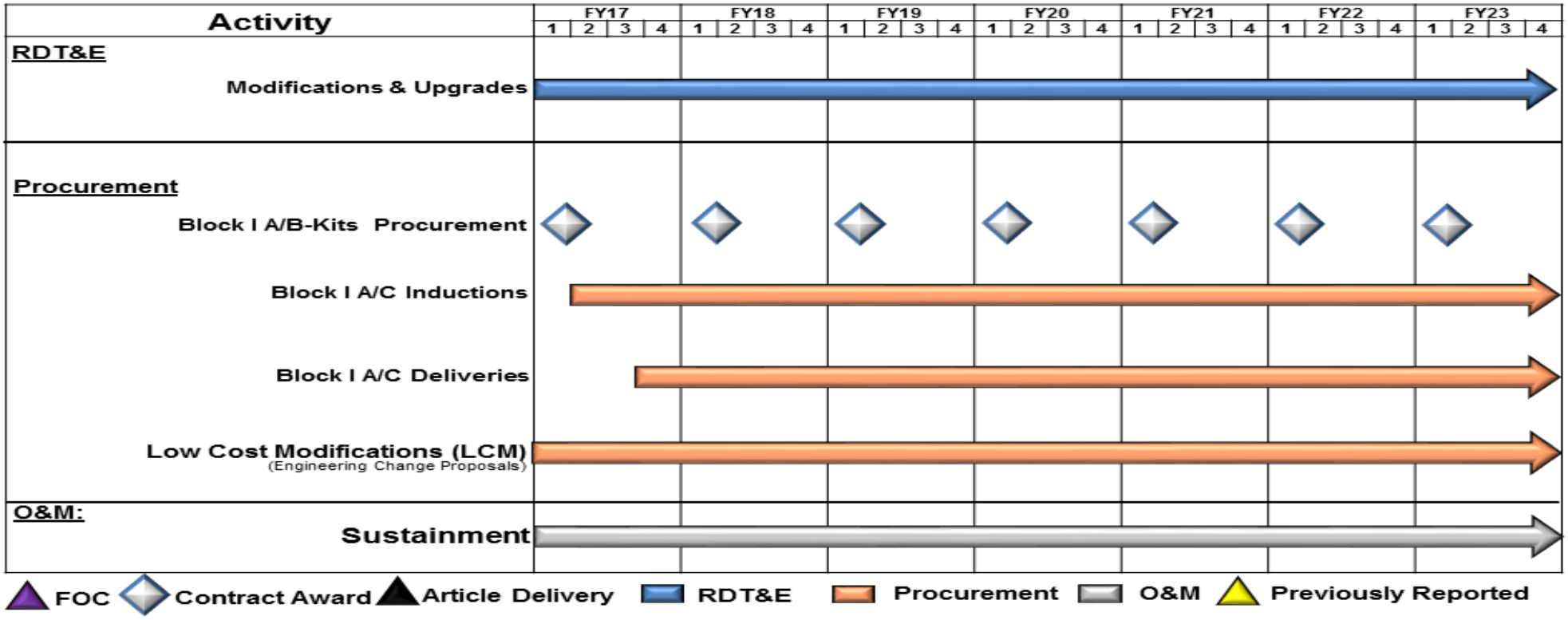

Exhibit R-4, RDT&E Schedule Profile: PB 2019 United States Special Operations Command		Date: February 2018
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Degraded Visual Environment Schedule

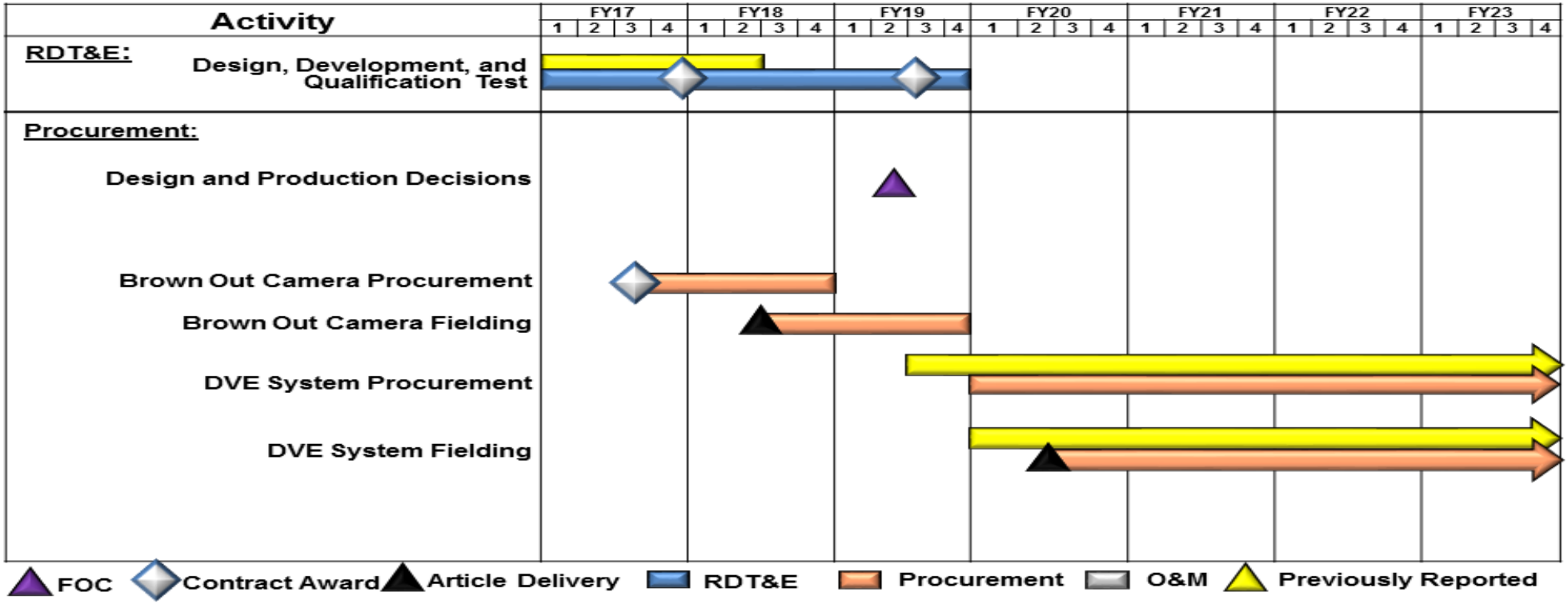

Exhibit R-4, RDT&E Schedule Profile: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** D615 / *Rotary Wing Aviation*

Future Vertical Lift Schedule

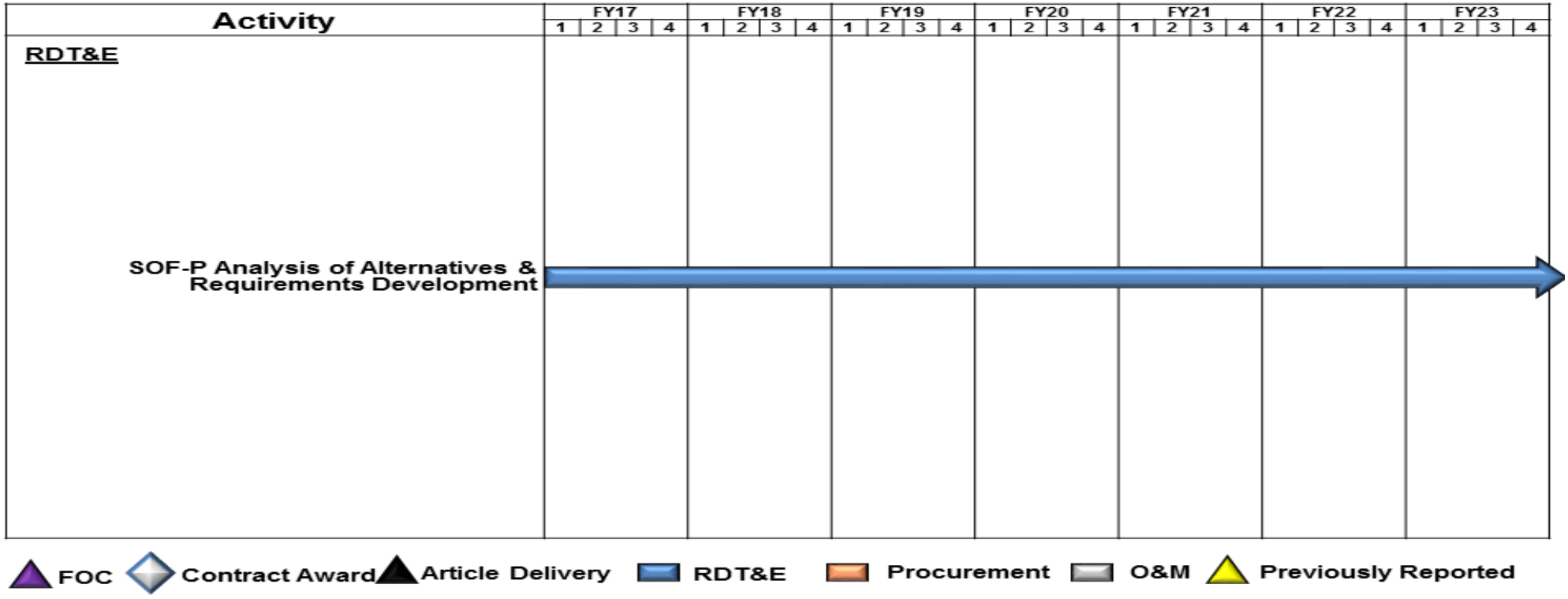

Exhibit R-4, RDT&E Schedule Profile: PB 2019 United States Special Operations Command		Date: February 2018
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MH-47 Chinook Renew Schedule

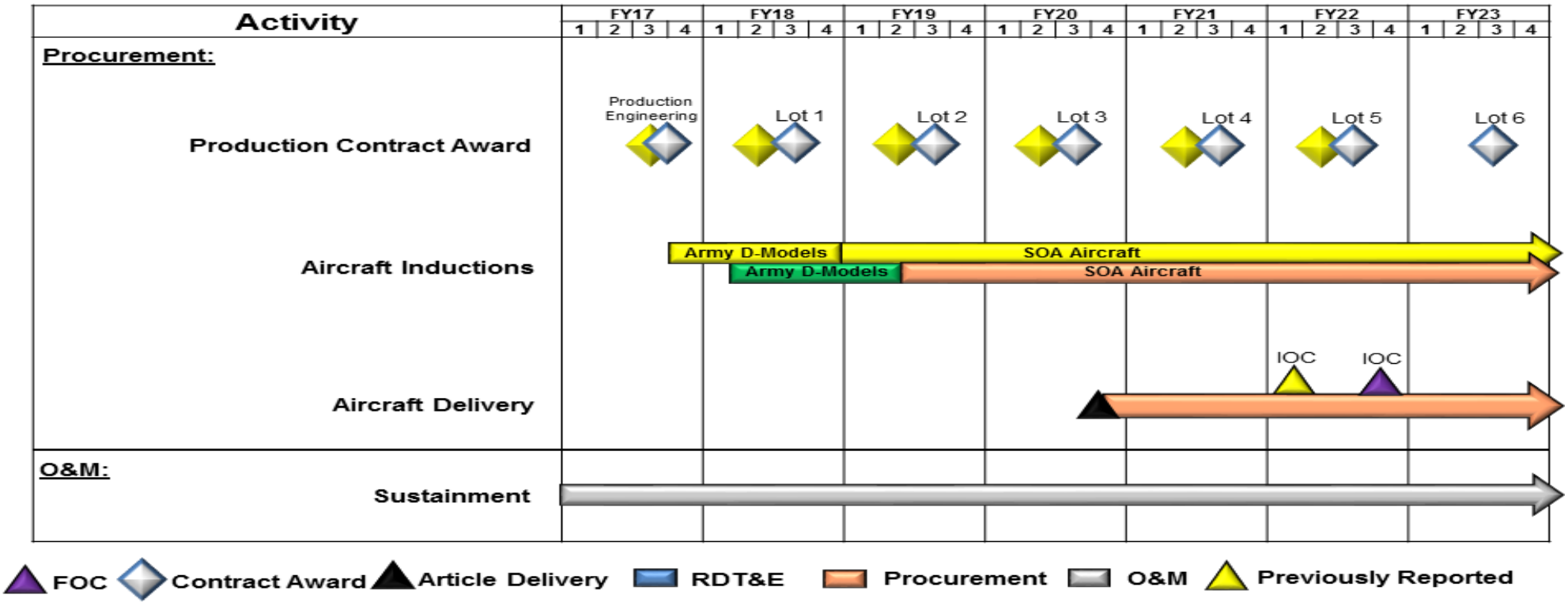

Exhibit R-4, RDT&E Schedule Profile: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** D615 / *Rotary Wing Aviation*

Mission Processor Upgrades Schedule

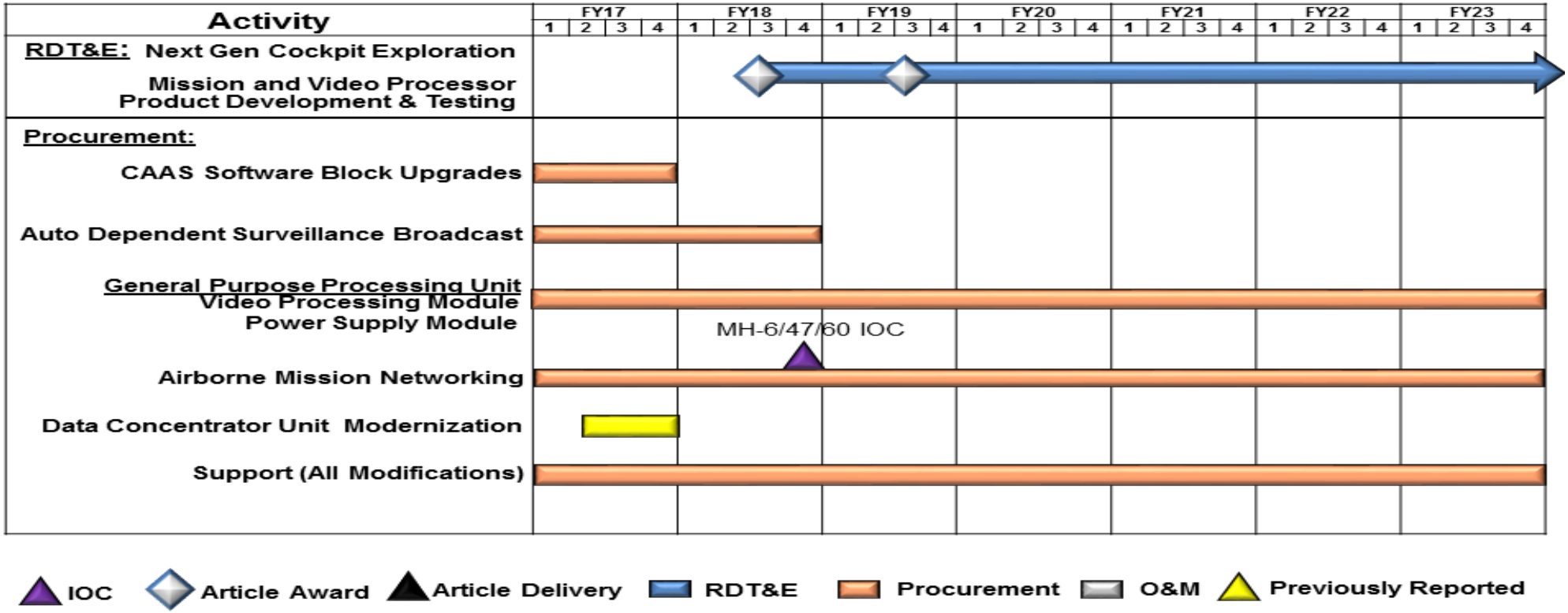

Exhibit R-4, RDT&E Schedule Profile: PB 2019 United States Special Operations Command		Date: February 2018
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Aircraft Survivability Equipment Schedule

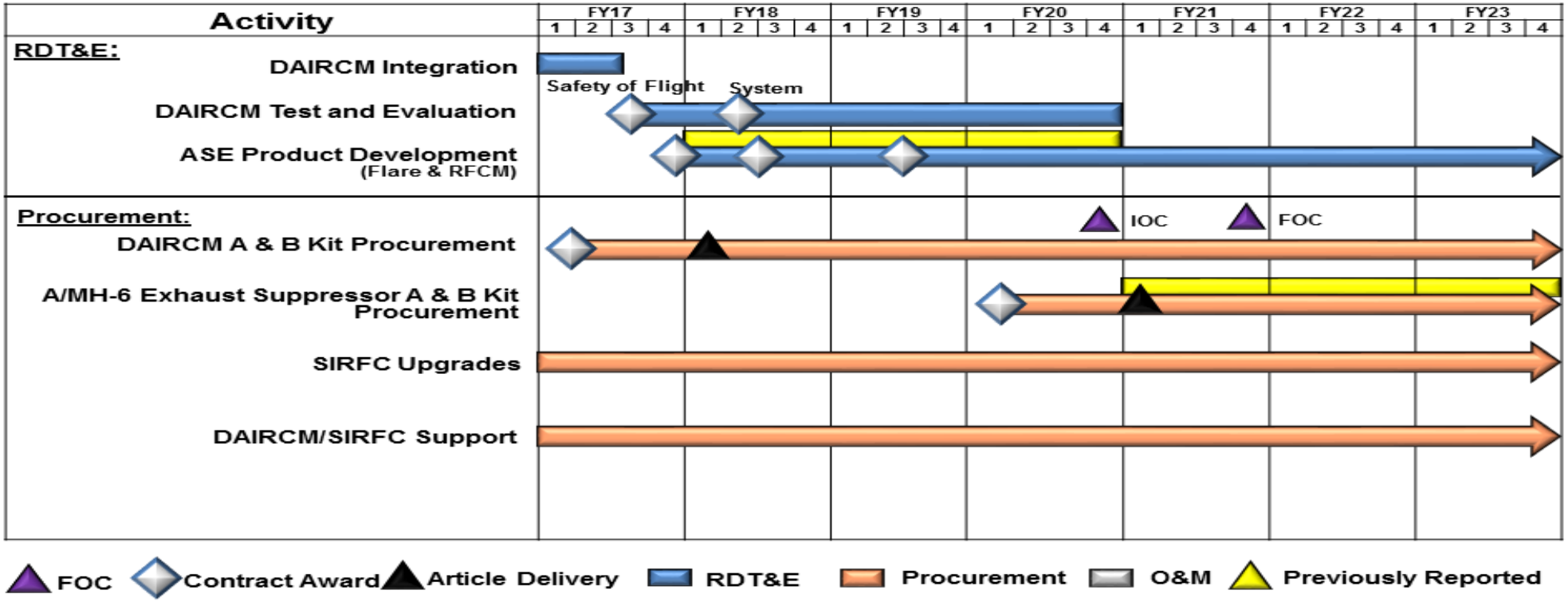

Exhibit R-4, RDT&E Schedule Profile: PB 2019 United States Special Operations Command		Date: February 2018
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Secure Real Time Video Schedule

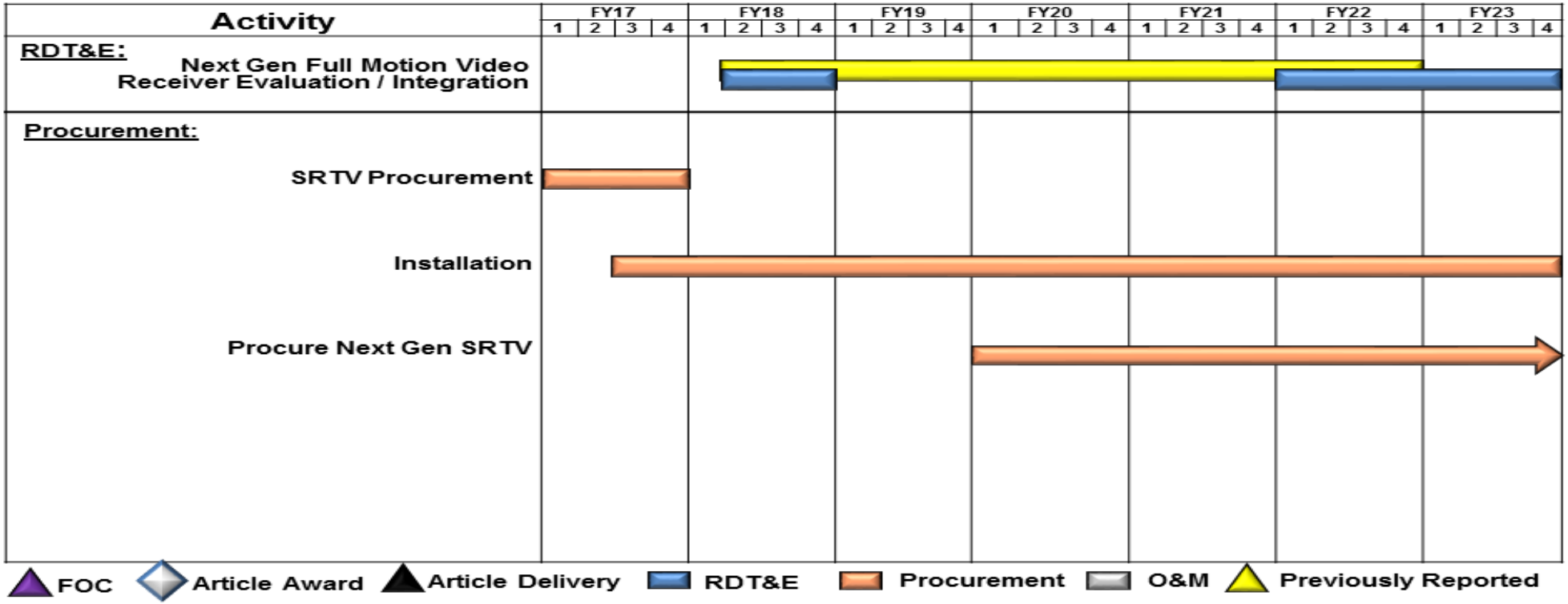

Exhibit R-4A, RDT&E Schedule Details: PB 2019 United States Special Operations Command		Date: February 2018
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Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
A/MH-6M Block 3.0				
Airframe Design and Qualification	1	2017	3	2018
Airworthiness and Flight Characteristics	3	2018	4	2019
Avionics Design, Test, and Qualification	1	2017	4	2020
MH-60M Modifications and Block Upgrades				
Modifications and Upgrades	1	2017	4	2023
Integration and Flight Test Qualification	1	2017	4	2017
Degraded Visual Environment				
Design, Development, and Qualification	4	2017	4	2021
Future Vertical Lift				
SOF-P Analysis of Alternatives/Requirements Development	1	2017	4	2023
MH-47 Block Upgrades				
Development of Modifications and Upgrades	1	2017	4	2023
Mission Processor Upgrades				
Mission and Video Processor Development and Testing	3	2018	4	2023
Aircraft Survivability Equipment				
IRCM Integration	1	2017	3	2017
IRCM Test and Evaluation	1	2017	4	2020
ASE Product Development	1	2017	4	2023
Secure Real Time Video				
Development of Next Generation SRTV	2	2018	4	2018

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Exhibit R-2, RDT&E Budget Item Justification: PB 2019 United States Special Operations Command	Date: February 2018
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 1160405BB / *Intelligence Systems Development*

COST ($ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
Total Program Element	570.242	5.803	8.245	10.625	-	10.625	9.094	9.030	8.898	9.070	Continuing	Continuing
S400: *SO Intelligence Systems*	570.242	5.803	8.245	10.625	-	10.625	9.094	9.030	8.898	9.070	Continuing	Continuing

A. Mission Description and Budget Item Justification

This program element is part of the Military Intelligence Program (MIP) that provides for the identification, development, and testing of Special Operations Forces (SOF) intelligence equipment to identify and eliminate deficiencies in providing timely intelligence to deployed forces. Sub-projects address the primary areas of intelligence dissemination, sensor systems, tagging, tracking, and locating devices, integrated threat warning to SOF mission platforms, biometric/forensic site exploitation and tactical exploitation of national system capabilities. USSOCOM has developed an overall strategy to ensure that Command, Control, Communications, Computers, and Intelligence (C4I) systems continue to provide SOF with the required capabilities into the 21st century. USSOCOM's C4I systems comprise an integrated network of systems providing positive command and control and timely exchange of intelligence and threat warning to all organizational echelons. The C4I systems that support this new architecture employ the latest standards and technology by transitioning from separate systems to full integration with the Global Information Grid (GIG). The GIG allows SOF elements to operate with any force combination in multiple environments.

B. Program Change Summary ($ in Millions)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Previous President's Budget	9.858	8.245	8.113	-	8.113
Current President's Budget	5.803	8.245	10.625	-	10.625
Total Adjustments	-4.055	0.000	2.512	-	2.512
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-3.900	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-0.155	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-	-	2.512	-	2.512

Change Summary Explanation

Funding:

FY 2017: Decrease of -$4.055 million is due to Congressional directed reductions to the Joint Threat Warning System (-$2.000 million), the National System Support to SOF (-$1.900 million) programs and a reprogramming of $0.155 million to higher command priorities.
FY 2018: None.

Exhibit R-2, RDT&E Budget Item Justification: PB 2019 United States Special Operations Command	Date: February 2018
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 1160405BB / *Intelligence Systems Development*

FY 2019: Net Increase of $2.512 million due to an increase of $0.250 million for the Maritime Combat Development of Special Reconnaissance Equipment, a decrease of $0.778 million to account for the availability of prior year execution balances, a decrease of $0.060 million to reflect Departmental economic assumption decrease and an increase of $3.100 million for Special Operations Forces Planning, Rehearsal and Execution Preparation efforts.

Schedule: None.

Technical: None.

Exhibit R-2A, RDT&E Project Justification: PB 2019 United States Special Operations Command			Date: February 2018
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160405BB / *Intelligence Systems Development*	Project (Number/Name) S400 / *SO Intelligence Systems*	

COST ($ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
S400: *SO Intelligence Systems*	570.242	5.803	8.245	10.625	-	10.625	9.094	9.030	8.898	9.070	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This sub-project is part of the Military Intelligence Program (MIP). Provides for the identification, development, and testing of Special Operations Forces (SOF) intelligence equipment to identify and eliminate deficiencies in providing timely intelligence to deployed forces. Sub-projects address the primary areas of intelligence dissemination, sensor systems, tagging, tracking, and locating devices, integrated threat warning to SOF mission platforms, and tactical exploitation of national system capabilities. The systems developed and tested in this line item are National Systems Support to SOF (NSSS); Joint Threat Warning System (JTWS); Hostile Forces - Tagging, Tracking, and Locating (HF-TTL); Special Operations Tactical Video System/Reconnaissance, Surveillance, and Target Acquisition (TVS/RSTA); Special Operations Forces Planning, Rehearsal and Execution Preparation (SOFPREP); Integrated Survey Program (ISP); and Sensitive Site Exploitation (SSE).

U.S. Special Operations Command (USSOCOM) has developed an overall strategy to ensure that Command, Control, Communications, Computers, and Intelligence (C4I) systems continue to provide SOF with the required capabilities throughout the 21st century. USSOCOM's C4I systems comprise an integrated network of systems providing positive command and control and timely exchange of intelligence and threat warning to all organizational echelons. The C4I systems that support this new architecture employ the latest standards and technology by transitioning from separate systems to full integration with the Global Information Grid (GIG). The GIG allows SOF elements to operate with any force combination in multiple environments. The intelligence programs funded in this project will meet annual emergent requirements and are grouped by the level of organizational element they support: Operational Element (Team) and Above Operational Element (Garrison).

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Title: NSSS	0.816	0.832	0.849	-	0.849
Description: This program provides research and development and rapid prototyping as the HQ SOCOM Tactical Exploitation of National Capabilities (TENCAP) program. NSSS improves the combat effectiveness of USSOCOM, its components, and the Theater Special Operations Commands (TSOC) by leveraging National Geospatial-Intelligence (NGA) and Service development efforts to provide innovative space-based intelligence systems technologies and enhancements, products and special communications capabilities to tactical SOF units to include Geospatial Intelligence (GEOINT), Signals Intelligence (SIGINT), Special Communications, and intelligence fusion, reporting, and dissemination. NSSS efforts are characterized by rapid development, fielding and deployment, and focus on transitioning to SOCOM Programs of Records (POR). These developmental efforts usually support SOCOM's existing Military Intelligence Programs. NSSS will also improve SIGINT capabilities by pursuing Joint Interface Control Document 4.x and follow-on compliant SIGINT capabilities, extending SOCOM's cross-domain security infrastructure by adding unclassified sensors into theater net-centric					

Exhibit R-2A, RDT&E Project Justification: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160405BB / *Intelligence Systems Development*	**Project (Number/Name)** S400 / *SO Intelligence Systems*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
geo-location architecture, improve detection of Low-Probability of Intercept/Low Probability of Detection signals, and automate radar characterizations that enhance tactical SOF capabilities to find, fix, monitor, and target assets using NTM. ***FY 2018 Plans:*** Continue development of SOF-required prototype capabilities, primarily through leveraging current or developing technologies and assets in the Intelligence Community (IC), while coordinating with SOCOM and IC Programs of Record for production and operational fielding of the successful capabilities. Emphasize areas to include ISR support for Tagging, Tracking, and higher-accuracy geo-locating of hostile and friendly forces, especially in low sensor density environments. ***FY 2019 Base Plans:*** Continues development of SOF-required prototype capabilities, primarily through leveraging current or developing technologies and assets in the Intelligence Community (IC), while coordinating with SOCOM and IC Programs of Record for production and operational fielding of the successful capabilities. Emphasizes areas to include ISR support for Tagging, Tracking, and higher-accuracy geo-locating of hostile and friendly forces, especially in low sensor density environments. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Increase of $0.017 million due project funding adjustments.					
Title: JTWS ***Description:*** The JTWS System of Systems (SoS) enables the SOF Cryptologic Operator to collect, process, locate and exploit threat communications signals of interest in order to provide timely, relevant, and responsive intelligence, cross-cueing, and threat avoidance information directly to the SOF Commanders. The JTWS SoS is assembled in four variants: Ground SIGINT Kit; Maritime; Air; and UAS. Each variant has additional requirements for Communications Intelligence, Electronic Intelligence, and Precision Geo-location. ***FY 2018 Plans:*** Continue evaluating interoperability of technologies on JTWS variants as well as continue testing of the various system of systems. Continue technical evaluation of evolving technologies for all variants in order to provide additional capabilities to address emerging threats. Begin modular/scalable open architecture D&T. ***FY 2019 Base Plans:***	3.093	5.335	4.532	-	4.532

Exhibit R-2A, RDT&E Project Justification: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160405BB / *Intelligence Systems Development*	**Project (Number/Name)** S400 / *SO Intelligence Systems*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Continues evaluating interoperability of technologies on JTWS variants as well as continue testing of the various system of systems. Continues technical evaluation of evolving technologies for all variants in order to provide additional capabilities to address emerging threats. Continues modular/scalable open architecture D&T. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Decrease of $0.803 million is a realignment to higher command priorities.					
Title: HF-TTL ***Description:*** This program utilizes a commodity procurement strategy to provide SOF warfighters with the necessary tools to find, fix, and finish terrorist networks through the emplacement of sophisticated tags and devices that feed into an integrated architecture. HF-TTL provides Global Combatant Commanders (GCC) and SOF operators with an immediate capability to tag, track, and locate people, things, and activities. The HF-TTL program provides actionable intelligence for SOF planners. The mission sets comprise a mix of different classes of tags and their associated detection, interrogation, viewing, tracking, and communications systems that are fielded annually to SOF Components and TSOC based upon dynamic and emergent SOF operational requirements. ***FY 2018 Plans:*** Continue specialized device modifications, product development support, integration and operational testing and evaluation. ***FY 2019 Base Plans:*** Continues specialized device modifications, product development support, integration and operational testing and evaluation. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Decrease of $0.102 million due to minor adjustments.	0.801	0.811	0.709	-	0.709
Title: TVS/RSTA ***Description:*** This program provides SOF with critical Special Reconnaissance (SR) equipment that directly supports the planning and execution of SOF missions. This capability allows the SOF warfighter to meet SOF SR mission requirements to find, fix, finish, exploit, analyze, and disseminate information of an adversary's movement, construct, identification, location; and associated activities. TVS/RSTA provides GCC and SOF operators with an immediate capability to visually and electronically acquire people, things, and activities and provides actionable intelligence for SOF planners and Commanders. The program Family of Systems (FoS)	0.370	0.393	0.564	-	0.564

Exhibit R-2A, RDT&E Project Justification: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160405BB / *Intelligence Systems Development*	**Project (Number/Name)** S400 / *SO Intelligence Systems*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
consists of interoperable equipment to capture and transfer near-real-time ground-based, tactical day/night/ reduced visibility, imagery, video, and electronic proximity and movement sensing, all capable of dissemination through SOF organic, global C4I, and commercial communications infrastructures. ***FY 2018 Plans:*** Continue specialized device modifications, integration and operational testing and evaluation. ***FY 2019 Base Plans:*** Continues specialized device modifications, integration and operational testing and evaluation. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Net increase of $0.171 million due to re-phasing of effort into FY 2019 for prior year under-execution ($0.022) and $0.149 million in support of the Maritime Combat Development of Special Reconnaissance Equipment.					
Title: SOFPREP ***Description:*** This program serves as the intelligence focal point for production of SOF enhanced GEOINT (maps, imagery, and terrain data) and 3D scene visualization databases. SOFPREP gathers, processes, exploits, disseminates, and manages classified high resolution 3D databases and GEOINT data in support of SOF training, mission rehearsal, and execution preparation systems. The program builds the SOF common geospatial environment and manages the authoritative database of SOF-specific GEOINT terrain data. SOFPREP is a NGA-certified co-producer in support of time-sensitive SOF specific requirements. ***FY 2018 Plans:*** Continue testing and evaluation of operational prototype systems to speed production of correlated high resolution 3D geospatial databases. ***FY 2019 Base Plans:*** Continues testing and evaluation of operational prototype systems to speed production of correlated high resolution 3D geospatial databases. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Net Increase of $3.085 million due to a decrease of $0.015 million due to realignments for higher command priorities and an increase of $3.100 million for Prototype emerging technologies to advance the applications of cutting edge computer vision, image processing, and quantum computing.	0.439	0.291	3.376	-	3.376
Title: ISP	0.127	0.402	0.409	-	0.409

Exhibit R-2A, RDT&E Project Justification: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160405BB / *Intelligence Systems Development*	**Project (Number/Name)** S400 / *SO Intelligence Systems*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Description: This program collects and produces current, detailed, tactical planning data to support military operations to counter threats against U.S. citizens, interests, and property located both domestically and overseas. ISP products are specifically tailored packages that provide operational information, as well as intelligence data for use by DOD and the U.S. Department of State to support operational planners for counter-terrorism operations, evacuations, and other rescue missions. ***FY 2018 Plans:*** Continue development of ISP system and products to integrate with enterprise architecture and support the latest standards and technology. ***FY 2019 Base Plans:*** Continues development of ISP system and products to integrate with enterprise architecture and support the latest standards and technology. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Increase of $0.007 million is due to miscellaneous increases in testing efforts.					
Title: SSE ***Description:*** This program provides the capability to exploit personnel, documents, electronic data, material, and forensic evidence on sensitive sites/objectives. Biometric kits allow collection and transmission of unique, measurable biometric signatures from personnel, including live/latent fingerprints, iris patterns, and facial features. It also provides a means to verify against and enroll subjects into the DOD authoritative database, and to query that database to support hold or release decisions. Forensic kits enable on-objective linking of events to specific persons through chemical analysis, latent fingerprints, cell phones and computer data analysis, and deoxyribonucleic acid collection. Exploitation Analysis Centers provide theater-level mobile forensic capabilities for more in-depth exploitation of captured evidence. ***FY 2018 Plans:*** Continue technical evaluation of new technologies. ***FY 2019 Base Plans:*** Continues technical evaluation of new technologies. ***FY 2018 to FY 2019 Increase/Decrease Statement:***	0.157	0.181	0.186	-	0.186

Exhibit R-2A, RDT&E Project Justification: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160405BB / *Intelligence Systems Development*	**Project (Number/Name)** S400 / *SO Intelligence Systems*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Increase of $0.005 million is due to adjustments in testing requirements.					
Accomplishments/Planned Programs Subtotals	5.803	8.245	10.625	-	10.625

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
• PROC/020400INTL: *Intelligence Systems*	104.080	94.538	85.699	16.500	102.199	99.067	105.269	115.679	121.879	Continuing	Continuing

Remarks

D. Acquisition Strategy

• NSSS introduces and integrates national systems capabilities into the SOF force structure and operations. This is accomplished by partnering with existing IC POR to incorporate SOF mission requirements into current and developing technologies and assets. This leveraging of funds increases national and commercial systems awareness, demonstrates the tactical utility of national systems and commercial data, tests technologies and evaluates operational concepts in biennial Joint Staff Special Projects, and allows for the transition of promising concepts and technologies to other SOF program offices for execution.

• JTWS is a SoS leveraging commercial technologies and partnerships with other government agencies. The POR will identify Commercial Off The Shelf (COTS)/ Government Off The Shelf capabilities requiring minimal modifications and only use new development when necessary. JTWS will address the continuously evolving threat environments on the Ground, Air, Maritime, and Unmanned Aircraft System variants, leverage existing partnerships with the National Security Agency and other government partners to integrate and sustain systems based on prioritized need from the Components and as emerging threats require technology modernizations. Additionally, the POR will work to find common solutions across the variants and increase interoperability in order to reduce duplication of efforts. The contracting strategy is a mixture of full and open competition for prime integrators and leveraging existing Indefinite Delivery/Indefinite Quantity (IDIQ) contracts for COTS procurement.

• HF-TTL utilizes a commodity procurement acquisition strategy to provide highly sophisticated TTL and close target audio/video devices capable of operating in various environments as needed to meet SOF operational requirements. Commercial and government agency sources will be leveraged for required certifications, device level modifications, integration, functional, and operational testing and evaluations.

• TVS/RSTA employs an evolutionary strategy to incorporate the latest state of technology within its product line to provide upgraded next-generation technology insertion of COTS systems and address the changing threat environment to meet SOF reconnaissance and surveillance mission requirements. Commercial and government agency sources will be leveraged for required certifications, system level integration, functional, and operational testing and evaluations.

Exhibit R-2A, RDT&E Project Justification: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160405BB / *Intelligence Systems Development*	**Project (Number/Name)** S400 / *SO Intelligence Systems*

• SOFPREP employs an evolutionary strategy to insert emerging technologies for processing, exploitation and dissemination capabilities tailored to SOF user-defined mission requirements. Commercial and government agency sources are leveraged for required certifications, system level integration, functional, and operational testing and evaluations.

• ISP employs an evolutionary strategy to insert emerging technologies for collection, processing, exploitation and dissemination capabilities tailored to SOF user-defined mission requirements. Commercial and government agency sources are leveraged for required certifications, system level integration, functional, and operational testing and evaluations.

• SSE uses a commodity procurement acquisition strategy to provide next-generation technologies for collection, processing, exploitation and dissemination capabilities supporting SOF exploitation mission requirements. Commercial and government agency sources are leveraged for required certifications, system level integration, functional, and operational testing and evaluations.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160405BB / *Intelligence Systems Development*	**Project (Number/Name)** S400 / *SO Intelligence Systems*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
National Systems Support to SOF (NSSS)	MIPR	Various : Various	15.947	0.816	Feb 2017	0.832	Feb 2018	0.849	Feb 2019	-		0.849	Continuing	Continuing	-
Joint Threat Warning System (JTWS)-Air Increment 2	MIPR	SPAWAR : Charleston, SC	7.103	0.702	Feb 2017	0.428	Feb 2018	0.500	Feb 2019	-		0.500	Continuing	Continuing	-
JTWS-Ground Sigint Kit (GSK), Inc 2	C/CPFF	Various : Various	20.643	0.290	Feb 2017	0.932	Apr 2018	0.500	Apr 2019	-		0.500	Continuing	Continuing	-
JTWS-Maritime	C/CPFF	Various : Various	8.261	1.079	Apr 2017	0.871	Apr 2018	0.479	Apr 2019	-		0.479	Continuing	Continuing	-
JTWS-All Variants	MIPR	Various : Various	2.291	0.413	Apr 2017	0.000	Feb 2018	0.393	Apr 2019	-		0.393	Continuing	Continuing	-
Integrated Survey Program	C/FFP	Various : Various	0.403	0.127	Jan 2017	0.402	Jan 2018	0.409	Jan 2019	-		0.409	Continuing	Continuing	-
Hostile Forces-Tagging Tracking, and Locating (HF-TTL)	C/CPFF	Various : Various	1.215	0.516	Feb 2017	0.597	Feb 2018	0.489	Feb 2019	-		0.489	Continuing	Continuing	-
Special Operations Forces Planning, Rehearsal & Execution Preparation (SOPREP)	C/Various	Various : Various	-	-		-		1.868	Feb 2019	-		1.868	Continuing	Continuing	-
Prior Year Funding - Completed Efforts	Various	Various : Various	461.047	-		-		-		-		-	Continuing	Continuing	-
		Subtotal	516.910	3.943		4.062		5.487		-		5.487	Continuing	Continuing	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
JTWS Modular/Scalable D&T	C/CPFF	TBD : TBD	-	-		3.104	Apr 2018	2.360	Apr 2019	-		2.360	Continuing	Continuing	-
Prior Year Funding - Completed Efforts	Various	Various : Various	8.296	-		-		-		-		-	Continuing	Continuing	-
		Subtotal	8.296	-		3.104		2.360		-		2.360	Continuing	Continuing	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 United States Special Operations Command			Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160405BB / *Intelligence Systems Development*	**Project (Number/Name)** S400 / *SO Intelligence Systems*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
JTWS	MIPR	JITC : FT Huachuca, AZ	6.985	0.609	Jan 2017	-		0.300	Jan 2019	-		0.300	Continuing	Continuing	-
Tactical Video System/ Reconnaissance, Surveillance, & Target Acquisition	MIPR	ATEC : FT Huachuca, AZ	0.945	0.370	Jan 2017	0.393	Jan 2018	0.564	Jan 2019	-		0.564	Continuing	Continuing	-
HF-TTL	MIPR	ATEC : FT Huachuca, AZ	-	0.285	May 2017	0.214	May 2018	0.220	May 2019	-		0.220	Continuing	Continuing	-
Sensitive Site Exploitation	MIPR	JITC : FT Huachuca, AZ	-	0.157	Dec 2016	0.181	Dec 2017	0.186	Dec 2018	-		0.186	Continuing	Continuing	-
Special Operations Forces Planning, Rehearsal & Execution Preparation	C/FFP	Various : Various	0.125	0.439	Jan 2017	0.291	Jan 2018	1.508	Jan 2019	-		1.508	Continuing	Continuing	-
Prior Year Funding - Completed Efforts	Various	Various : Various	0.549	-		-		-		-		-	Continuing	Continuing	-
		Subtotal	8.604	1.860		1.079		2.778		-		2.778	Continuing	Continuing	N/A

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
NSSS Program Support	C/CPAF	Jacobs : Tampa, FL	5.753	-		-		-		-		-	Continuing	Continuing	-
Prior Year Funding - Completed Efforts	Various	Various : Various	30.679	-		-		-		-		-	Continuing	Continuing	-
		Subtotal	36.432	-		-		-		-		-	Continuing	Continuing	N/A

	Prior Years	FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	570.242	5.803		8.245		10.625		-		10.625	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160405BB / *Intelligence Systems Development*	**Project (Number/Name)** S400 / *SO Intelligence Systems*

NSSS/TENCAP Program Schedule

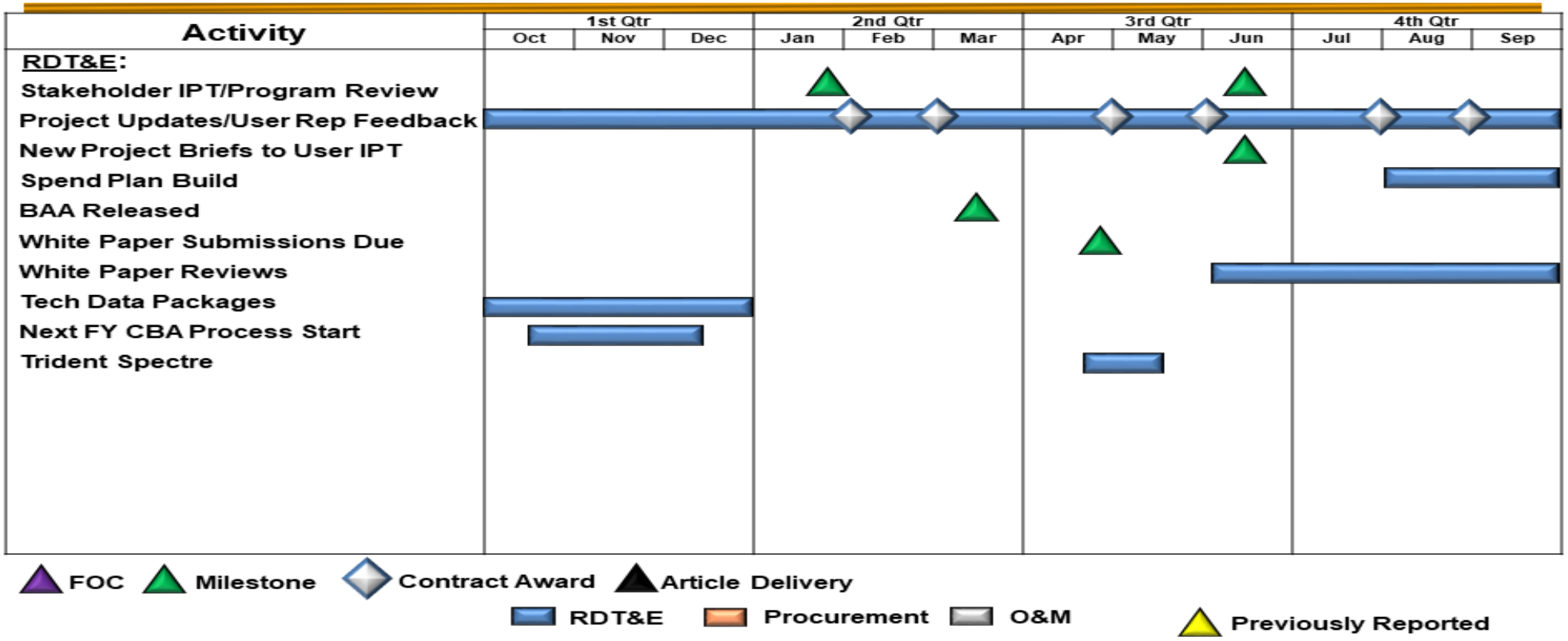

Exhibit R-4, RDT&E Schedule Profile: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160405BB / *Intelligence Systems Development*	**Project (Number/Name)** S400 / *SO Intelligence Systems*

JTWS Schedule

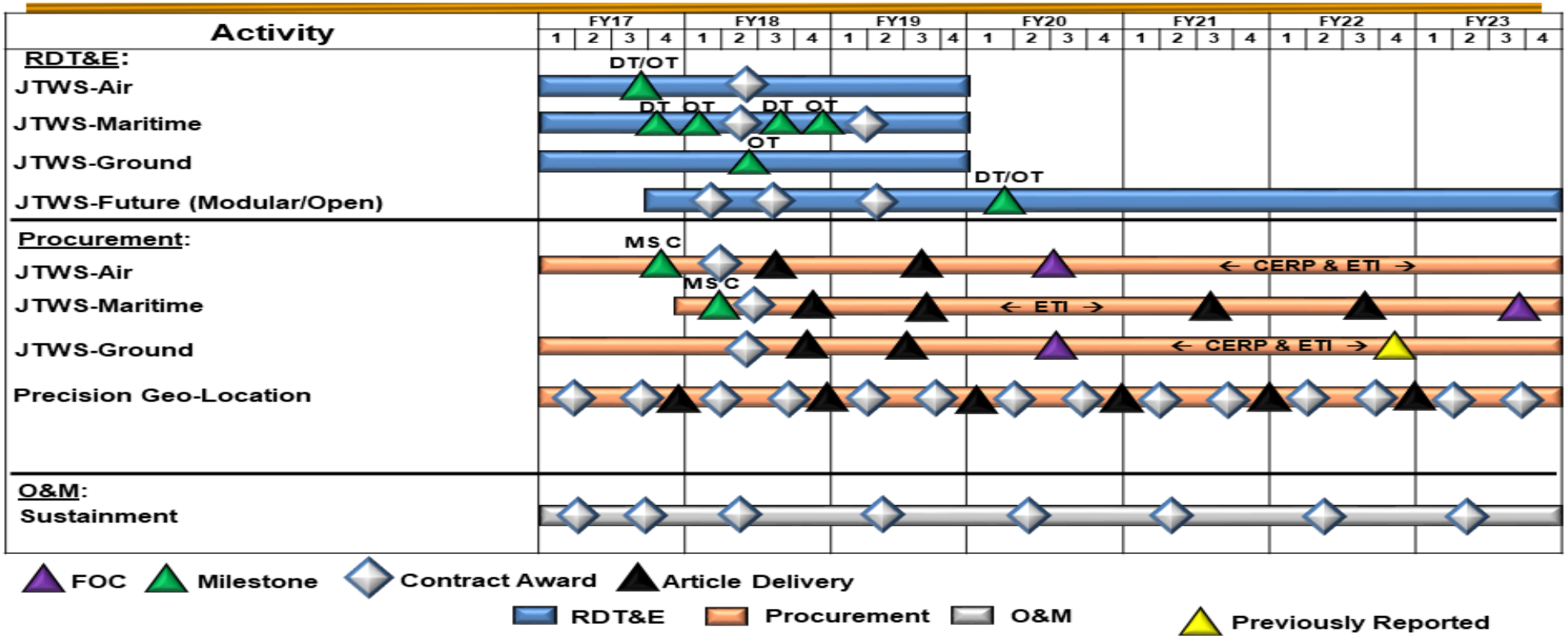

Exhibit R-4, RDT&E Schedule Profile: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160405BB / *Intelligence Systems Development*	**Project (Number/Name)** S400 / *SO Intelligence Systems*

HF-TTL Schedule

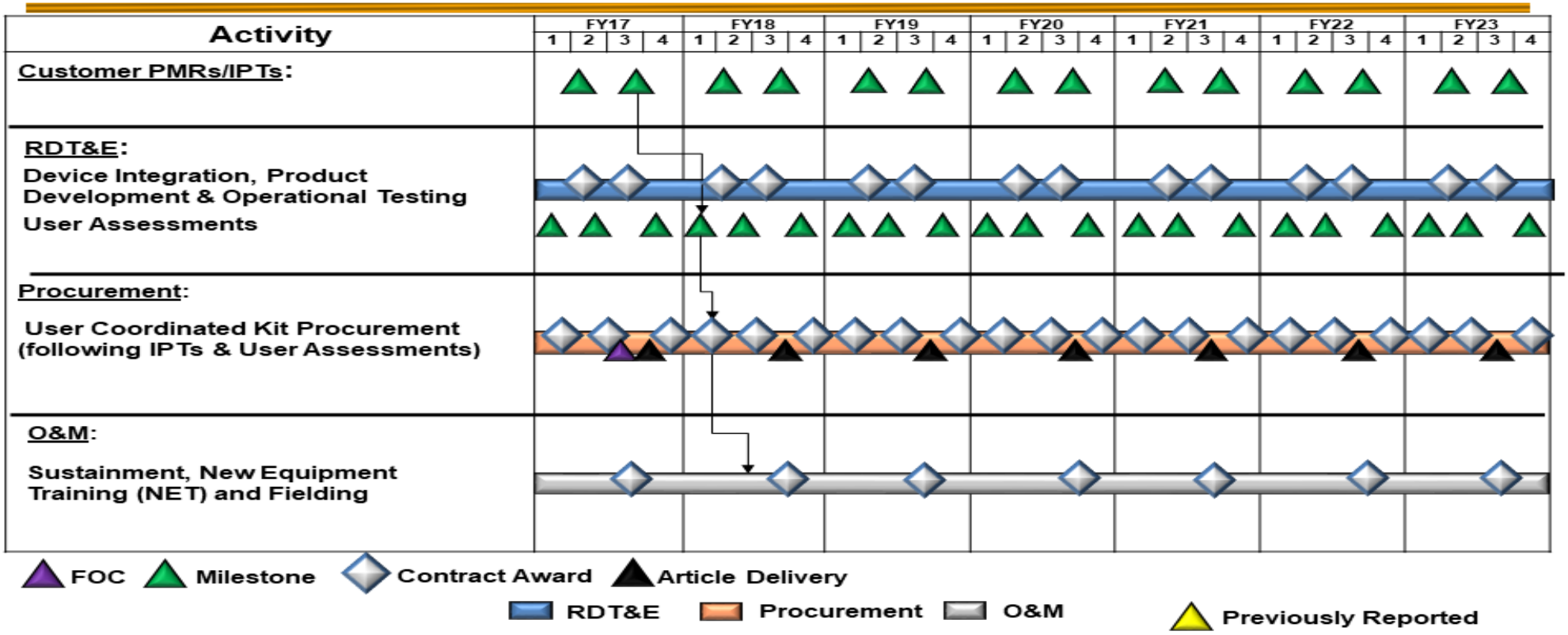

Exhibit R-4, RDT&E Schedule Profile: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160405BB / *Intelligence Systems Development*	**Project (Number/Name)** S400 / *SO Intelligence Systems*

TVS/RSTA Schedule

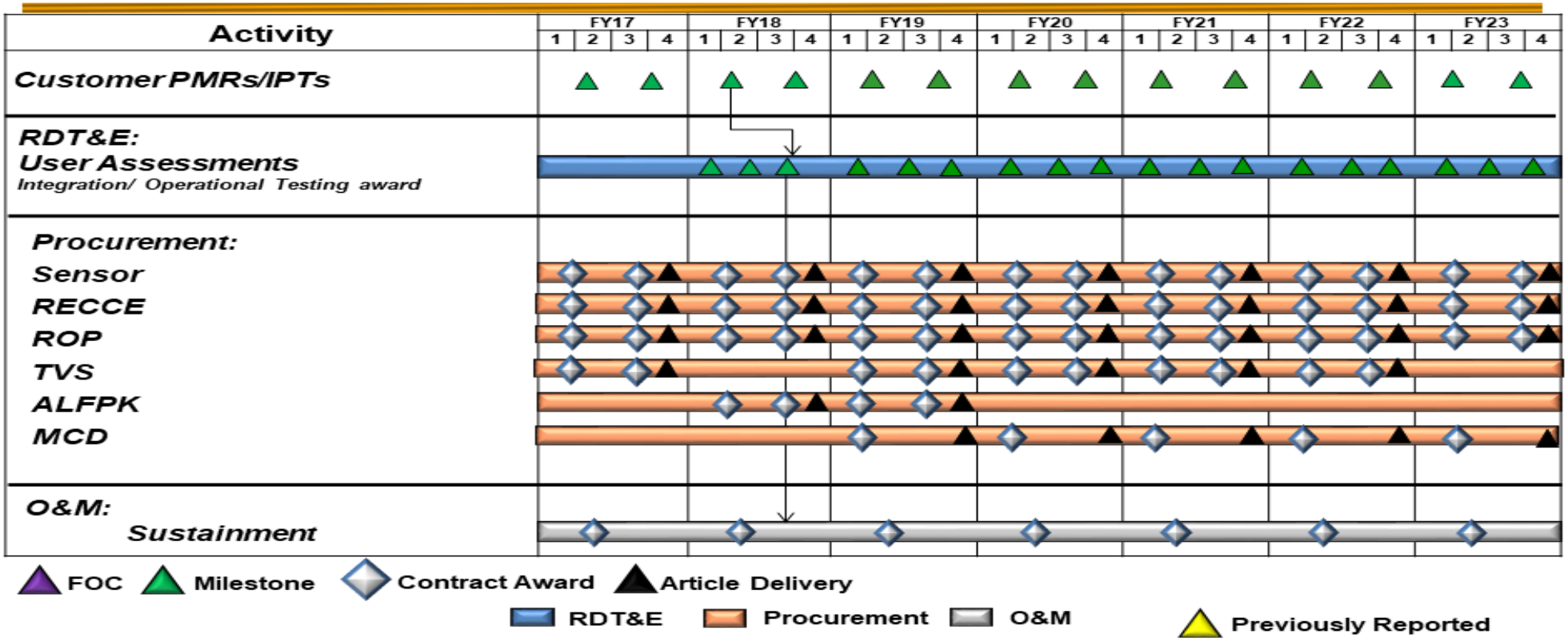

Exhibit R-4, RDT&E Schedule Profile: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160405BB / *Intelligence Systems Development*	**Project (Number/Name)** S400 / *SO Intelligence Systems*

SOFPREP Schedule

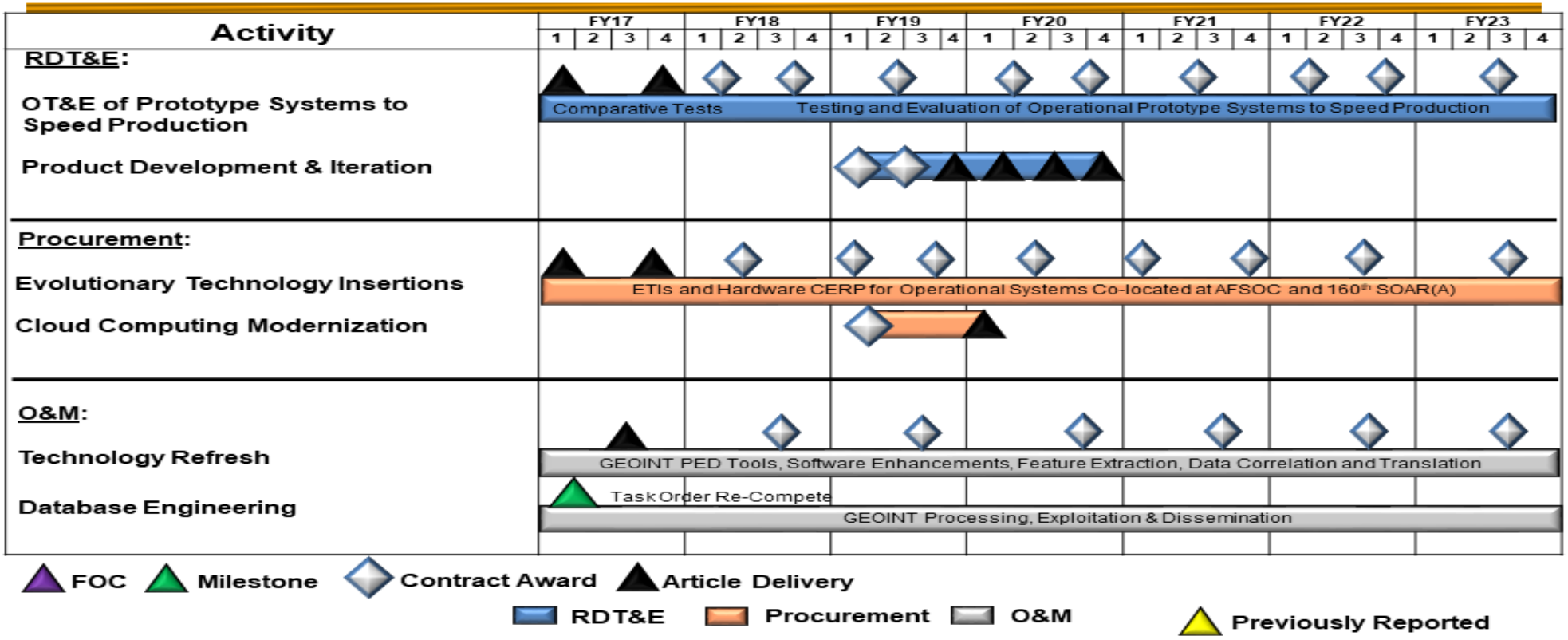

Exhibit R-4, RDT&E Schedule Profile: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160405BB / *Intelligence Systems Development*	**Project (Number/Name)** S400 / *SO Intelligence Systems*

ISP Schedule

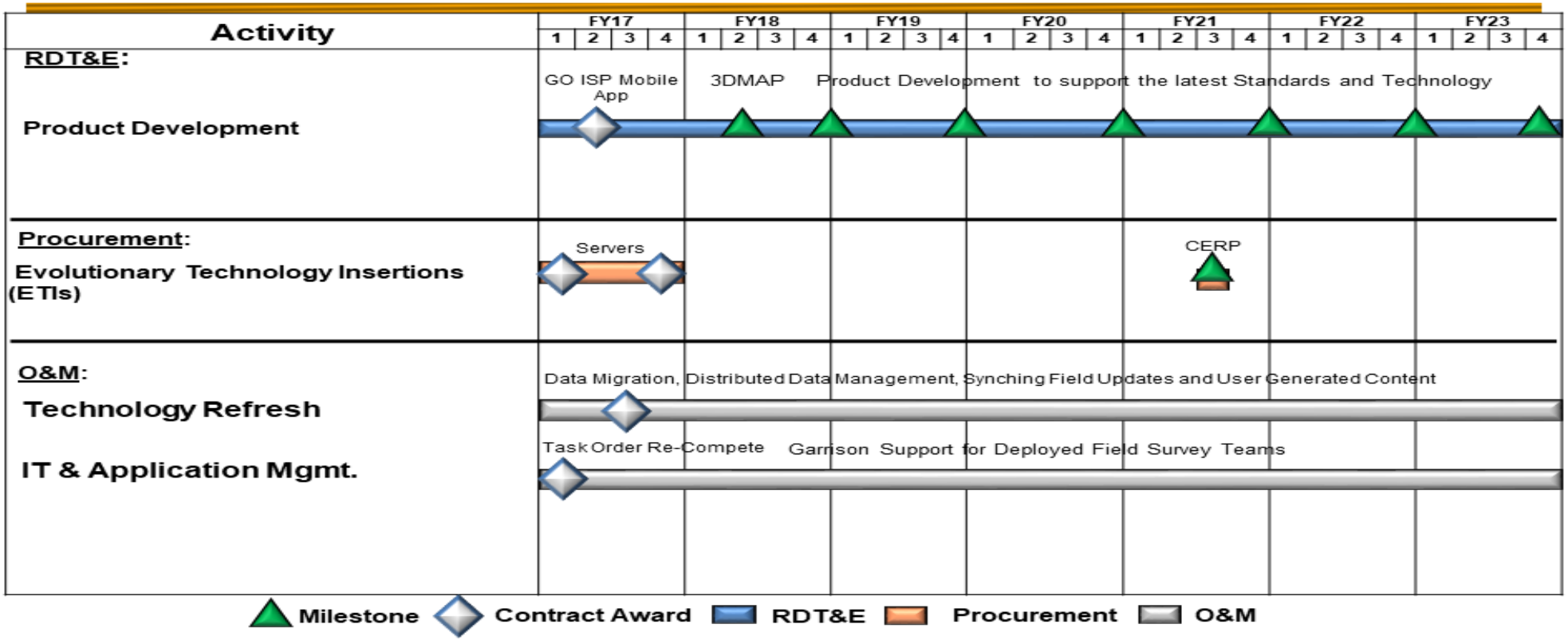

Exhibit R-4, RDT&E Schedule Profile: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160405BB / *Intelligence Systems Development*	**Project (Number/Name)** S400 / *SO Intelligence Systems*

Sensitive Site Exploitation Schedule

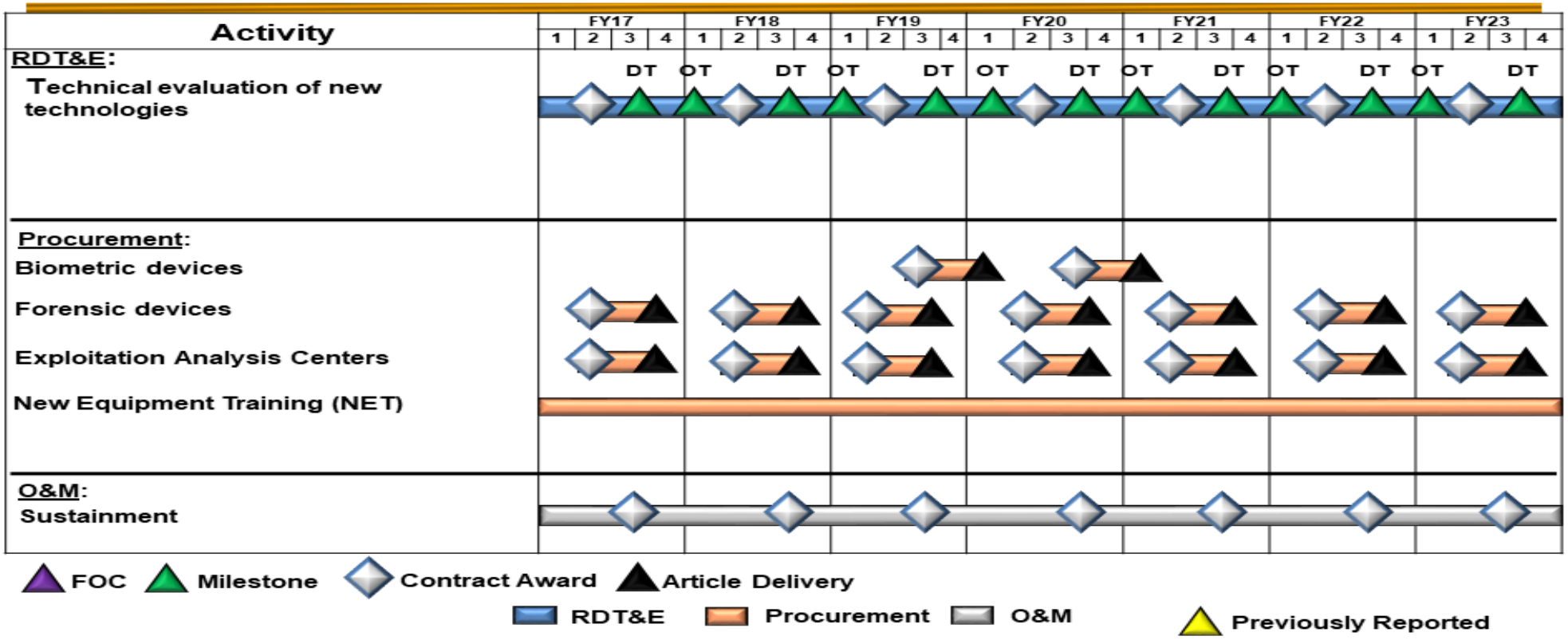

Exhibit R-4A, RDT&E Schedule Details: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160405BB / *Intelligence Systems Development*	**Project (Number/Name)** S400 / *SO Intelligence Systems*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
National Systems Support to SOF Participation in Space Technology Development and Integration				
National System Support to SOF Participation in Space Technology Development and Integration	2	2017	4	2021
Joint Threat Warning System				
Air Variant Development, Test and Evaluation	2	2017	4	2023
Ground Sigint Kit Variant Development, Test and Evaluation	2	2017	4	2023
Maritime Variant Development, Test and Evaluation	4	2017	4	2023
Hostile Forces - Tagging, Tracking, and Locating				
Product Develpoment	2	2017	4	2021
Device Integration and Operational Testing	3	2017	4	2021
Special Operations Tactical Video System				
System Integration and Operational Testing	3	2017	4	2021
Special Operations Forces Planning, Rehearsal & Execution Preparation				
Operational Test and Evaluation	2	2017	4	2023
Integrated Survey Program				
Product Development	2	2017	4	2023
Sensitive Site Exploitation				
System Integration and Operational Testing	1	2017	4	2023

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Exhibit R-2, RDT&E Budget Item Justification: PB 2019 United States Special Operations Command	Date: February 2018
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 1160408BB / *Operational Enhancements*

COST ($ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
Total Program Element	1,315.797	52.495	81.375	102.307	3.632	105.939	132.143	121.579	124.356	133.148	Continuing	Continuing
S500A: *Operational Enhancements*	1,315.797	52.495	81.375	102.307	3.632	105.939	132.143	121.579	124.356	133.148	Continuing	Continuing

A. Mission Description and Budget Item Justification

Details are provided under separate cover.

B. Program Change Summary ($ in Millions)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Previous President's Budget	90.895	81.375	80.328	0.000	80.328
Current President's Budget	52.495	81.375	102.307	3.632	105.939
Total Adjustments	-38.400	0.000	21.979	3.632	25.611
• Congressional General Reductions	-10.000	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-0.400	-			
• SBIR/STTR Transfer	-2.000	-			
• Other	-26.000	-	21.979	3.632	25.611

Change Summary Explanation

Funding:

FY2017: Decrease of -$38.400 million is due to congressional reduction for prior year carryover (-$10.000 million), transfer of funds to Small Business Innovative Research/Small Business Technology Transfer programs (-$2.000 million) and emergency warfighting readiness requirements not supported by Congress (-$26.000 million) and reprogramming higher command priorities (-$.400 million). Details available under separate cover.

FY2018: None.

FY2019: Net increase of $25.611 million due to FY 2019 funding request reduction of -$4.783 million to account for the availability of prior year execution balances, an increase of $26.762 million baseline funding and $3.632 million Overseas Contingence Operations (OCO) funding. Details available under separate cover.

Exhibit R-2, RDT&E Budget Item Justification: PB 2019 United States Special Operations Command	Date: February 2018
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 1160408BB / *Operational Enhancements*

Schedule: None.

Technical: None.

Exhibit R-2, RDT&E Budget Item Justification: PB 2019 United States Special Operations Command	Date: February 2018
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*

COST ($ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
Total Program Element	68.917	67.086	45.935	46.942	11.040	57.982	68.336	45.098	32.964	41.535	Continuing	Continuing
D476: *Military Information Support Operations*	11.647	3.176	4.843	3.942	-	3.942	2.950	2.958	1.792	1.828	Continuing	Continuing
S375: *Weapons Systems*	1.982	1.422	1.480	1.198	-	1.198	1.633	1.611	1.535	1.566	Continuing	Continuing
S385: *Soldier Protection and Survival Systems*	7.179	10.376	2.852	7.901	3.000	10.901	8.851	4.785	4.744	4.834	Continuing	Continuing
S385A: *Body Armor and Associated Equipment*	4.945	1.385	1.289	1.048	-	1.048	1.760	1.746	1.701	1.735	Continuing	Continuing
S395: *Visual Augmentation, Lasers and Sensor Systems*	4.010	7.373	1.517	1.257	-	1.257	1.727	1.698	1.620	1.652	Continuing	Continuing
S700: *Communications Equipment and Electronics Systems*	12.606	9.037	12.864	13.966	-	13.966	16.605	16.773	11.729	11.965	Continuing	Continuing
S710: *Tactical Systems Development*	1.812	1.083	2.416	4.240	-	4.240	3.328	3.359	3.117	3.180	Continuing	Continuing
S725: *Tactical Radio Systems*	9.684	3.620	13.183	4.660	-	4.660	10.691	7.286	1.871	1.909	Continuing	Continuing
S800: *Munitions Advanced Development*	15.052	29.614	5.491	8.730	8.040	16.770	20.791	4.882	4.855	12.866	Continuing	Continuing

A. Mission Description and Budget Item Justification

This program element provides for development, 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 survival requirements will improve

survivability and mobility of SOF while conducting varied missions. 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.

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.

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.

Soldier Protection and Survival Systems:
This project provides for the development, testing, integration, 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 RC-IED threats; and signature reducing materials and technologies, to reduce the probability of detection by battlefield threat sensors.

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.

Visual Augmentation, Lasers and Sensor Systems:
This project provides for development, testing, and integration of specialized visual augmentation, laser and sensor systems equipment to meet the unique requirements of SOF. Programs in this area include binocular/monocular devices and visual augmentation to include next generation laser designation and geo-location systems.

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.

Exhibit R-2, RDT&E Budget Item Justification: PB 2019 United States Special Operations Command	Date: February 2018
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*

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.

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.

Munitions 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, seeker, guidance navigation and control systems, operational flight software and missile delivery to meet SOF requirements. Provides for testing and integration of Lethal Miniature Aerial Munition Systems (LMAMS) onto SOF-unique platforms to meet the operational needs of the SOF operator in high threat environments.

B. Program Change Summary ($ in Millions)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Previous President's Budget	45.285	45.935	32.761	-	32.761
Current President's Budget	67.086	45.935	46.942	11.040	57.982
Total Adjustments	21.801	0.000	14.181	11.040	25.221
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	21.000	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	3.233	-			
• SBIR/STTR Transfer	-2.432	-			
• Other Adjustments	-	-	14.181	11.040	25.221

Exhibit R-2, RDT&E Budget Item Justification: PB 2019 United States Special Operations Command	Date: February 2018
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*

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2017	FY 2018
Project: S395: *Visual Augmentation, Lasers and Sensor Systems*		
Congressional Add: *Visual Augmentation Systems (VAS)*	2.880	-
Congressional Add Subtotals for Project: S395	2.880	-
Project: S800: *Munitions Advanced Development*		
Congressional Add: *SOPGM*	11.563	-
Congressional Add: *LMAMS*	5.809	-
Congressional Add Subtotals for Project: S800	17.372	-
Congressional Add Totals for all Projects	20.252	-

Change Summary Explanation

Funding:

FY 2017: Net increase of $21.801 million is due to Congressional adds for Visual Augmentation System (VAS) ($3.000 million) and two Munitions Advanced Development ($18.000 million), a decrease for a transfer to Small Business Innovative Research/Small Business Technology Transfer programs (-$2.432 million), reprogramming increases in projects S385 for Counter Radio Controlled Improvised Explosive Device ($7.501 million), S385A Body Armor and associated Equipment ($0.100 million), S395 VAS ($3.087 million), and reprogramming decreases to projects S710 Communications Equipment and Electronics Systems (-$1.472 million), D476 MISO (-$1.384 million), S725 Tactical Radio Systems (-$0.139 million), S800 Munitions Advanced Development (-$4.460 million) for higher Command priorities.

FY 2018: None.

FY 2019: Net increase of $14.181 million is due FY 2019 funding request reduction of -$2.634 million to account for the availability or prior year execution balances, a -$0.123 million decrease for a Department economic assumptions, a $1.284 million reprogramming increase in project D476 MISO for the Long-Range Broadcast System, a $5.624 million increase in project S385.PR Soldier Protection and Survival Systems for Personal Signature Management and Tactical Casualty Combat Care, a $1.925 million increase in project S710.PR Tactical Systems Development, secure wireless and cross domain solution on TACLAN modular systems, and a $8.105 million increase to project S800 Advanced Munitions Development for engineering, integration and testing.

FY2019 Overseas Contingency Operations (OCO): Increase of $11.040 million due to $8.040 million increase of OCO funding in project S800 Advanced Munitions Development for SOPGM and a $3.000 million increase of OCO funding in project S385 Soldier Protection and Survival Systems.

Schedule: None.

Exhibit R-2, RDT&E Budget Item Justification: PB 2019 United States Special Operations Command	Date: February 2018
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*

Technical: None.

Exhibit R-2A, RDT&E Project Justification: PB 2019 United States Special Operations Command			Date: February 2018
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 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
D476: *Military Information Support Operations*	11.647	3.176	4.843	3.942	-	3.942	2.950	2.958	1.792	1.828	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 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Title: Multi-Mission Payload (MMP) formerly know 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, Multi-Media Messaging Service, and Voice). This system provides the capability of broadcasting MISO messages via multiple mediums into permissive, semi-permissive, and denied foreign areas. ***FY 2018 Plans:*** Continue with primary development, systems engineering, and test and evaluation of pod-based cellular and television broadcast, power, and antenna technologies. ***FY 2019 Base Plans:*** Continues with primary development, systems engineering, and test and evaluation of pod-based cellular and television broadcast, power, and antenna technologies. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Increase of $0.584 million is due to expanded development testing.	1.502	1.632	2.181	-	2.181
Title: Fly-Away Broadcast System (FABS) ***Description:*** FABS is a transit case fly-away broadcast system that consists of a combination of AM, FM, SW, cellular, and TV transmitters. ***FY 2018 Plans:***	1.674	2.757	0.900	-	0.900

Exhibit R-2A, RDT&E Project Justification: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160431BB / *Warrior Systems*	**Project (Number/Name)** D476 / *Military Information Support Operations*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
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. ***FY 2019 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 2018 to FY 2019 Increase/Decrease Statement:*** Decrease of -$1.857 million due to a realignment to higher command priorities.					
Title: Next Generation Loud Speakers (NGLS) ***Description:*** Family of Loudspeakers (FOL) are portable loudspeaker systems that are capable of disseminating high quality recorded and live audio messages by MISO forces in varied geographical areas and climate conditions. The new variant of the FOL is the NGLS. The NGLS consists of Dismounted and Mounted variants that are lighter, smaller, and louder than legacy speaker systems, with added clarity and durability. A variant of the NGLS, the Scatterable Media, Distributed Audio Media System (DAMS) is a hand-emplaced or air-delivered printed audio-visual device for disseminating delayed or on-cue messages to foreign target audiences. ***FY 2018 Plans:*** Begin development of new systems and components to enhance MISO broadcasts. Focuses on wireless, Common Operating Picture (COP), and Mobile Ad Hoc Network development to reduce broadcast system weight and size while adding multi-mission capabilities. ***FY 2019 Base Plans:*** Continues testing and evaluation of new systems and components to enhance MISO broadcasts. Focuses on wireless, COP, and Mobile Ad Hoc Network development to reduce broadcast system weight and size while adding multi-mission capabilities. Begins development of scatterable media capabilities. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Decrease of -$0.866 million is due to a realignment to higher command priorities.	-	0.454	0.861	-	0.861
Accomplishments/Planned Programs Subtotals	3.176	4.843	3.942	-	3.942

Exhibit R-2A, RDT&E Project Justification: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160431BB / *Warrior Systems*	**Project (Number/Name)** D476 / *Military Information Support Operations*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
• PROC1/0204OTHER: *OTHER ITEMS <$5M*	77.231	54.592	112.117	7.700	119.817	94.206	95.898	89.320	85.302	Continuing	Continuing

Remarks

D. Acquisition Strategy

• The MMP 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 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 FOL program has an evolutionary acquisition strategy for the Next Generation Load Speaker (NGLS). Commercial and government agency sources will be leveraged for required certifications, functional and operational tests, and acceptance support.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 United States Special Operations Command		Date: February 2018
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)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Multi-Mission Payload (MMP)	MIPR	NSWC-Crane : Crane, IN	5.335	1.502	Feb 2017	1.532	Jan 2018	2.038	Jan 2019	-		2.038	Continuing	Continuing	-
Fly Away Broadcast Systems (FABS)	Reqn	JHU/APL : Laurel, MD	-	1.674	Feb 2017	2.757	Jan 2018	0.900	Jan 2019	-		0.900	Continuing	Continuing	-
Next Generation Loud Speakers (NGLS)	Allot	SOFSA : Lexington, KY	-	-		0.454	Jan 2018	0.761	Jan 2019	-		0.761	Continuing	Continuing	-
Prior Year	C/Various	Various : Various	5.846	-		-		-		-		-	Continuing	Continuing	-
		Subtotal	11.181	3.176		4.743		3.699		-		3.699	Continuing	Continuing	N/A

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
MMP	MIPR	NSCW-Crane : Crane, IN	0.341	-		0.100	Jan 2018	0.143	Jan 2019	-		0.143	Continuing	Continuing	-
NGLS	Allot	SOFSA : Lexington, KY	-	-		-		0.100	Feb 2019	-		0.100	Continuing	Continuing	-
Prior Year	MIPR	Various : Various	0.125	-		-		-		-		-	Continuing	Continuing	-
		Subtotal	0.466	-		0.100		0.243		-		0.243	Continuing	Continuing	N/A

	Prior Years	FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	11.647	3.176		4.843		3.942		-		3.942	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2019 United States Special Operations Command		Date: February 2018
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

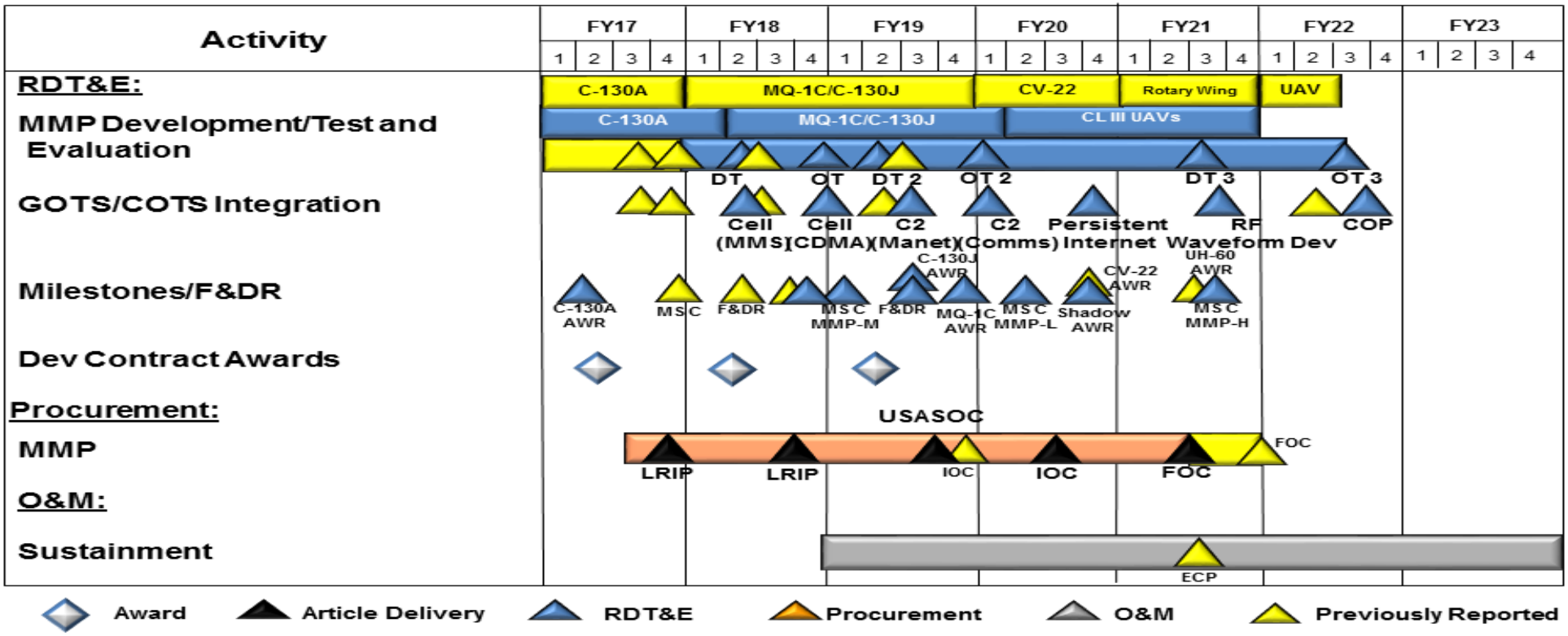

Exhibit R-4, RDT&E Schedule Profile: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160431BB / *Warrior Systems*	**Project (Number/Name)** D476 / *Military Information Support Operations*

Fly Away Broadcast System Schedule

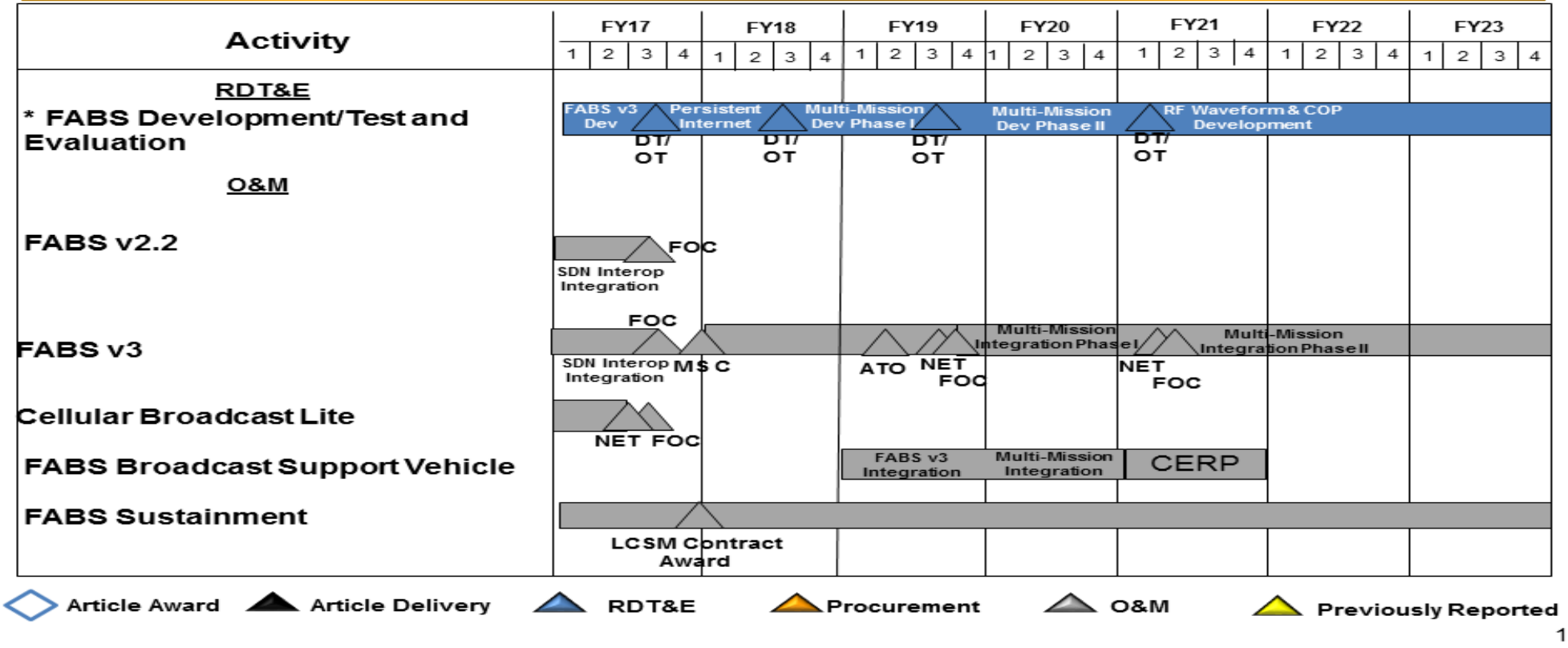

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Exhibit R-4, RDT&E Schedule Profile: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160431BB / *Warrior Systems*	**Project (Number/Name)** D476 / *Military Information Support Operations*

Next Generation Loudspeaker System Schedule

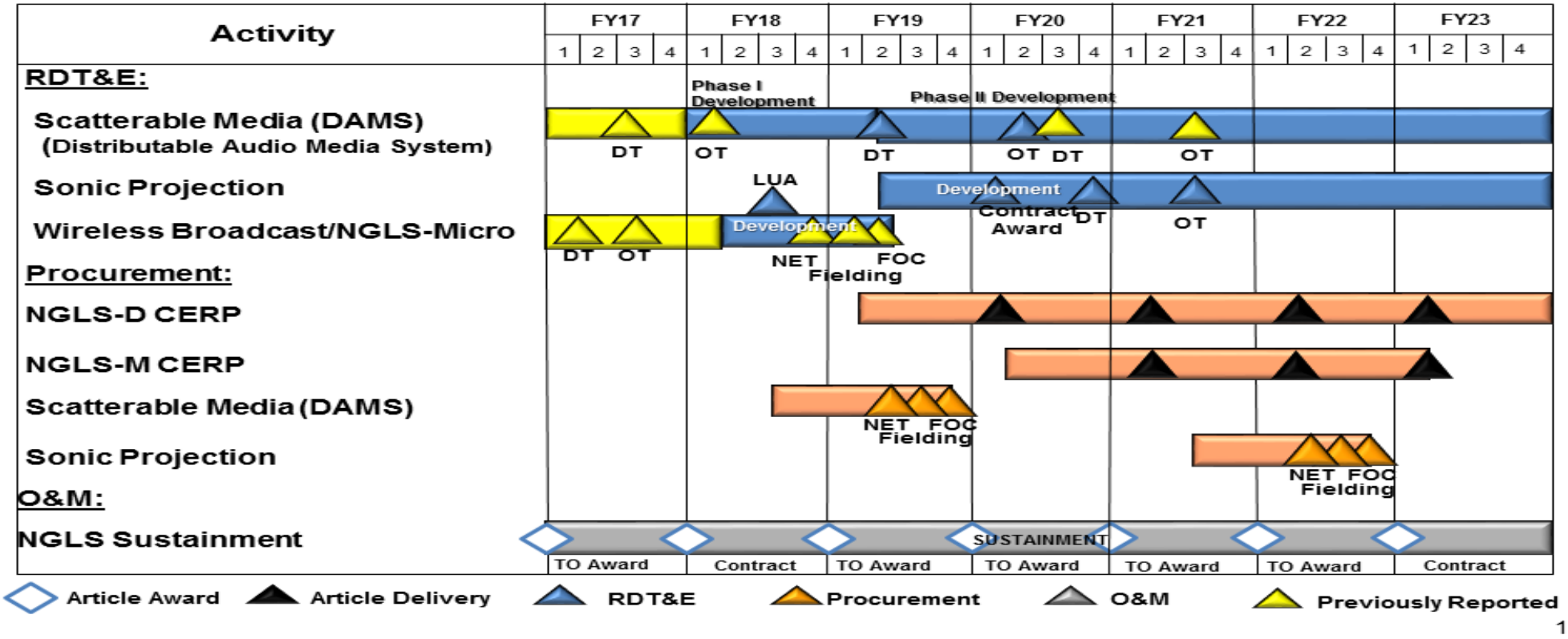

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Exhibit R-4A, RDT&E Schedule Details: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160431BB / *Warrior Systems*	**Project (Number/Name)** D476 / *Military Information Support Operations*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Multi-Mission Payload (MMP)				
Development	1	2017	4	2021
Test and Evaluation	2	2018	3	2022
Fly Away Broadcast Systems (FABS)				
Development	1	2017	4	2023
Next Generation Loudspeakers (NGLS)				
Scatterable Media Development	1	2018	1	2019
Scatterable Media Test and Evaluation	2	2019	4	2023
Sonic Projection Development	2	2019	2	2020
Sonic Projection Development Test and Evaluation	3	2019	4	2023
Wireless Broadcast	2	2018	2	2019

Exhibit R-2A, RDT&E Project Justification: PB 2019 United States Special Operations Command			Date: February 2018
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160431BB / *Warrior Systems*	Project (Number/Name) S375 / *Weapons Systems*	

COST ($ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
S375: *Weapons Systems*	1.982	1.422	1.480	1.198	-	1.198	1.633	1.611	1.535	1.566	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 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Title: Weapons Accessories (WPNAC)	1.422	1.480	1.198	-	1.198
Description: WPNAC are used on both service-common and SOF weapons, enabling 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 2018 Plans:*** Develop enhanced capabilities to improve performance of individual sniper, rifle, and machine gun weapons. ***FY 2019 Base Plans:*** Continues development of enhanced capabilities to improve performance of individual sniper, rifle, and machine gun weapons. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Decrease of -$0.282M to support higher command priorities.					
Accomplishments/Planned Programs Subtotals	1.422	1.480	1.198	-	1.198

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
• PROC/0204WARRIOR: *Warrior Systems <$5M*	266.704	272.285	438.590	21.135	459.725	293.645	304.301	282.452	295.368	Continuing	Continuing

Exhibit R-2A, RDT&E Project Justification: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160431BB / *Warrior Systems*	**Project (Number/Name)** S375 / *Weapons Systems*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost

Remarks

D. Acquisition Strategy

Evolutionary acquisition, leveraging emerging technology. 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.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 United States Special Operations Command			Date: February 2018
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160431BB / *Warrior Systems*	Project (Number/Name) S375 / *Weapons Systems*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Weapon Test & Evaluation	MIPR	Various : Various	1.982	1.422	Jan 2017	1.480	Jan 2018	1.198	Jan 2019	-		1.198	Continuing	Continuing	-
		Subtotal	1.982	1.422		1.480		1.198		-		1.198	Continuing	Continuing	N/A

	Prior Years	FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	1.982	1.422		1.480		1.198		-		1.198	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160431BB / *Warrior Systems*	**Project (Number/Name)** S375 / *Weapons Systems*

Weapon Systems Schedule

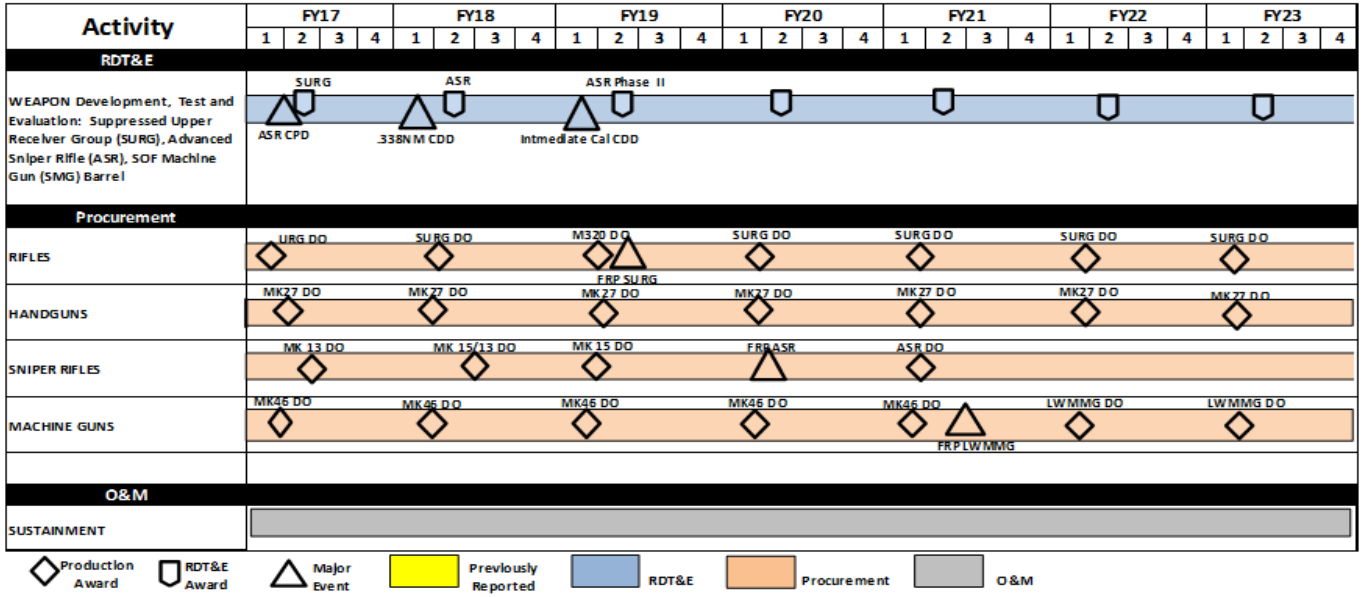


Exhibit R-4A, RDT&E Schedule Details: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160431BB / *Warrior Systems*	**Project (Number/Name)** S375 / *Weapons Systems*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Weapon Systems				
WEAPON Development, Test and Evaluation: Suppressed Upper Receiver Group (SURG), Advanced Snipe Rifle (ASR), SOF Machine Gun (SMG) Barrel	2	2017	4	2023

Exhibit R-2A, RDT&E Project Justification: PB 2019 United States Special Operations Command			Date: February 2018
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 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
S385: *Soldier Protection and Survival Systems*	7.179	10.376	2.852	7.901	3.000	10.901	8.851	4.785	4.744	4.834	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project provides development, 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 hearing protection and clothing systems, load bearing equipment, and personnel safety equipment to improve the mobility of SOF, while conducting varied missions. Signature reducing materials and technology reduce the probability of detection by battlefield threat sensors. 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 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Title: SOF Personal Equipment Advanced Requirements (SPEAR)	0.456	0.493	0.880	-	0.880
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 2018 Plans:*** Continue research and development of land communications material solutions and environmental protective combat uniforms. Continue materials testing and incorporation into commodity lines. Begin wireless headset evaluations. Complete interoperability of headsets with SOCOM handheld radios. ***FY 2019 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 2018 to FY 2019 Increase/Decrease Statement:*** Increase of $0.387M provides for the development and testing of wireless communications and environmental protective combat uniforms.					
Title: Tactical Combat Casualty Care (TCCC)	0.380	0.199	0.178	-	0.178

Exhibit R-2A, RDT&E Project Justification: PB 2019 United States Special Operations Command		Date: February 2018
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 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Description: TCCC provides 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, extrication, 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 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. ***FY 2018 Plans:*** Provide for test support to include program management, market surveys, test article acquisition, test and evaluation and systems engineering in direct support of the CASEVAC program. Support the evaluation of enhanced medical monitoring systems for incorporation into the CASEVAC program. Develop and test water resistant solutions for maritime operations of components within the CASEVAC set. ***FY 2019 Base Plans:*** Continues test support to include program management, market surveys, test article acquisition, test and evaluation and systems engineering in direct support of the CASEVAC program. Continues the evaluation of enhanced medical monitoring systems for incorporation into the CASEVAC program. Continues development and testing of water resistant solutions for maritime operations of components within the CASEVAC set. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** The FY 2019 funding request was reduced by $0.021 million to account for the availability of prior year execution balances.					
Title: Counter Radio Controlled-Improvised Explosive Device (RC-IED) ***Description:*** The Counter RC-IED program provides SOF with the ability to counter current and future RC-IED threats used by terrorist networks. ***FY 2018 Plans:*** Continue NAG test support to the Counter RC-IED program. Support 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 and testing of ECM systems capability to include advanced software technique countermeasures	9.540	2.160	5.179	3.000	8.179

Exhibit R-2A, RDT&E Project Justification: PB 2019 United States Special Operations Command		Date: February 2018
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 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
and loadsets for mounted and dismounted systems. Implement Modi software refactoring, improving stability and future technology integration. ***FY 2019 Base Plans:*** Continues National Assessment Group (NAG) 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 Electronic Counter Measures (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. ***FY 2019 OCO Plans:*** Continues the development of Counter - Unmanned Aerial Systems (C-UAS) technology and integration efforts in support of named operations. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Details provided under separate cover.					
Title: Personal Signature Management (PSM) ***Description:*** This project provides for development, test, and evaluation of signature reducing materials and technology, in order to reduce the probability of detection by battlefield threat sensors. ***FY 2019 Base Plans:*** Provides research, development, 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 2018 to FY 2019 Increase/Decrease Statement:*** Increase of $1.664 million is due to a transfer of funding from Program Element 1160432BB, Special Programs, Project S500E.	-	-	1.664	-	1.664
Accomplishments/Planned Programs Subtotals	10.376	2.852	7.901	3.000	10.901

Exhibit R-2A, RDT&E Project Justification: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160431BB / *Warrior Systems*	**Project (Number/Name)** S385 / *Soldier Protection and Survival Systems*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
• PROC/0204WARRIOR: *Warrior Systems<$5M*	266.704	272.285	438.590	21.135	459.725	293.645	304.301	282.452	295.368	Continuing	Continuing

Remarks

D. Acquisition Strategy

Counter Radio Controlled - Improvised Explosive Device (RC-IED): USSOCOM collaborates with the DoD Joint CREW single manager per DODI 5101.14 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). Evolving ECM capability to Counter Unmanned Aerial Systems (CUAS) emerging threats.

Personal Signature Management (PSM): Signature reducing technologies will be embedded into current SOF clothing and equipment or applied to modified commercial-off-the-shelf variants. Capability is not intended to replace current clothing and equipment, rather it will augment those units with a unique requirement for enhanced signature reduction. 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, PM-SOF SSES has cradle to grave responsibility.

Tactical Combat Casualty Care (TCCC): Operator & Medic Kits - Program managed by PM-SOF SSES using US Army Medical Materiel Agency prime vendor contracts for equipment purchases and the Special Operations Forces Support Activity (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.

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.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 United States Special Operations Command		Date: February 2018
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)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total 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	-		0.200	Continuing	Continuing	-
SPEAR Modular Glove System (MGS)	Various	PM-SSES : Natick, MA	0.040	-		-		0.010	Jan 2019	-		0.010	Continuing	Continuing	-
SPEAR - Modular Integrated Communications Helmet/Land Maritime Communication System	Various	PM-SSES : Natick, MA	0.865	0.230	Mar 2017	0.100	Jan 2018	0.150	Feb 2019	-		0.150	Continuing	Continuing	-
SPEAR - Load Carriage System (LCS) and Backpacks	Various	PM-SSES : Natick, MA	0.035	0.010	Jan 2017	0.010	Feb 2018	0.050	Mar 2019	-		0.050	Continuing	Continuing	-
		Subtotal	1.271	0.240		0.226		0.410		-		0.410	Continuing	Continuing	N/A

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total 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	-		0.200	Continuing	Continuing	-
SPEAR-MGS Test and Evaluation	Various	PM-SSES : Natick, MA	0.091	-		-		0.010	Jan 2019	-		0.010	Continuing	Continuing	-
SPEAR - Maritime Comms Test and Evaluation	Various	PM-SSES : Natick, MA	1.357	0.211	Feb 2017	0.162	Jan 2018	0.210	Jan 2019	-		0.210	Continuing	Continuing	-
SPEAR - LCS/Body Armor Vest/Backpack Material and Prototype Test and Evaluation	Various	PM-SSES : Natick, MA	0.062	0.005	Jan 2017	0.005	Feb 2018	0.050	Jan 2019	-		0.050	Continuing	Continuing	-
Tactical Combat Casualty Care CASEVAC Sets	Various	PM-SSES : Natick, MA	0.995	0.380	Apr 2017	0.199	Feb 2017	0.178	Feb 2019	-		0.178	Continuing	Continuing	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 United States Special Operations Command		Date: February 2018
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)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Development, Test and Evaluation															
Counter Radio Controlled - Improvised Explosive Device Test and Evaluation Support	Various	National Assessment Group : Kirtland AFB	2.987	9.140	Oct 2017	2.160	Jun 2018	5.179	Jan 2019	-		5.179	Continuing	Continuing	-
Counter RC-IED Test and Evaluation (OCO)	Various	National Assessment Group : Kirkland, AFB	-	0.400	Feb 2018	-		0.000		3.000	Jun 2019	3.000	Continuing	Continuing	-
Personal Signature Management (PSM) Test and Evaluation	Various	Various : Various	-	-		-		1.664	Jan 2019	-		1.664	Continuing	Continuing	-
Prior Year	MIPR	Various : Various	0.160	-		-		-		-		-	Continuing	Continuing	-
		Subtotal	5.908	10.136		2.626		7.491		3.000		10.491	Continuing	Continuing	N/A

	Prior Years	FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	7.179	10.376		2.852		7.901		3.000		10.901	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2019 United States Special Operations Command		Date: February 2018
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

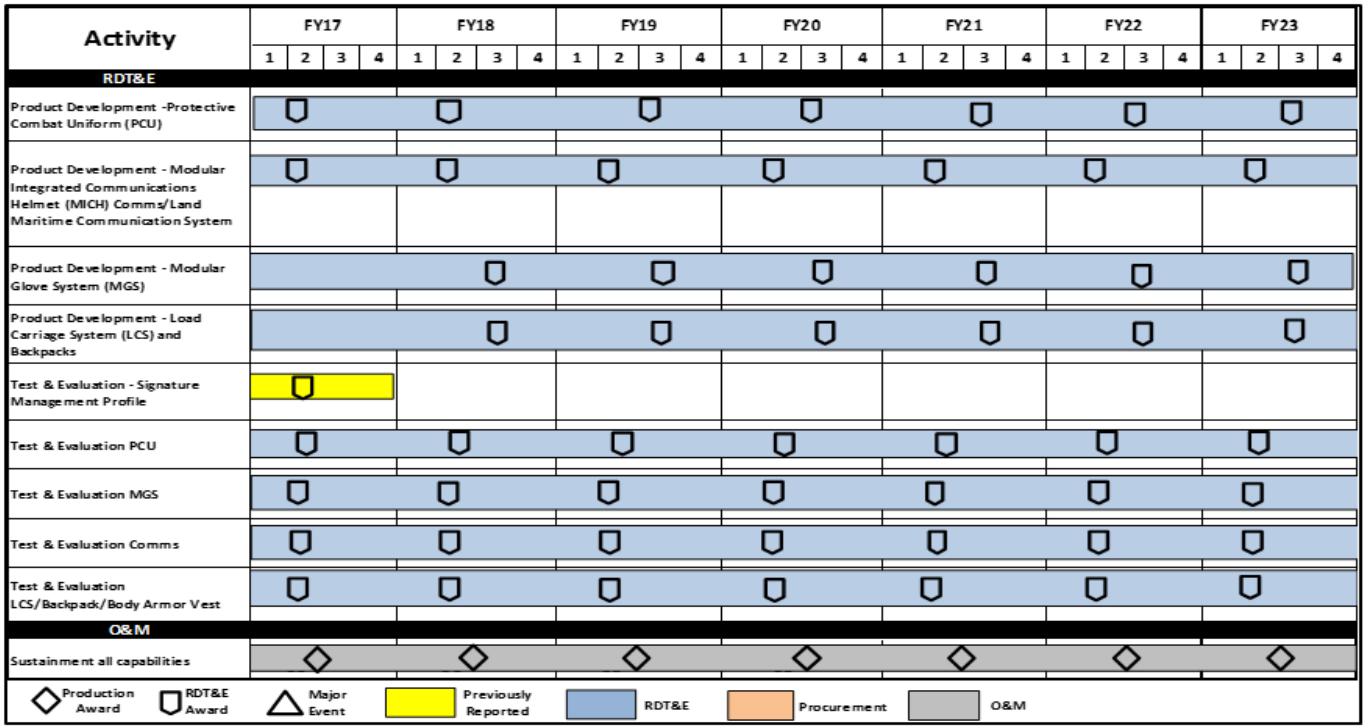


Exhibit R-4, RDT&E Schedule Profile: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160431BB / *Warrior Systems*	**Project (Number/Name)** S385 / *Soldier Protection and Survival Systems*

TCCC Schedule

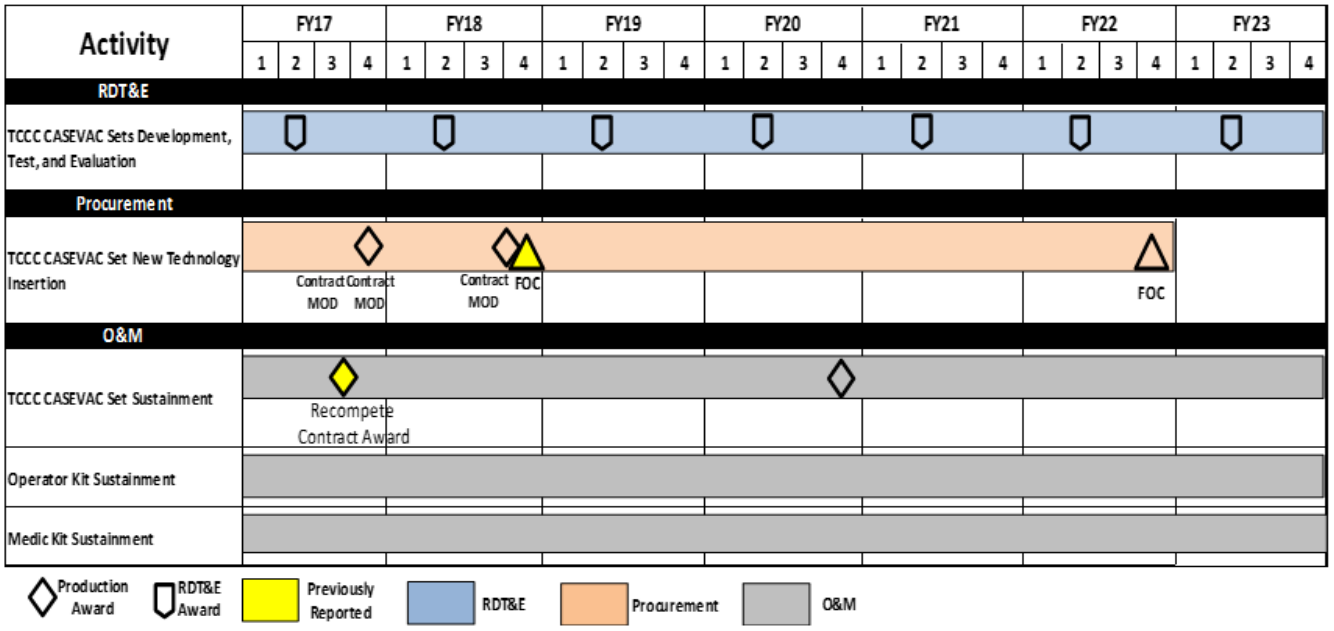


Exhibit R-4, RDT&E Schedule Profile: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160431BB / *Warrior Systems*	**Project (Number/Name)** S385 / *Soldier Protection and Survival Systems*

Counter RC-IED Schedule

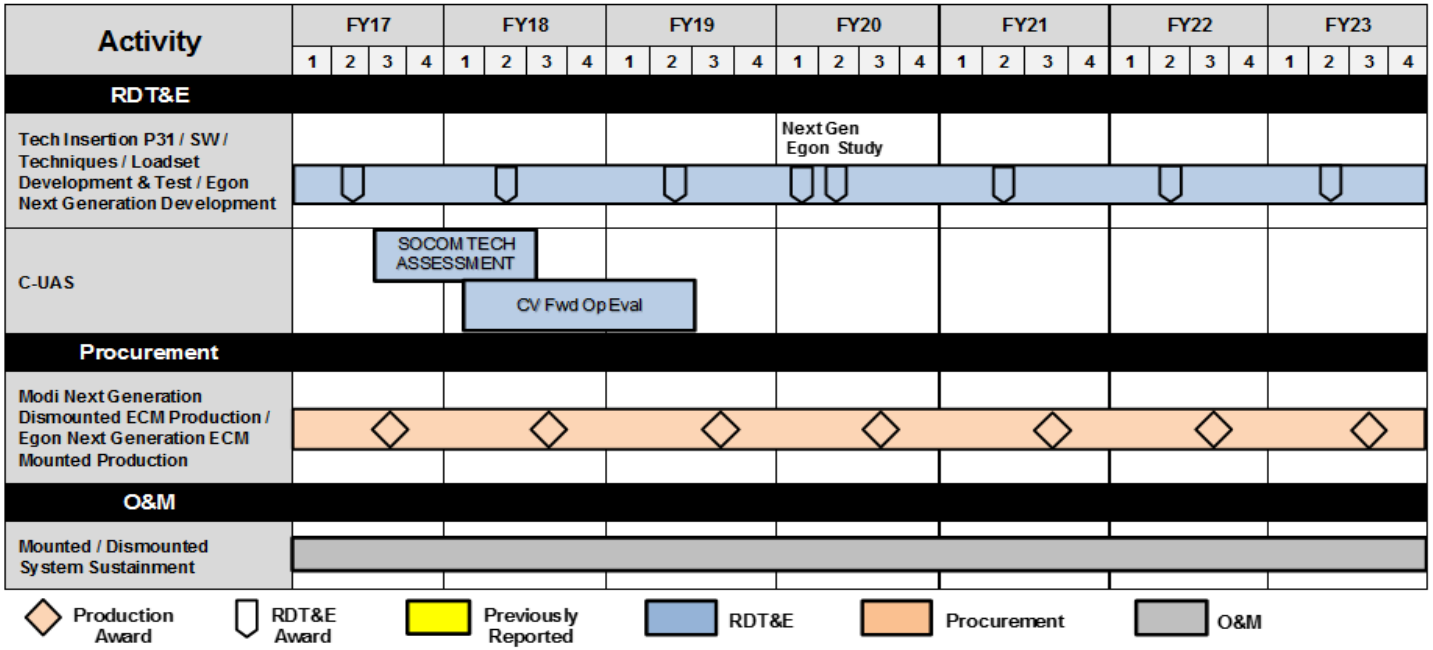


Exhibit R-4, RDT&E Schedule Profile: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160431BB / *Warrior Systems*	**Project (Number/Name)** S385 / *Soldier Protection and Survival Systems*

Personnel Signature Management Schedule

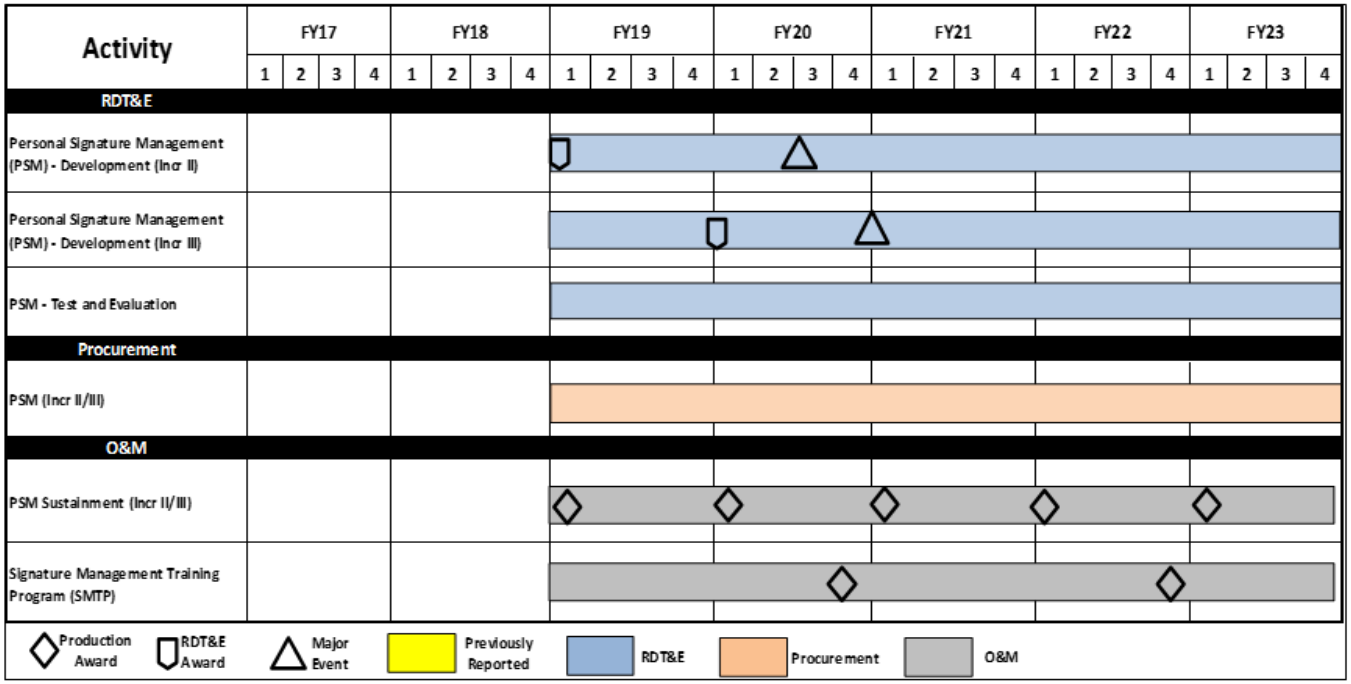


Exhibit R-4A, RDT&E Schedule Details: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160431BB / *Warrior Systems*	**Project (Number/Name)** S385 / *Soldier Protection and Survival Systems*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Soldier Protection and Survival Systems				
Protective Combat Uniform (PCU) Product Development	2	2017	4	2023
Modular Integrated Communications Helmet (MICH) Comms/Land Maritime Communication System Product Development	2	2017	4	2023
Modular Glove System (MGS) Product Development	3	2018	4	2023
Load Carriage System (LCS) and Backpacks Product Development	3	2018	4	2023
PCU Test & Evaluation	1	2017	4	2023
MGS Test & Evaluation	1	2017	4	2023
Comms Test & Evaluation	1	2017	4	2023
LCS/Backpack/Body Armor Vest Test & Evaluation	1	2017	4	2023
Tactical Combat Casuality Care				
TCCC CASEVAC Sets Development, Test & Evaluation	2	2017	4	2023
Counter Radio Controlled-Improvised Explosive Device				
National Assessment Group Test Support	1	2017	4	2023
C-UAS	3	2017	3	2019
Personnel Signature Management (PSM)				
PSM Development (Incr II)	1	2019	4	2023
PSM Development (Incr III)	1	2019	4	2023
PSM Test & Evaluation	1	2019	4	2023

Exhibit R-2A, RDT&E Project Justification: PB 2019 United States Special Operations Command			Date: February 2018
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 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
S385A: *Body Armor and Associated Equipment*	4.945	1.385	1.289	1.048	-	1.048	1.760	1.746	1.701	1.735	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 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Title: SOF Personal Equipment Advanced Requirement (SPEAR)-Ballistic Protection	1.385	1.289	1.048	-	1.048
Description: This project enhances the SPEAR program by supporting body armor plates, soft 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 2018 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. Initiate development and testing of technologies to upgrade the maritime crewman helmet.					
FY 2019 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 2018 to FY 2019 Increase/Decrease Statement:					

Exhibit R-2A, RDT&E Project Justification: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160431BB / *Warrior Systems*	**Project (Number/Name)** S385A / *Body Armor and Associated Equipment*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
The FY 2019 funding request was reduced by -$0.230 million to account for the availability of prior year execution balances and -$0.011 million reprogrammed to higher command priorities.					
Accomplishments/Planned Programs Subtotals	1.385	1.289	1.048	-	1.048

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
• PROC/0204WARRIOR: *Warrior Systems<$5M*	266.704	272.285	438.590	21.135	459.725	293.645	304.301	282.452	295.368	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 SOFSA for warehousing and sustainment, 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

Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 United States Special Operations Command		Date: February 2018
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)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
SOF Personal Equipment Advanced Requirement (SPEAR) - Body Armor	Various	PM-SSES : Natick, MA	1.645	0.380	Feb 2017	0.500	Jan 2018	0.359	Feb 2019	-		0.359	Continuing	Continuing	-
SPEAR - Lightweight Ballistic Helmets	Various	PM-SSES : Natick, MA	1.097	0.400	Jan 2017	0.226	Jan 2018	0.126	Jan 2019	-		0.126	Continuing	Continuing	-
SPEAR - Eye Protection	Various	PM-SSES : Natick, MA	0.176	0.010	Jul 2017	0.050	Mar 2018	0.050	Apr 2019	-		0.050	Continuing	Continuing	-
		Subtotal	2.918	0.790		0.776		0.535		-		0.535	Continuing	Continuing	N/A

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
SPEAR - Body Armor	Various	PM-SSES : Natick, MA	1.124	0.290	Feb 2017	0.322	Feb 2018	0.322	Feb 2019	-		0.322	Continuing	Continuing	-
SPEAR - Lightweight Ballistic Helmet	Various	PM-SSES : Natick, MA	0.781	0.300	Jan 2017	0.153	Feb 2018	0.153	Jan 2019	-		0.153	Continuing	Continuing	-
SPEAR - Transparent Armor	Various	PM-SSES : Natick, MA	0.122	0.005	Jun 2017	0.038	Mar 2018	0.038	Apr 2019	-		0.038	Continuing	Continuing	-
		Subtotal	2.027	0.595		0.513		0.513		-		0.513	Continuing	Continuing	N/A

	Prior Years	FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	4.945	1.385		1.289		1.048		-		1.048	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2019 United States Special Operations Command		Date: February 2018
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

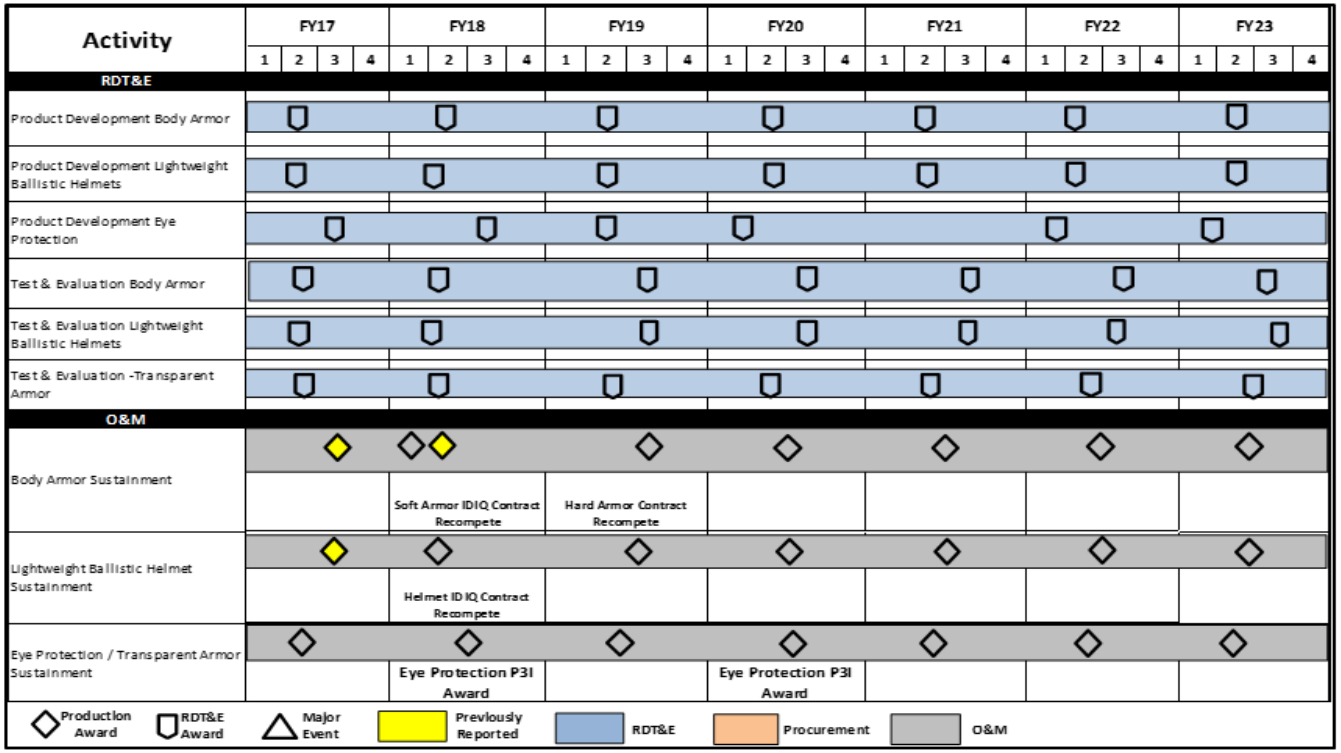


Exhibit R-4A, RDT&E Schedule Details: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160431BB / *Warrior Systems*	**Project (Number/Name)** S385A / *Body Armor and Associated Equipment*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Body Armor and Associated Equipment				
Body Armor Product Development	2	2017	4	2023
Lightweight Ballistic Helmets Product Development	2	2017	4	2023
Eye Protection Product Development	3	2017	4	2023
Body Armor Test & Evaluation	2	2017	4	2023
Lightweight Ballistic Helmets Test & Evaluation	2	2017	4	2023
Transparent Armor Test & Evaluation	2	2017	4	2023

Exhibit R-2A, RDT&E Project Justification: PB 2019 United States Special Operations Command			Date: February 2018
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 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
S395: *Visual Augmentation, Lasers and Sensor Systems*	4.010	7.373	1.517	1.257	-	1.257	1.727	1.698	1.620	1.652	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, and accessories to meet the unique requirements of SOF. These projects ensure SOF systems will remain technologically superior to enemy threats and ensure mission success.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Title: Visual Augmentation Systems	4.493	1.517	1.257	-	1.257
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. ***FY 2018 Plans:*** Continue development and testing of visual augmentation and laser devices to improve situational awareness, sharing of data/images and target acquisition. ***FY 2019 Base Plans:*** Continues development and testing of visual augmentation and laser devices to improve situational awareness, sharing of data/images and target acquisition. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** The FY 2019 funding request was reduced by -$0.260M to account for the availability of prior year execution balances and minor adjustments.					
Accomplishments/Planned Programs Subtotals	4.493	1.517	1.257	-	1.257

	FY 2017	FY 2018
Congressional Add: Visual Augmentation Systems (VAS)	2.880	-

Exhibit R-2A, RDT&E Project Justification: PB 2019 United States Special Operations Command		Date: February 2018
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*

	FY 2017	FY 2018
FY 2017 Accomplishments: Completed developmental test, evaluation, and integration of Augmented reality Technology and Countermeasure Studies of various Visual Augmentation System devices.		
Congressional Adds Subtotals	2.880	-

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
• PROC/0204WARRIOR: *Warrior Systems<$5M*	266.704	272.285	438.590	21.135	459.725	293.645	304.301	282.452	295.368	Continuing	Continuing

Remarks

D. Acquisition Strategy

Evolutionary acquisition, leveraging emerging technology. 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; primarily via Naval Surface Warfare Center, Crane Contracting office, USSOCOM Contracting Office and other contracting offices.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 United States Special Operations Command		Date: February 2018
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)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Visual Augmentation Systems (VAS) Product Development	C/CPFF	USSOCOM : Tampa, FL	4.010	4.506	Jan 2017	1.517	Nov 2018	1.257	Jan 2019	-		1.257	Continuing	Continuing	-
VAS Product Development (OCO)	C/CPFF	USSOCOM : Tampa, FL	-	2.667	Jan 2017	-		-		-		-	Continuing	Continuing	-
		Subtotal	4.010	7.173		1.517		1.257		-		1.257	Continuing	Continuing	N/A

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
VAS/CUAS Test and Evaluation	C/CPFF	USSOCOM : Tampa, FL	-	0.200	Jan 2017	-		-		-		-	Continuing	Continuing	-
		Subtotal	-	0.200		-		-		-		-	Continuing	Continuing	N/A

	Prior Years	FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	4.010	7.373		1.517		1.257		-		1.257	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2019 United States Special Operations Command		Date: February 2018
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 Schedule

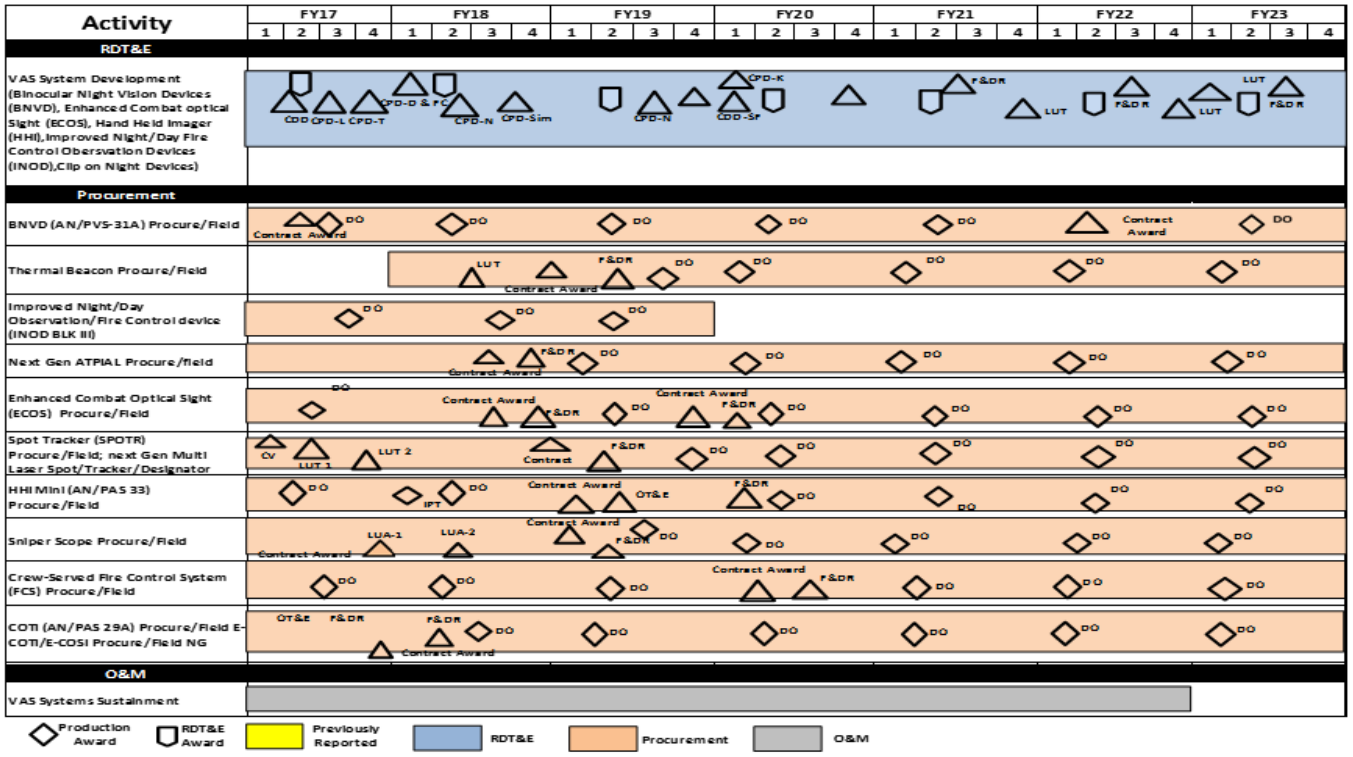


Exhibit R-4A, RDT&E Schedule Details: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160431BB / *Warrior Systems*	**Project (Number/Name)** S395 / *Visual Augmentation, Lasers and Sensor Systems*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Visual Augmentation, Lasers and Sensor Systems				
VAS System Development	2	2017	4	2023

Exhibit R-2A, RDT&E Project Justification: PB 2019 United States Special Operations Command			Date: February 2018
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 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
S700: *Communications Equipment and Electronics Systems*	12.606	9.037	12.864	13.966	-	13.966	16.605	16.773	11.729	11.965	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 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Title: Satellite Deployable Node (SDN)	2.846	7.982	9.527	-	9.527
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 tele-conferencing (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 2018 Plans: Assess, test and evaluate wide-band Communications-on-the-Move (COTM) maritime, assessment of reduction of size, weight and power (SWAP), ground mobile, and airborne technologies. Continue Evolutionary Technology Insertion (ETI) integration. Evaluate new SATCOM constellations.					
FY 2019 Base Plans: Continues assessments, tests and evaluations for wide-band COTM maritime, continues assessments of reduction of size, weight and power (SWAP), ground mobile, and airborne technologies. Continues ETI integration. Continues evaluation of new SATCOM constellations. Evaluates resiliency of systems in a					

Exhibit R-2A, RDT&E Project Justification: PB 2019 United States Special Operations Command		Date: February 2018
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 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
degraded communication environment. Evaluates and tests SDN wireless and gray network capabilities. Evaluate and testing of mobile technologies. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Increase of $1.627 million supports testing and evaluation of the latest high throughput satellite terminals in support of the future SATCOM Constellations effort to evaluate resiliency of systems in a degraded communication environment, evaluate and test SDN wireless network capabilities, and evaluate and test of mobile technologies.					
Title: Civil Information Management (CIM) ***Description:*** The 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 in support of military operations. ***FY 2018 Plans:*** Continue development and integration of Link Analysis and Mobility, and Next Generation CIMDPS Hardware platform in support of CA communities. ***FY 2019 Base Plans:*** Continues development and integration of Link Analysis and Mobility, and Next Generation CIMDPS Hardware platform in support of CA communities. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** The FY 2019 funding was reduced by -$0.022 million to account for the availability of prior year execution balances and minor adjustments.	1.788	0.207	0.185	-	0.185
Title: Special Communications (SPCOM) Enterprise program ***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. ***FY 2018 Plans:***	4.403	4.675	4.254	-	4.254

Exhibit R-2A, RDT&E Project Justification: PB 2019 United States Special Operations Command		Date: February 2018
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 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
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. Conduct extensive vulnerability assessments plus independent verification and validation. ***FY 2019 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. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** The FY 2019 funding was reduced by -$0.421 million to account for the availability of prior year execution balances and minor adjustments.					
Accomplishments/Planned Programs Subtotals	9.037	12.864	13.966	-	13.966

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
• PROC/0204WARRIOR: *Warrior Systems<$5M*	266.704	272.285	438.590	21.135	459.725	293.465	304.301	282.452	295.368	Continuing	Continuing
• PROC/0204OTHER: *OTHER ITEMS <$5M*	77.231	54.592	112.117	7.700	119.817	94.206	95.898	89.320	85.302	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. Commercial and government agency sources will be leveraged for required certifications, functional and operational tests, and acceptance support.

Exhibit R-2A, RDT&E Project Justification: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160431BB / *Warrior Systems*	**Project (Number/Name)** S700 / *Communications Equipment and Electronics Systems*

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 United States Special Operations Command		Date: February 2018
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)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Satellite Deployable Node (SDN) Development Assessment	MIPR	Various : Various	3.405	1.447	Mar 2017	2.110	Dec 2017	4.806	Dec 2018	-		4.806	Continuing	Continuing	-
Civil Information Management Data Processing System (CIMDPS) Development	PO	TBD : SOF AT&L - KS, MACDILL AFB	-	1.788	Mar 2017	0.207	Mar 2018	0.185	Mar 2019	-		0.185	0.000	2.180	-
Special Communications (SPCOM) Enterprise Capability Development	TBD	Various : Various	4.817	3.656	Mar 2017	3.845	Feb 2018	3.329	Mar 2019	-		3.329	Continuing	Continuing	-
SPCOM Technology Vulnerability Assessments	MIPR	MITRE : Bedford, MA	1.170	0.510	Dec 2016	0.530	Dec 2017	0.669	Dec 2018	-		0.669	Continuing	Continuing	-
		Subtotal	9.392	7.401		6.692		8.989		-		8.989	Continuing	Continuing	N/A

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
SDN Market Research Evaluation and Testing	MIPR	Various : Various	2.366	1.399	Mar 2017	5.872	Jan 2018	4.721	Feb 2019	-		4.721	Continuing	Continuing	-
SPCOM Independent Verification and Validation	MIPR	MITRE : Bedford, MA	0.848	0.237	Mar 2017	0.300	Dec 2017	0.256	Dec 2018	-		0.256	Continuing	Continuing	-
		Subtotal	3.214	1.636		6.172		4.977		-		4.977	Continuing	Continuing	N/A

	Prior Years	FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	12.606	9.037		12.864		13.966		-		13.966	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2019 United States Special Operations Command		Date: February 2018
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

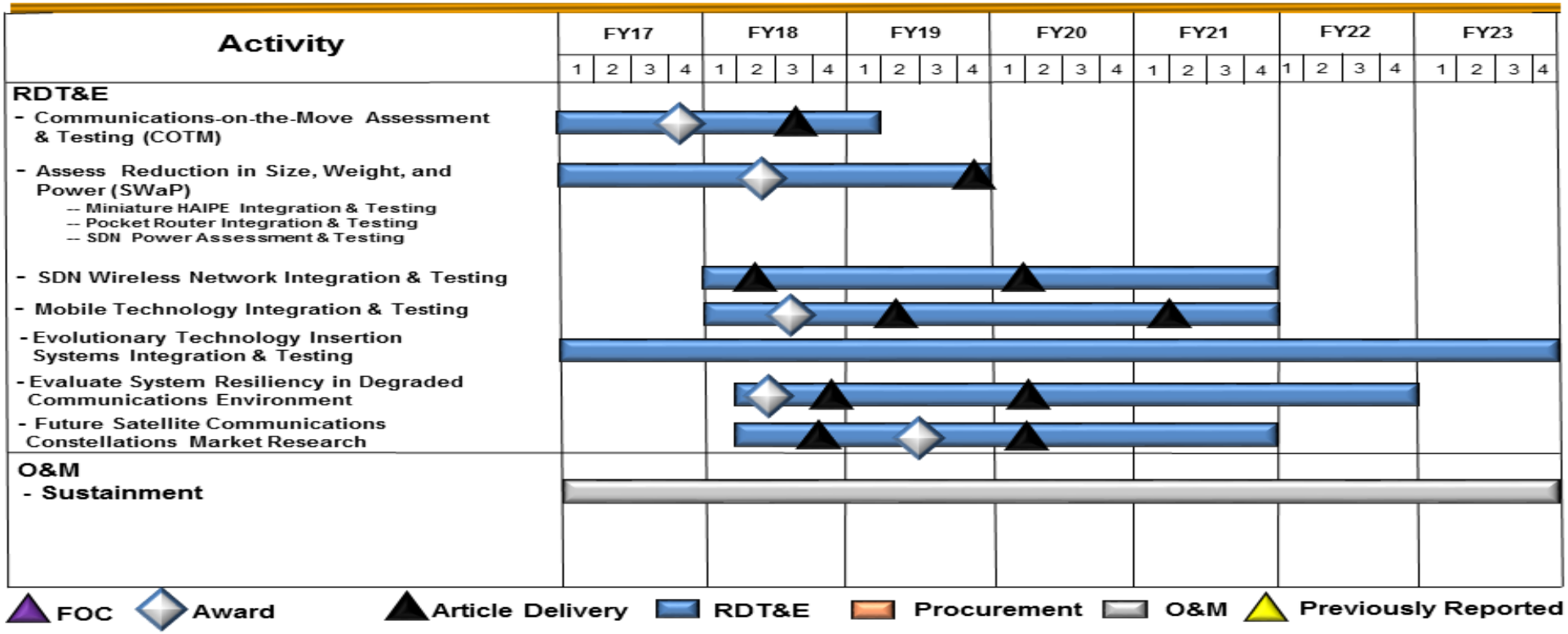


Exhibit R-4, RDT&E Schedule Profile: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160431BB / *Warrior Systems*	**Project (Number/Name)** S700 / *Communications Equipment and Electronics Systems*

SDN Schedule (con't)

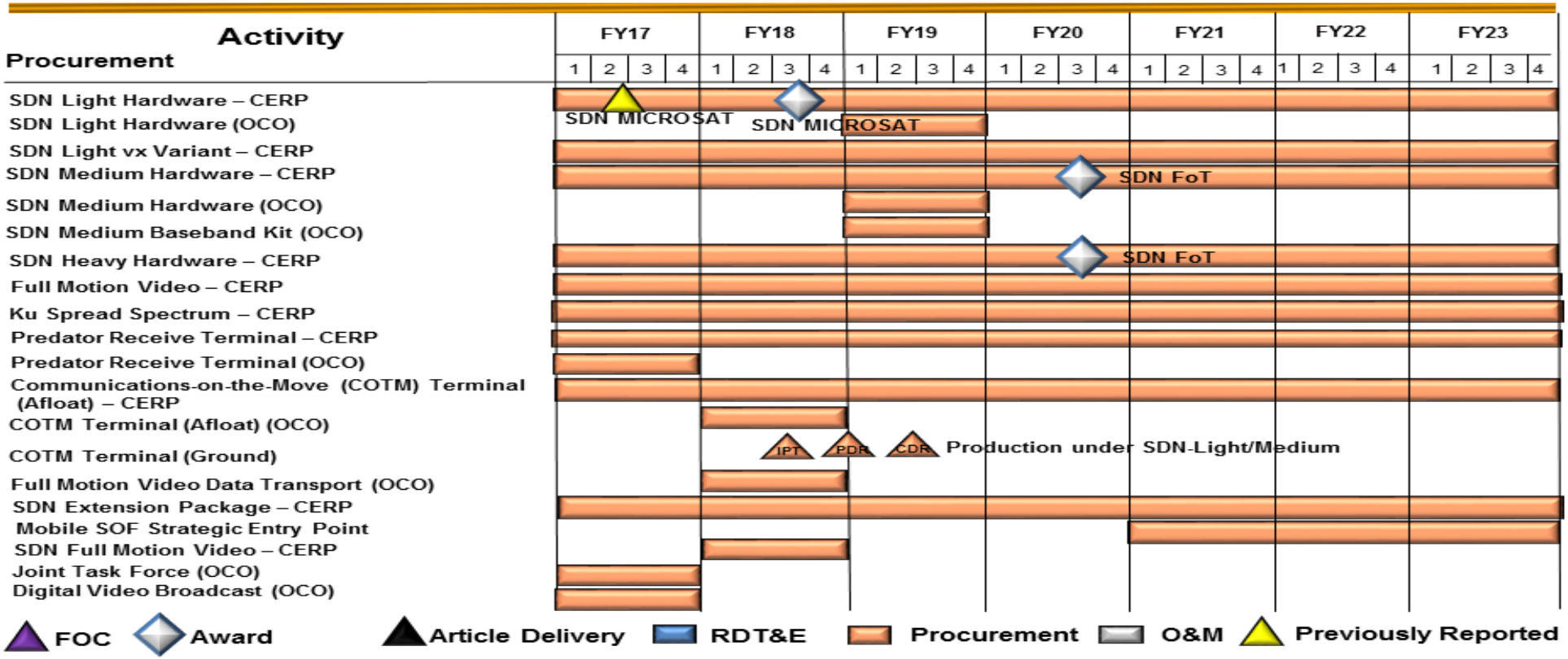
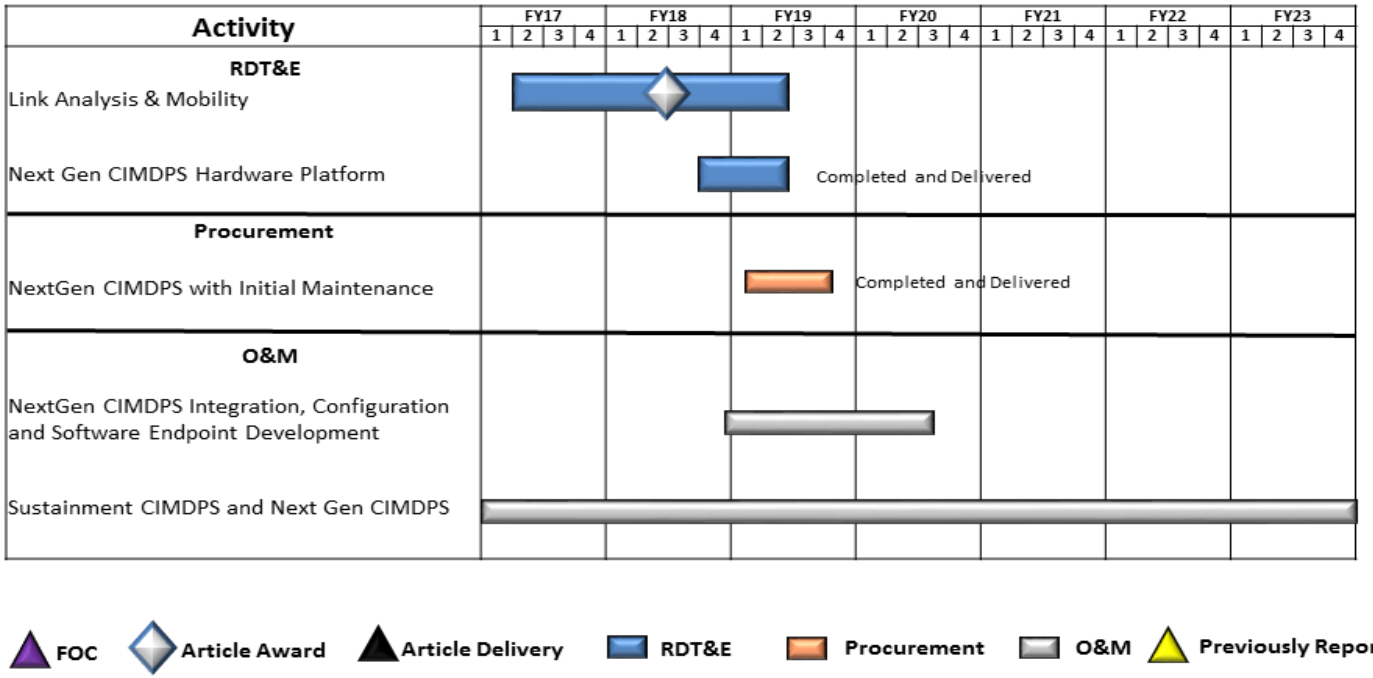


Exhibit R-4, RDT&E Schedule Profile: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160431BB / *Warrior Systems*	**Project (Number/Name)** S700 / *Communications Equipment and Electronics Systems*

Civil Information Management Data Processing System Schedule



FOC | Article Award | Article Delivery | RDT&E | Procurement | O&M | Previously Reported

Exhibit R-4, RDT&E Schedule Profile: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160431BB / *Warrior Systems*	**Project (Number/Name)** S700 / *Communications Equipment and Electronics Systems*

Special Communications Enterprise Schedule

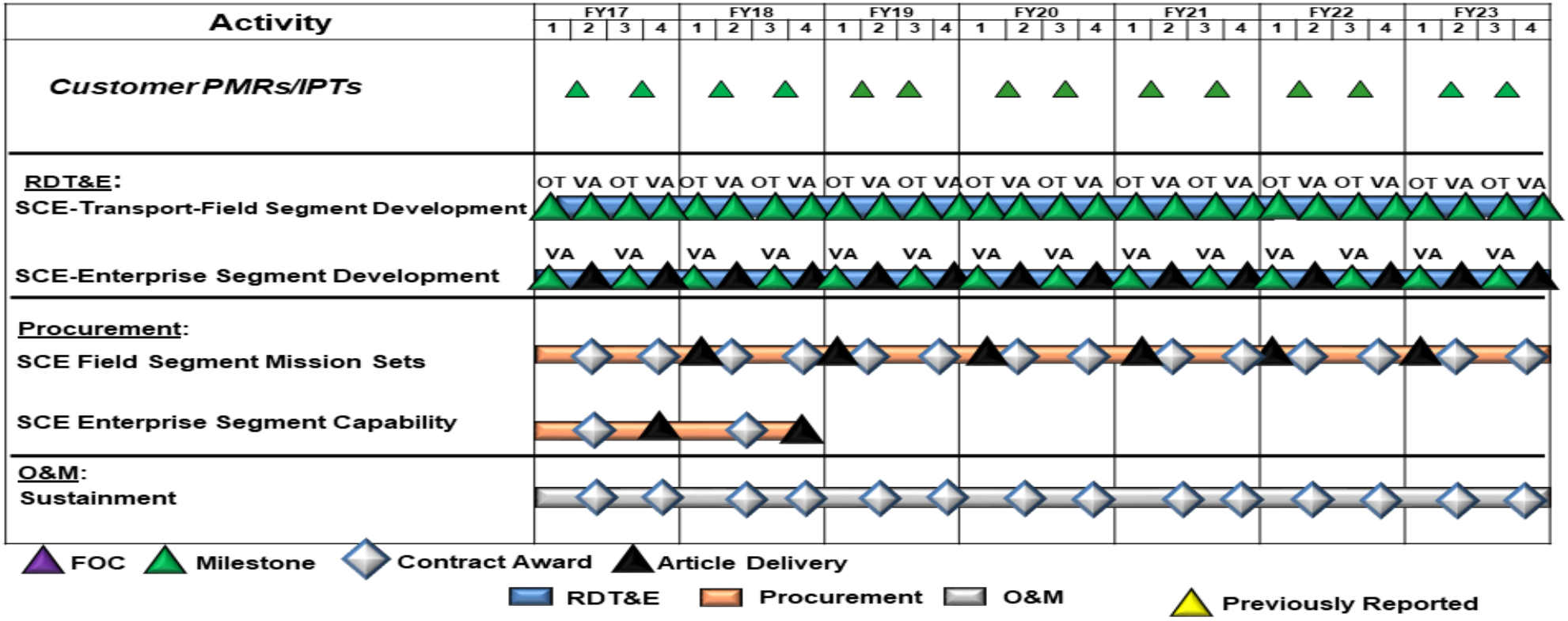


Exhibit R-4A, RDT&E Schedule Details: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160431BB / *Warrior Systems*	**Project (Number/Name)** S700 / *Communications Equipment and Electronics Systems*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
SOF Deployable Node (SDN)				
Communications-on-the-Move (COTM) Assessment & Testing	1	2017	1	2019
Evolutionary Technology Insertion (ETI) Systems Integration & Testing	1	2017	4	2023
Evaluate System Resiliency in Degraded Communications Environment	2	2018	4	2022
Future Satellite Communications Constellations Market Research	2	2018	4	2021
CIVIL INFORMATION MANAGEMENT (CIM)				
Link Analysis & Mobility	2	2017	2	2019
Next Generation Civil Information Management Data Processing System (CIMDPS) Hardware Platform	2	2018	2	2019
Special Communications (SPCOM) Enterprise Program				
Field Segment Kit Development	1	2016	4	2023
Enterprise Segment Services Development	1	2016	4	2023

Exhibit R-2A, RDT&E Project Justification: PB 2019 United States Special Operations Command			Date: February 2018
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 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
S710: *Tactical Systems Development*	1.812	1.083	2.416	4.240	-	4.240	3.328	3.359	3.117	3.180	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 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Title: Tactical Local Area Network (TACLAN) Suites	1.083	2.416	4.240	-	4.240
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, Coalition Local Area Network, and Full Motion Video Kits.					
FY 2018 Plans: Continue integration and testing of Evolutionary Technology Insertion (ETI) for Secure Data At Rest, secure wireless and cross domain solutions. Continue assessment, test and evaluation of the design and development of distributed cloud architecture to reduce complexity, improve resiliency, empower mobility, and increase security of the SIE.					
FY 2019 Base Plans: Continues integration and testing of Evolutionary Technology Insertion (ETI) for Secure Data At Rest, secure wireless and cross domain solutions. Continue assessment, test and evaluation of the design and development of distributed cloud architecture to reduce complexity, improve resiliency, empower mobility, and increase security of the SIE. Beginning integration of tactical End User Devices (EUD) and micro-server processors into mobile cloud architecture and establish multiple points of entry into the SOF Information Environment through all forms of wireless tactical transport. Beginning development of cross domain solutions on TACLAN Modular systems and integrate Software Defined Networking to the architecture to further reduce material footprint.					

Exhibit R-2A, RDT&E Project Justification: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160431BB / *Warrior Systems*	**Project (Number/Name)** S710 / *Tactical Systems Development*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Begins development of Tactical Personal Area Networks (TPAN) and Wireless Personal Area Networks (WPAN). ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Net Increase of $1.861M provides integration and testing of wearable technologies and increase interoperability in tactical C4 platform environments. Empower user mobility through the development of TPAN and WPAN.					
Accomplishments/Planned Programs Subtotals	1.083	2.416	4.240	-	4.240

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
• PROC/0204OTHER: *OTHER ITEMS <$5M*	77.231	54.592	112.117	7.700	119.817	94.206	95.898	89.320	85.302	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

Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 United States Special Operations Command			Date: February 2018
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160431BB / *Warrior Systems*	Project (Number/Name) S710 / *Tactical Systems Development*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Secure Data/Wireless	Reqn	iGov : Tampa, FL	1.812	0.379	May 2017	0.850	Jan 2018	1.500	Jan 2019	-		1.500	Continuing	Continuing	-
Virtualized Network Management	MIPR	CERDEC : Aberdeen, MD	-	0.368	Mar 2017	0.815	Mar 2019	1.419	Mar 2019	-		1.419	Continuing	Continuing	-
Enterprise Network Infrastructure	MIPR	NAVAIR : Paxtuxant River, MD	-	0.336	Feb 2017	0.751	Feb 2019	1.321	Feb 2019	-		1.321	Continuing	Continuing	-
		Subtotal	1.812	1.083		2.416		4.240		-		4.240	Continuing	Continuing	N/A

	Prior Years	FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	1.812	1.083		2.416		4.240		-		4.240	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160431BB / *Warrior Systems*	**Project (Number/Name)** S710 / *Tactical Systems Development*

TACLAN Schedule

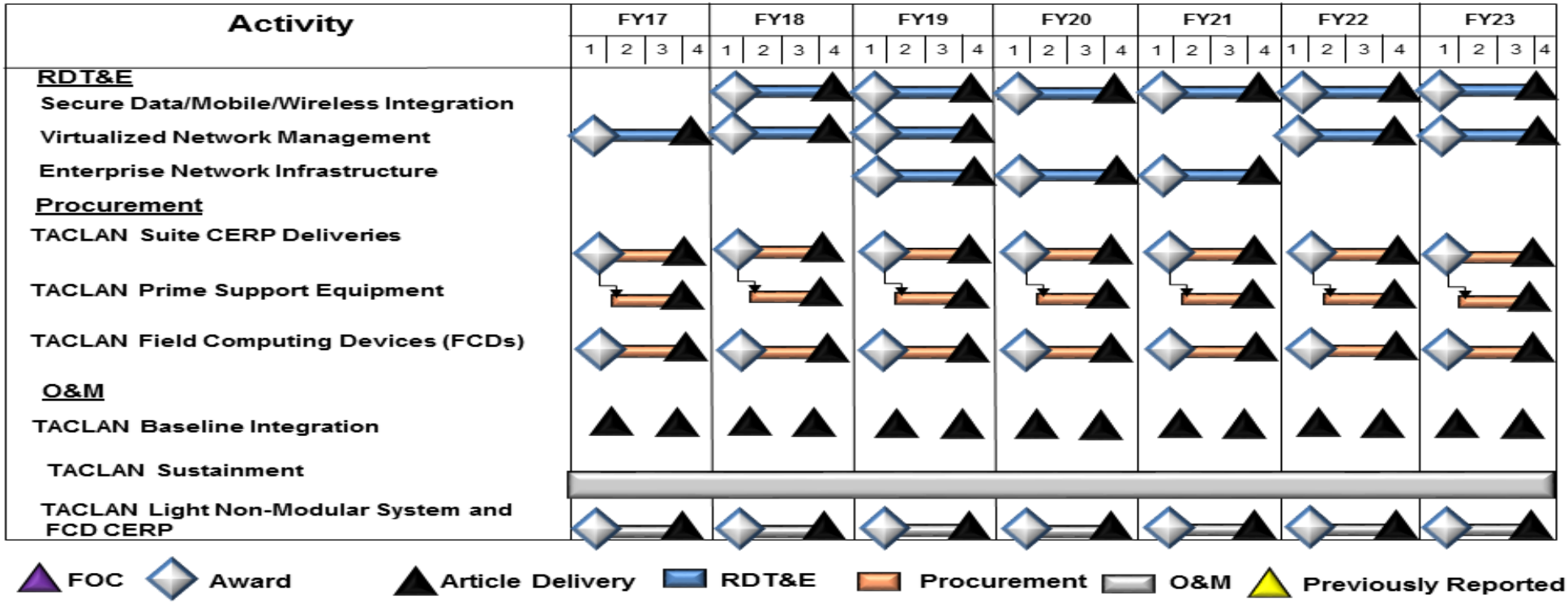


Exhibit R-4A, RDT&E Schedule Details: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160431BB / *Warrior Systems*	**Project (Number/Name)** S710 / *Tactical Systems Development*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Tactical Local Area Network (TACLAN) Suites				
Secure Data Mobile Wireless Intergration	2	2017	4	2023
Virtualized Network Management	2	2017	4	2023
Enterprise Network Infrastructure	2	2017	4	2023

Exhibit R-2A, RDT&E Project Justification: PB 2019 United States Special Operations Command			Date: February 2018
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 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
S725: *Tactical Radio Systems*	9.684	3.620	13.183	4.660	-	4.660	10.691	7.286	1.871	1.909	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 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Title: SOF Tactical Communications (STC)	3.551	13.112	4.589	-	4.589
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 2018 Plans: Continue development, integration and testing of new capabilities in tactical radio equipment. Enable modernization and testing of Cryptography and Global Positioning System (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 Networking (MANET) waveforms, and the Link-16 Tactical Data Link (TDL) waveform.					
FY 2019 Base Plans: Continues development, integration and testing of new capabilities in tactical radio equipment. Enables modernization and testing of Cryptography and GPS technology in accordance with DOD modernization directives for a fleet of more than 33,000 tactical radios. Enables integration and testing of emerging HF waveform, the Mobile User Objective Waveform, emerging MANET waveforms, and the Link-16 TDL waveform.					
FY 2018 to FY 2019 Increase/Decrease Statement:					

Exhibit R-2A, RDT&E Project Justification: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160431BB / *Warrior Systems*	**Project (Number/Name)** S725 / *Tactical Radio Systems*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Net decrease of $8.482 million is due to a -$0.250 million decrease to re-phase effort into FY 2019 for prior year under-execution and a decrease of -$8.232 million for higher command priorities.					
Title: Blue Force Tracking (BFT) ***Description:*** BFT is a family of devices used to remotely track and monitor Blue forces. 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 2018 Plans:*** Continue development and test of new capabilities in BFT equipment. ***FY 2019 Base Plans:*** Continues development and test of new capabilities in BFT equipment. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** None.	0.069	0.071	0.071	-	0.071
Accomplishments/Planned Programs Subtotals	3.620	13.183	4.660	-	4.660

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
• PROC/0204WARRIOR: *Warrior Systems<$5M*	266.704	272.285	438.590	21.135	459.725	293.645	304.301	282.452	295.368	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.

E. Performance Metrics

N/A.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 United States Special Operations Command			Date: February 2018
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)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
SOF Tactical Communications Radio Development (STC)	MIPR	Various : Various	6.708	3.276	Jan 2017	11.276	Jan 2018	4.211	Jan 2019	-		4.211	Continuing	Continuing	-
Blue Force Tracking Development	MIPR	Various : Various	2.393	0.069	Jan 2017	0.071	Jan 2018	0.071	Jan 2019	-		0.071	Continuing	Continuing	-
		Subtotal	9.101	3.345		11.347		4.282		-		4.282	Continuing	Continuing	N/A

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
STC Testing	Option/ TBD	Various : Various	0.583	0.275	Jan 2017	1.836	Jan 2018	0.378	Jan 2019	-		0.378	Continuing	Continuing	-
		Subtotal	0.583	0.275		1.836		0.378		-		0.378	Continuing	Continuing	N/A

	Prior Years	FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	9.684	3.620		13.183		4.660		-		4.660	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160431BB / *Warrior Systems*	**Project (Number/Name)** S725 / *Tactical Radio Systems*

STC Schedule

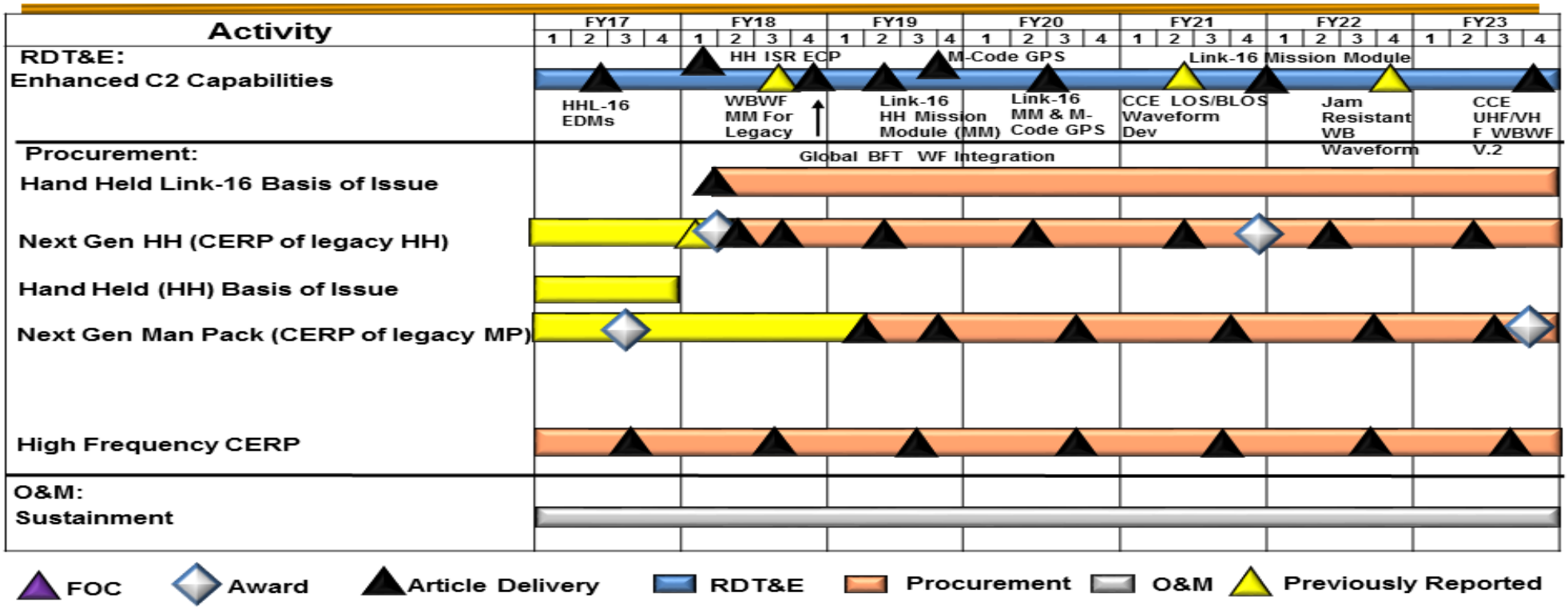


Exhibit R-4, RDT&E Schedule Profile: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160431BB / *Warrior Systems*	**Project (Number/Name)** S725 / *Tactical Radio Systems*

BFT Schedule

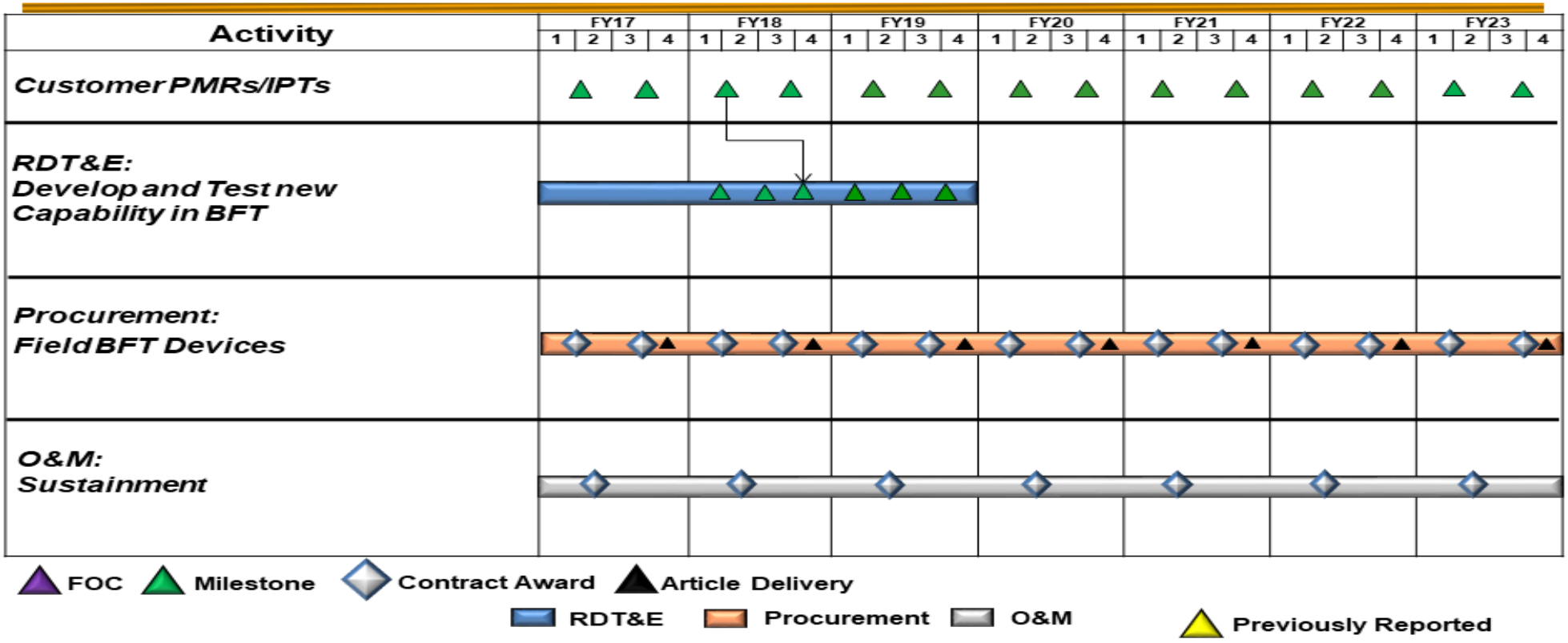


Exhibit R-4A, RDT&E Schedule Details: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160431BB / *Warrior Systems*	**Project (Number/Name)** S725 / *Tactical Radio Systems*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
SOF Tactical Communications Radio				
Development	1	2017	4	2023
Test and Evaluation	1	2017	4	2023

Exhibit R-2A, RDT&E Project Justification: PB 2019 United States Special Operations Command			Date: February 2018
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 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
S800: *Munitions Advanced Development*	15.052	29.614	5.491	8.730	8.040	16.770	20.791	4.882	4.855	12.866	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 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Title: Munitions Advanced Development	0.504	0.531	0.436	-	0.436
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 2018 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 2019 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 2018 to FY 2019 Increase/Decrease Statement: Increase of $ 0.095 million is due to minor adjustments.					
Title: Stand-Off Precision Guided Munitions (SOPGM)	11.738	2.460	0.694	8.040	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 2017.					
FY 2018 Plans:					

Exhibit R-2A, RDT&E Project Justification: PB 2019 United States Special Operations Command		Date: February 2018
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 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Continue integration and testing of precision guided munitions on SOF platforms. ***FY 2019 Base Plans:*** Continues integration and testing of precision guided munitions on SOF platforms. ***FY 2019 OCO Plans:*** Begin integration of low-drag, lightweight, multi-capacity precision weapons stores for SOF platforms. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Net increase of $6.274 million due to a decrease of -$1.766 million due to planned completion of Small Diameter Bomb (SDB) II development and increase of $8.040 million for integration and test of multi-capacity weapons stores.					
Title: Maritime Precision Engagement (MPE) ***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 Base Plans:*** Initiates the engineering, integration and testing of service-common and recently developed precision guided munitions on SOF-unique platforms. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Increase of $2.305 million initiates the engineering, integration and testing of service-common and recently developed precision guided munitions on SOF-unique platforms.	-	-	2.500	-	2.500
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. ***FY 2018 Plans:*** Begin development of flare countermeasures to increase effectiveness against evolving threats. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Decrease of $2.500 million is due to completion of flare countermeasures development.	-	2.500	-	-	-
Title: Counter Unmanned Aerial System (C-UAS)	-	-	5.100	-	5.100

Exhibit R-2A, RDT&E Project Justification: PB 2019 United States Special Operations Command		Date: February 2018
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 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Description: C-UAS is a complex mission, requiring a layered architecture of technical solutions to protect the Operator. These solutions are a mix of USSOCOM provided SOF unique equipment as well as Service developed capabilities. ***FY 2019 Base Plans:*** This funding will support the development, procurement 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 expeditiously provide kinetic Counter-Unmanned Aerial System (C-UAS) capabilities to the Warfighter. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Increase of $5.100 million supports 40mm Low Collateral Damage (LCS) air-burst munition for use with MK-47 automatic grenade launcher to provide Kinetic Counter-Unmanned Aerial System (C-UAS).					
Accomplishments/Planned Programs Subtotals	12.242	5.491	8.730	8.040	16.770

	FY 2017	FY 2018
Congressional Add: SOPGM ***FY 2017 Accomplishments:*** Continued integration of Small Glide Munition on SOF platforms while expanding capabilities of weapon for operational needs	11.563	-
Congressional Add: LMAMS ***FY 2017 Accomplishments:*** Provides test and integration of aerial munitions onto a SOF-unique platform.	5.809	-
Congressional Adds Subtotals	17.372	-

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
• PROC/0203ORDN: *Ordnance Items <$5M*	156.537	174.974	357.742	100.850	458.592	258.504	169.022	170.510	178.890	Continuing	Continuing

Remarks

Exhibit R-2A, RDT&E Project Justification: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160431BB / *Warrior Systems*	**Project (Number/Name)** S800 / *Munitions Advanced Development*

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.

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.

MPE: 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.

ASE: Development of new systems, pre-planned product improvements/upgrades of fielded survivability equipment, and continue development of flare countermeasures.

C-UAS: Development of evolving Electronic Countermeasures (ECM) capability to Counter Unmanned Aerial Systems (C-UAS) emerging threats.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 United States Special Operations Command			Date: February 2018
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)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
MQ-9 LSDB/SDB II Weapon Mount Hardware Development	SS/ Various	General Atomics : NY	-	2.183	Sep 2017	0.974	Jan 2018	-		-		-	0.000	3.157	-
MQ-9 LSDB/SDB II Weapon Mount Software Development	SS/ Various	Boeing : MO	-	3.655	Aug 2017	-		-		-		-	0.000	3.655	-
MQ-9 LSDB Software Update	SS/ Various	Boeing : MO	-	0.300	Nov 2017	1.486	Jan 2018	-		-		-	0.000	1.786	-
MQ-9 LSDB/SDB II Universal Armament Interface Software Development	SS/ Various	Boeing : MO	-	4.500	Jan 2017	-		-		-		-	0.000	4.500	-
SGM Integration Congressional Plus Up	C/Various	Dynetics : AL	10.500	6.735	Jul 2017	-		-		-		-	0.000	17.235	-
Aircraft Survivability Equipment Development	Various	Various : Various	-	-		2.500	Jan 2017	-		-		-	Continuing	Continuing	-
LMAMS Development Congressional Plus Up	C/Various	Various : Various	-	5.809	Jul 2017	-		-		-		-	Continuing	Continuing	-
Counter Unmanned Aerial System (CUAS)	C/Various	Various : Various	-	-		-		5.100	Feb 2018	-		5.100	Continuing	Continuing	-
SOPGM Maritime	C/Various	Various : Various	-	-		-		2.500	Feb 2018	-		2.500	Continuing	Continuing	-
Prior Year	C/Various	Various : Various	2.933	-		-		-		-		-	0.000	2.933	-
		Subtotal	13.433	23.182		4.960		7.600		-		7.600	Continuing	Continuing	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
LSDB/SDB Support	C/Various	Boeing : MO	-	1.100	Feb 2017	-		-		-		-	0.000	1.100	-
SGM Support Congressional Plus Up	C/Various	Dynetics : AL	-	2.354	Aug 2017	-		-		-		-	0.000	2.354	-
		Subtotal	-	3.454		-		-		-		-	0.000	3.454	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 United States Special Operations Command			Date: February 2018
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)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
MQ-9 LSDB/SDB II Integration & Test	SS/TBD	Boeing : MO	-	-		-		0.694	Dec 2018	-		0.694	0.000	0.694	-
MQ-9 LSDB/SDB II Integration & Test Overseas Contingency Operations (OCO)	SS/TBD	Boeing : MO	-	-		-		0.000		8.040	Dec 2018	8.040	0.000	8.040	-
SGM Test Congressional Plus Up	C/Various	Dynetics : AL	-	2.474	Jul 2017	-		-		-		-	0.000	2.474	-
Munitions - Insensitive Munitions (IM) Evaluation	C/FFP	US Air Force Air Armaments Center : Eglin, AFB, FL	-	0.056	Jan 2017	0.058	Jan 2018	0.059	Jan 2019	-		0.059	Continuing	Continuing	-
Munitions - IM Testing	Allot	ARDEC : Picatinny Arsenal, NJ	-	0.307	Jan 2017	0.325	Jan 2018	0.227	Jan 2019	-		0.227	Continuing	Continuing	-
Munitions Advanced Development - Obtain Munitions Test Articles	C/FFP	General Dynamics : Canada	-	0.141	Jan 2017	0.148	Jan 2018	0.150	Jan 2019	-		0.150	Continuing	Continuing	-
Prior Year	C/Various	Various : Various	1.619	-		-		-		-		-	0.000	1.619	-
		Subtotal	1.619	2.978		0.531		1.130		8.040		9.170	Continuing	Continuing	N/A

	Prior Years	FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	15.052	29.614		5.491		8.730		8.040		16.770	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160431BB / *Warrior Systems*	**Project (Number/Name)** S800 / *Munitions Advanced Development*

Ordnance Items < $5M Schedule

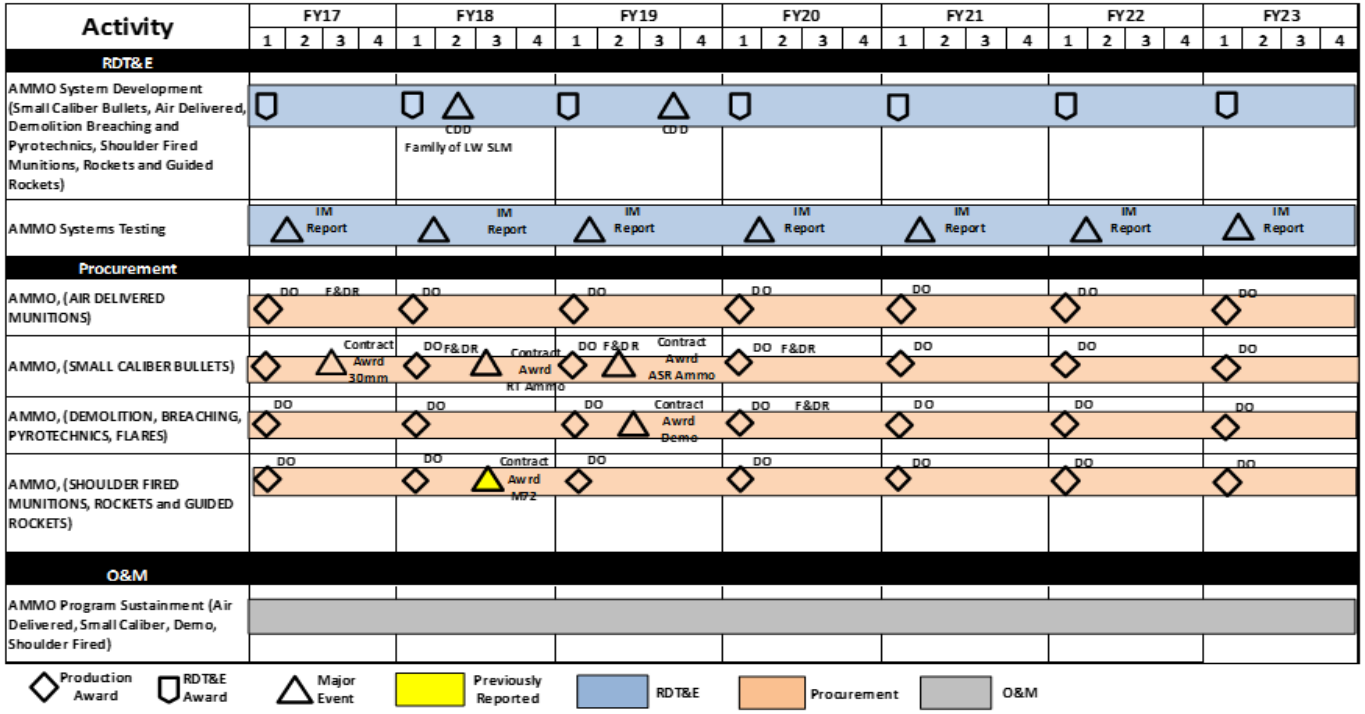


Exhibit R-4, RDT&E Schedule Profile: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160431BB / *Warrior Systems*	**Project (Number/Name)** S800 / *Munitions Advanced Development*

SOPGM Schedule

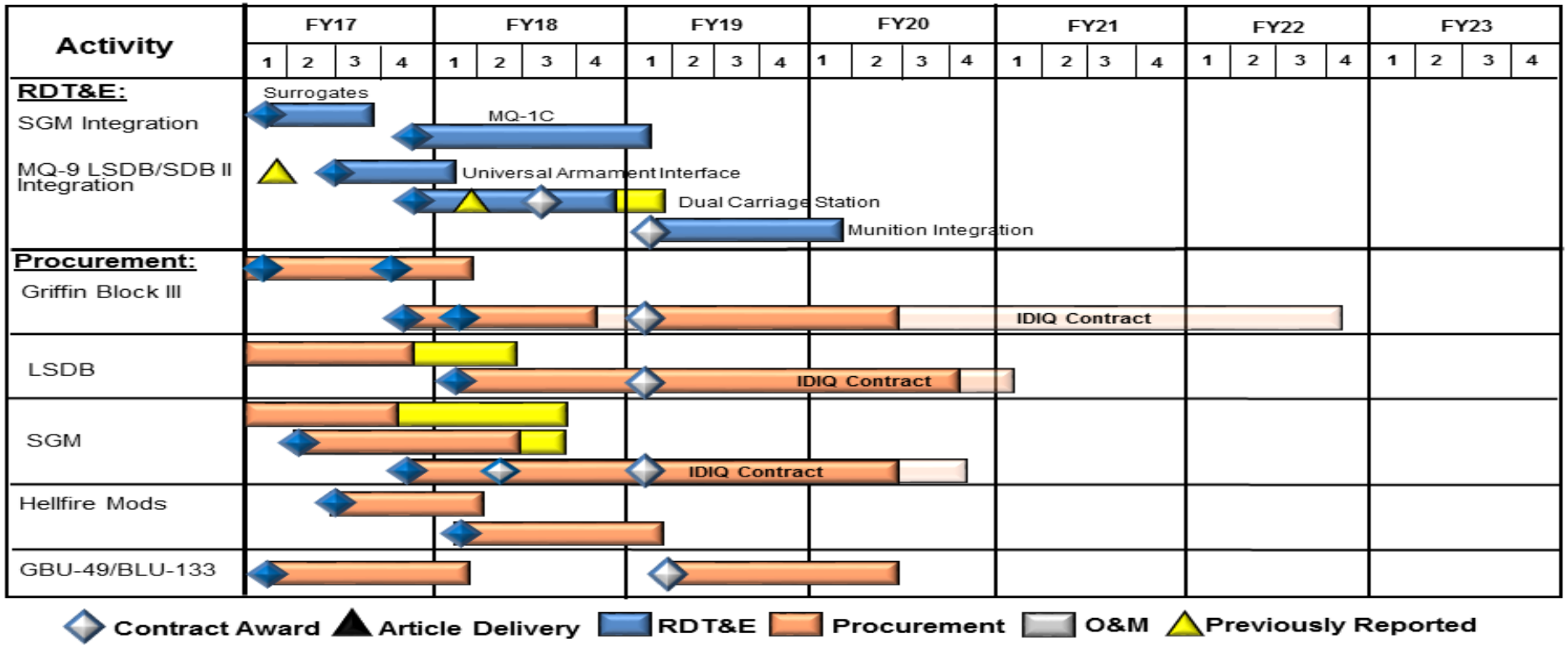


Exhibit R-4A, RDT&E Schedule Details: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160431BB / *Warrior Systems*	**Project (Number/Name)** S800 / *Munitions Advanced Development*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
SGM Integration				
Classified Surrogate Aircraft Integration/Test	1	2017	3	2017
MQ-1C Integration/Test	4	2017	1	2019
SDB II Integration				
Universal Armament Interface Development	3	2017	1	2018
Dual-Carrage Station Development	4	2017	1	2019
Integration and Test	1	2018	1	2020

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Exhibit R-2, RDT&E Budget Item Justification: PB 2019 United States Special Operations Command	Date: February 2018
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 1160432BB / *Special Programs*

COST ($ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
Total Program Element	27.196	2.267	1.978	2.479	-	2.479	2.478	0.000	0.000	0.000	Continuing	Continuing
S500E: *Special Programs*	27.196	2.267	1.978	2.479	-	2.479	2.478	0.000	0.000	0.000	Continuing	Continuing

A. Mission Description and Budget Item Justification

This project is reported in accordance with Title 10, United States Code, Section 119(a)(1) in the Special Access Program Annual Report to Congress.

B. Program Change Summary ($ in Millions)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Previous President's Budget	1.949	1.978	1.678	-	1.678
Current President's Budget	2.267	1.978	2.479	-	2.479
Total Adjustments	0.318	0.000	0.801	-	0.801
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	0.389	-			
• SBIR/STTR Transfer	-0.071	-			
• Other	-	-	0.801	-	0.801

Change Summary Explanation

Funding:

FY2017: Net increase or $0.318 million is due to transfer of funds to Small Business Innovative Research/Small Business Technology Transfer programs (-$0.071 million) and a reprogramming of $0.389 million with details available under separate cover.

FY18: None.

FY2019: Net increase of $0.801 million is due to a $0.021 million decrease Department economic assumption decrease and an $0.822 million increase available under separate cover.

Schedule: None.

Technical: None.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2019 United States Special Operations Command	Date: February 2018
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 1160434BB / *Unmanned ISR*

COST ($ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
Total Program Element	0.000	19.110	34.766	27.270	11.700	38.970	30.549	30.207	29.274	71.165	Continuing	Continuing
S855: *Unmanned ISR*	0.000	19.110	34.766	27.270	11.700	38.970	30.549	30.207	29.274	71.165	Continuing	Continuing

A. Mission Description and Budget Item Justification

NOTE: Unmanned Intelligence, Surveillance, and Reconnaissance (ISR) includes the consolidation of Special Applications for Contingencies (previously Program Element (PE) 0304210BB); MQ-1 Unmanned Aerial Vehicle (UAV), (previously PE 0305219BB); MQ-8, (previously PE 0305231BB); RQ-11, UAV (previously PE 1105232BB); and RQ-7 UAV, (previously PE 1105233BB).

This program element is part of the Military Intelligence Program (MIP). Unmanned ISR develops and deploys special capabilities to perform Intelligence, Surveillance, and Reconnaissance (ISR) for deployed Special Operations Forces (SOF) using non-traditional means. USSOCOM has been designated as the DOD lead for planning, synchronizing, and as directed, executing global operations against terrorist networks and targets. USSOCOM requires the capability to find, fix, and finish time-sensitive high-value fixed and fleeting targets at the unit and team level without placing personnel and units in harm's way. These targets can often only be identified with patient collection of information and require rapid, decisive action during the short periods in which they present themselves. This PE addresses the primary areas of ISR and Targeting capabilities for SOF.

B. Program Change Summary ($ in Millions)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Previous President's Budget	22.117	34.766	28.060	-	28.060
Current President's Budget	19.110	34.766	27.270	11.700	38.970
Total Adjustments	-3.007	0.000	-0.790	11.700	10.910
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-3.007	-			
• SBIR/STTR Transfer	-	-			
• Other	-	-	-0.790	11.700	10.910

Change Summary Explanation

Funding:

Exhibit R-2, RDT&E Budget Item Justification: PB 2019 United States Special Operations Command	Date: February 2018
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 1160434BB / *Unmanned ISR*

FY 2017: Net decrease of -$3.007 million due to the reprogramming increase of $0.200 million for development and combat evaluation of selected sensor delivery platforms and mounted or deliverable ISR capabilities for global contingencies including short-notice requirements and decrease of $3.207 million reprogrammed for higher command priorities.

FY 2018: None.

FY 2019: Net decrease of $0.790 million is an increase that continues evaluation of unique sensor technologies, persistent stare, and quick reaction systems ($3.219 million); a decrease due to a Departmental economic assumption adjustment (-$0.263 million); and the FY2019 funding request was reduced by -$3.746 million to account for the availability of prior year execution balances.

FY 2019 OVERSEAS CONTINGENCY OPERATIONS. Increase of $11.700 million is for advanced payload development; development and integration of Beyond Line of Sight wiring harnesses required to operate SOF-unique sensors, VORTEX encrypted data link capability, and Persistent Close Air Support collaborative engagement management capabilities on the SOF Gray Eagle Extended Range UAS.

Schedule: None.

Technical: None.

Exhibit R-2A, RDT&E Project Justification: PB 2019 United States Special Operations Command			Date: February 2018
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160434BB / *Unmanned ISR*	Project (Number/Name) S855 / *Unmanned ISR*	

COST ($ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
S855: *Unmanned ISR*	0.000	19.110	34.766	27.270	11.700	38.970	30.549	30.207	29.274	71.165	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project is part of the Military Intelligence Program (MIP). Develops and deploys special capabilities to perform intelligence, surveillance, and reconnaissance (ISR) for deployed Special Operations Forces (SOF) using non-traditional means.

Group 1, 2, 3 and 4, Unmanned Aerial Systems (UAS) developmental efforts are to identify, develop, integrate, and test SOF-unique mission kits, mission payloads, air vehicle enhancements, and modifications to ground control stations. SAFC develops and integrates UAS payloads to advance ISR capabilities that address dynamic and emergent operational needs of the SOF user. Efforts include improving imagery intelligence and electronic warfare payloads, capitalizing on developing technologies to reduce size, weight and power while addressing processing and data management challenges. This program also provides a mechanism for SOF user combat evaluation of emerging sensor technologies.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Title: SAFC	15.300	29.499	20.679	-	20.679
Description: Provides for efforts to develop and integrate Unmanned Aerial Systems (UAS) payloads and technologies to advance ISR capabilities to address dynamic and emergent operational needs and vulnerabilities of the SOF user. Efforts include improving imagery intelligence and electronic warfare payloads, capitalizing on developing technologies to reduce size, weight and power while addressing processing and data management challenges. It also provides a mechanism for SOF user combat evaluation of emerging sensor technologies. SAFC applies focused Research & Development (R&D) for relatively low cost solutions to provide short lead-time contingency planning requirements where focused R&D will allow for test and evaluation of leading edge solutions to emergent problem sets.					
FY 2018 Plans: Continue development and combat evaluation of selected sensor delivery platforms and mounted or deliverable ISR capabilities for global contingencies including short-notice requirements. Continue to evaluate unique sensor technologies, persistent stare and quick reaction systems.					
FY 2019 Base Plans:					

Exhibit R-2A, RDT&E Project Justification: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160434BB / *Unmanned ISR*	**Project (Number/Name)** S855 / *Unmanned ISR*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Continues development and combat evaluation of selected sensor delivery platforms and mounted or deliverable ISR capabilities for global contingencies including short-notice requirements. Continues evaluation of unique sensor technologies, persistent stare and quick reaction systems. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Decrease of $8.820 million is due to completion of development for a classified program.					
Title: Group 1 UAS ***Description:*** Group 1 UAS are small tactical systems, less than 20 pounds in weight. Provides for development efforts to identify, develop, integrate, and test SOF-unique mission kits. ***FY 2018 Plans:*** Continue to integrate, and test SOF-unique mission kits, mission payloads, and modifications to the small tactical UAS and ground control station, to include but not limited to: improved capabilities for geo-location, collection of push-to-talk, communications, specialized tagging, tracking, and locating, and enhanced communications relay and work to miniaturize previously developed payloads. ***FY 2019 Base Plans:*** Continues integration and testing of SOF-unique mission kits, mission payloads, and modifications to the small tactical UAS and ground control station, to include but not limited to: improved capabilities for geo-location, collection of push-to-talk, communications, specialized tagging, tracking, and locating, and enhanced communications relay and work to miniaturize previously developed payloads. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Decrease of $0.026 million is for minor adjustments.	0.124	0.355	0.329	-	0.329
Title: Group 2 UAS ***Description:*** Group 2 UAS are medium tactical systems, between 21 pounds and 55 pounds in weight. Provides for development efforts to identify, develop, integrate, and test SOF-unique mission kits. ***FY 2018 Plans:*** Continue to integrate, and test SOF-unique mission capabilities to the medium tactical UAS, to include but not limited to: signals intelligence gathering, full motion video, and geo-location. ***FY 2019 Base Plans:***	3.686	4.912	6.262	-	6.262

Exhibit R-2A, RDT&E Project Justification: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160434BB / *Unmanned ISR*	**Project (Number/Name)** S855 / *Unmanned ISR*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Continues integration and testing of SOF-unique mission capabilities to the medium tactical UAS, to include but not limited to: signals intelligence gathering, full motion video, and geo-location. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Increase of $1.350 million is for additional integration efforts for new generation platform.					
Title: Group 3 UAS ***Description:*** Group 3 UAS are systems, between 55 pounds and 1320 pounds in weight. Provides for development efforts to identify, develop, integrate, and test SOF-unique mission kits. ***FY 2019 Base Plans:*** None. ***FY 2019 OCO Plans:*** Develops various advanced payloads to support ISR payload requirements in support of SOF missions to include counterterrorism execution order missions. Current Service payloads are insufficient for precision application of SOF mission sets. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Increase of $5.000 million is to develop various advanced payloads to support ISR payload requirements.	-	-	0.000	5.000	5.000
Title: Group 4 UAS ***Description:*** Group 4 UAS are large systems that weigh greater than 1,320 pounds and fly higher than flight level 180. Provides for development efforts to identify, develop, integrate, and test SOF-unique mission kits. ***FY 2019 Base Plans:*** None. ***FY 2019 OCO Plans:*** Develop and integrate Beyond Line of Sight (BLOS) wiring harnesses required to operate SOF-unique sensors, VORTEX encrypted data link capability, and Persistent Close Air Support (PCAS) collaborative engagement management capabilities on the SOF Gray Eagle Extended Range UAS. ***FY 2018 to FY 2019 Increase/Decrease Statement:***	-	-	0.000	6.700	6.700

Exhibit R-2A, RDT&E Project Justification: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160434BB / *Unmanned ISR*	**Project (Number/Name)** S855 / *Unmanned ISR*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Increase of $6.700 million is for development and integration of BLOS wiring harnesses required to operate SOF-unique sensors, VORTEX encrypted data link capability, and PCAS collaborative engagement management capabilities on the SOF Gray Eagle Extended Range UAS.					
Accomplishments/Planned Programs Subtotals	19.110	34.766	27.270	11.700	38.970

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
• PROC/0201UMNISR: *Unmanned ISR*	97.750	52.228	57.708	17.000	74.708	7.099	11.896	11.171	11.395	Continuing	Continuing

Remarks

D. Acquisition Strategy

SAFC acquisition strategy is evolutionary and spiral-based for technology insertion and low volume procurement. Utilizes existing competed contract vehicles to the maximum extent possible for minor development and integration and modification of Government-Off-The-Shelf/Commercial-Off-The-Shelf equipment. It utilizes limited/ full and open competition contracts for major developments.

The Group 1 UAS are evolutionary acquisition programs that deliver, integrate, and qualify SOF-unique mission kits, mission payloads, weapons, air vehicle enhancements, and ground control station upgrades. Contracting methods depend on the type of development effort. Competitive source selection will be conducted as much as possible. Proprietary considerations may direct some effort to the Original Equipment Manufacturer (OEM).

Group 2 UAS are evolutionary acquisition programs that deliver, integrate, and qualify SOF-unique mission kits, mission payloads, weapons, air vehicle enhancements, and ground control station upgrades. Contracting methods depend on the type of development effort. Competitive source selection will be conducted as much as possible. Proprietary considerations may direct some effort to the OEM.

Group 3 UAS are evolutionary acquisition programs that deliver, integrate, and qualify SOF-unique mission kits, mission payloads, weapons, air vehicle enhancements, and ground control station upgrades. Contracting methods depend on the type of development effort. Competitive source selection will be conducted as much as possible. Proprietary considerations may direct some effort to the OEM.Group 4 UAS are evolutionary acquisition programs that deliver, integrate, and qualify SOF-unique mission kits, mission payloads, weapons, air vehicle enhancements, and ground control station upgrades. Contract types include a mix of cost type and fixed priced. Contracting methods depend on the type of development effort. Competitive source selection will be conducted as much as possible. Proprietary issues with aircraft and Electro-Optical/Infrared (EO/IR) sensor Operational Flight Program (OFP) software and aircraft modification considerations dictate sole source contracts.

Group 4 UAS leverages service common Contractor Logistics Support (CLS) contracts for aircraft and ancillary equipment sustainment.

Exhibit R-2A, RDT&E Project Justification: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160434BB / *Unmanned ISR*	**Project (Number/Name)** S855 / *Unmanned ISR*

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 United States Special Operations Command			Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160434BB / *Unmanned ISR*	**Project (Number/Name)** S855 / *Unmanned ISR*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
SAFC Platform/Payload Development and Integration	MIPR	Various : Various	-	7.161	Mar 2017	8.299	Mar 2018	11.141	Mar 2019	-		11.141	Continuing	Continuing	-
SAFC Platform/Payload Development and Integration	MIPR	SRT SATCOMM : Various	-	-		1.391	Jan 2018	-		-		-	0.000	1.391	-
SAFC Platform/Payload Development and Integration	MIPR	SRT Hardware Tracker : Various	-	-		1.100	Apr 2018	-		-		-	0.000	1.100	-
Classified Program	MIPR	Classified : Classified	-	2.382		3.000		-		-		-	Continuing	Continuing	-
Group 1 Unmanned Aerial System (UAS) Payload Integration	C/IDIQ	Various : Various	-	0.124	Mar 2017	0.355	Mar 2018	0.329	Mar 2019	-		0.329	Continuing	Continuing	-
Group 2 UAS Platform/ Payloads Development	C/TBD	Various : Various	-	1.627	Mar 2017	2.456	Mar 2018	2.632	Mar 2019	-		2.632	Continuing	Continuing	-
Group 3 UAS Payload Integration	C/TBD	Various : Various	-	-		-		0.000		5.000	Mar 2019	5.000	Continuing	Continuing	-
Group 4 UAS Platform/ Payloads Development and Integration	C/TBD	Various : Various	-	-		-		0.000		6.700	Nov 2018	6.700	Continuing	Continuing	-
		Subtotal	-	11.294		16.601		14.102		11.700		25.802	Continuing	Continuing	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
SAFC Platform/Payload Integration	MIPR	Various : Various	-	0.600	Jan 2017	0.682	Jan 2018	0.527	Jan 2019	-		0.527	-	-	-
Group 2 UAS Platform/ Payload Support	C/TBD	Various : Various	-	0.617	Mar 2017	0.736	Mar 2018	1.088	Mar 2019	-		1.088	-	-	-
		Subtotal	-	1.217		1.418		1.615		-		1.615	-	-	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 United States Special Operations Command			Date: February 2018
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160434BB / *Unmanned ISR*	Project (Number/Name) S855 / *Unmanned ISR*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
SAFC Sensor Testing, Evaluation and Demonstration	MIPR	Various : Various	-	4.084	Mar 2017	12.978	Mar 2018	7.428	Mar 2019	-		7.428	-	-	-
Group 2 UAS Platform/ Payload Test and Evaluation	C/TBD	Various : Various	-	0.825	Mar 2017	0.984	Mar 2018	1.454	Mar 2019	-		1.454	-	-	-
		Subtotal	-	4.909		13.962		8.882		-		8.882	-	-	N/A

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
SAFC Sensor Testing, Evaluation and Demonstration Management	MIPR	Various : Various	-	1.073	Mar 2017	2.049	Mar 2018	1.583	Mar 2019	-		1.583	-	-	-
Group 2 UAS Platform/ Payload Management	C/TBD	Various : Various	-	0.617	Mar 2017	0.736	Mar 2018	1.088	Mar 2019	-		1.088	-	-	-
		Subtotal	-	1.690		2.785		2.671		-		2.671	-	-	N/A

	Prior Years	FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	19.110		34.766		27.270		11.700		38.970	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160434BB / *Unmanned ISR*	**Project (Number/Name)** S855 / *Unmanned ISR*

SAFC Schedule

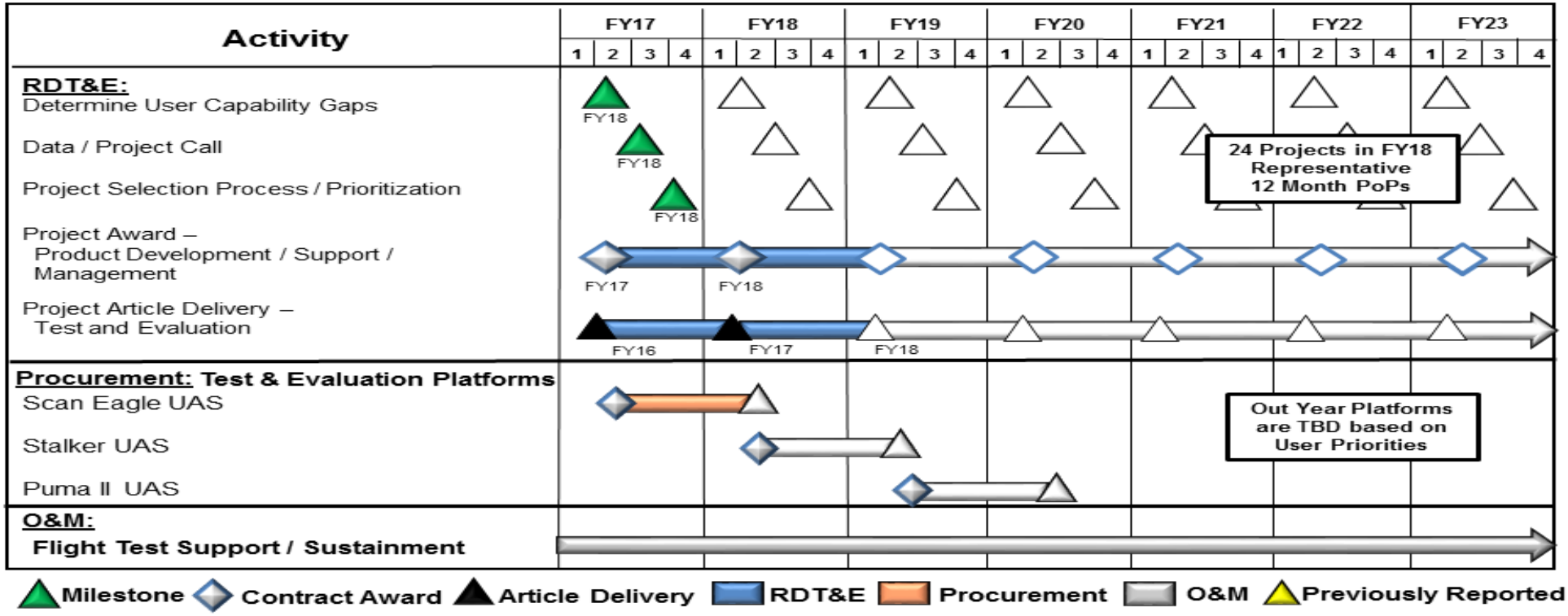

Exhibit R-4, RDT&E Schedule Profile: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160434BB / *Unmanned ISR*	**Project (Number/Name)** S855 / *Unmanned ISR*

Group 1 Unmanned ISR Schedule

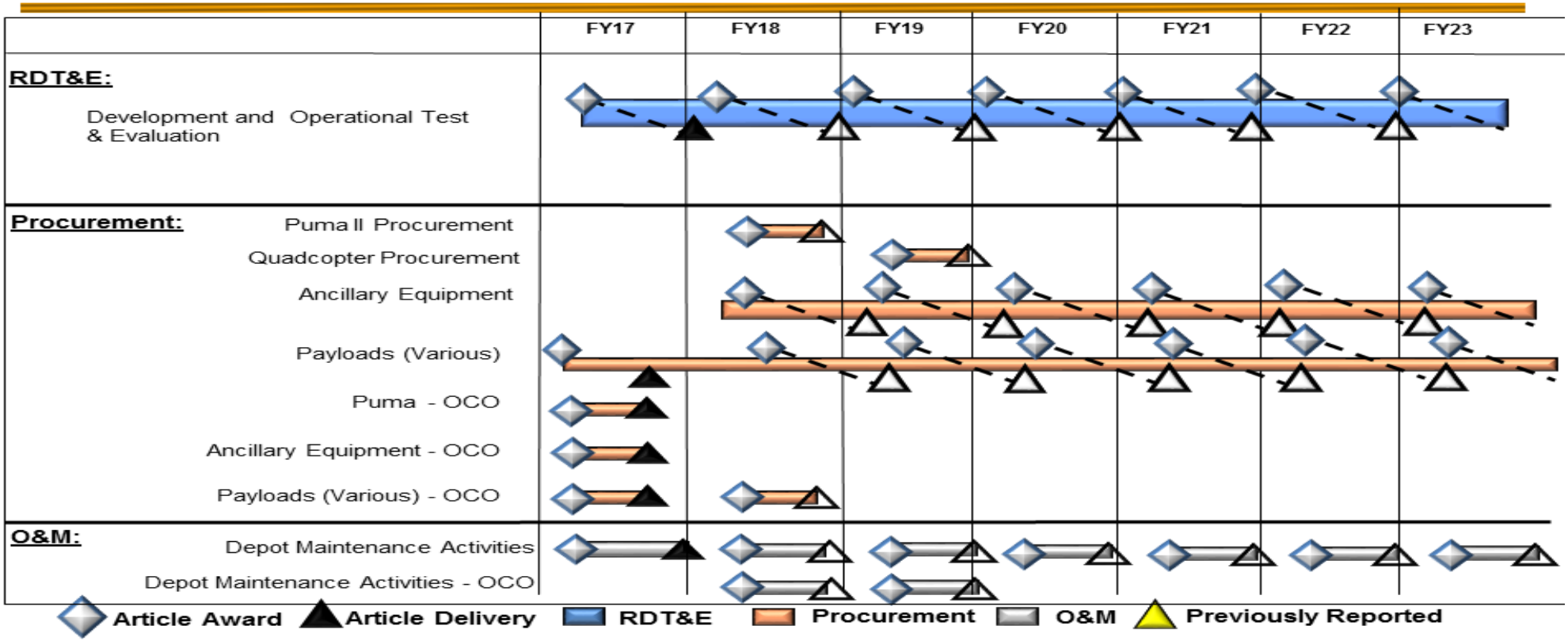

Exhibit R-4, RDT&E Schedule Profile: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160434BB / *Unmanned ISR*	**Project (Number/Name)** S855 / *Unmanned ISR*

Group 2 (MTUAS) Schedule

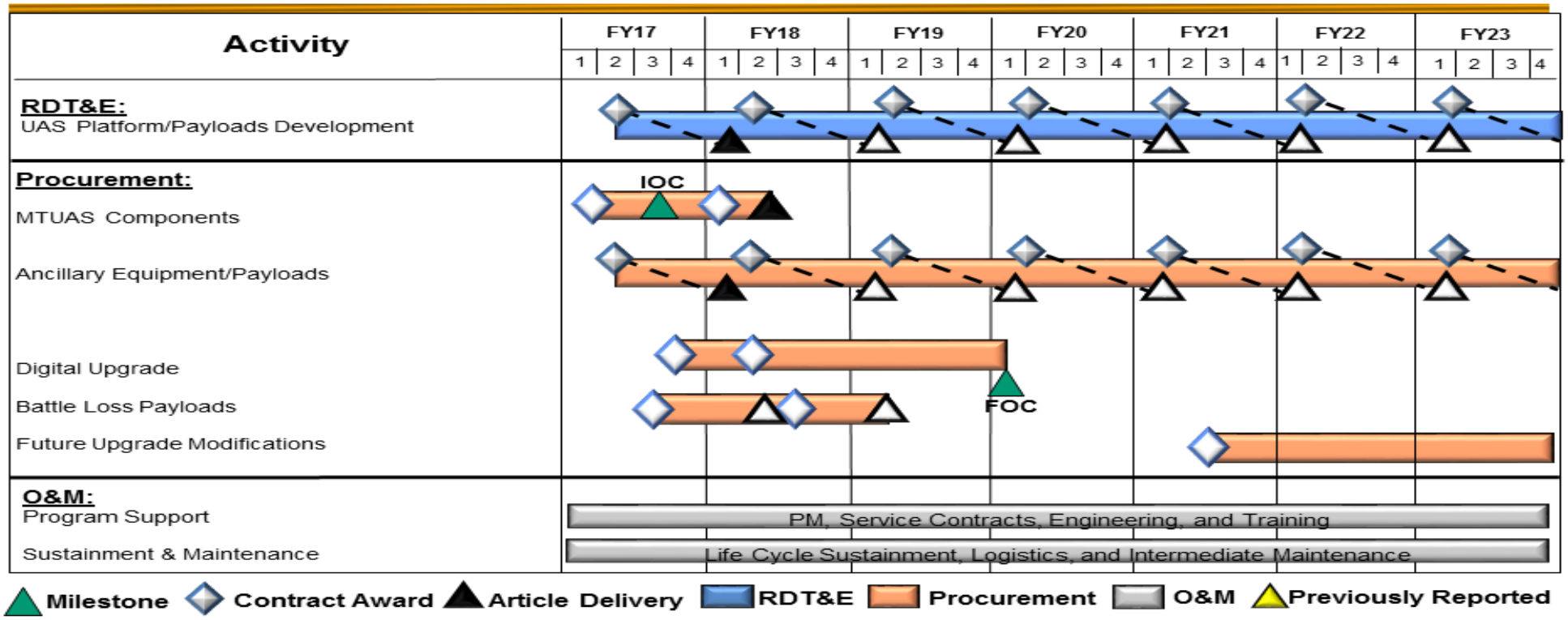

Exhibit R-4, RDT&E Schedule Profile: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160434BB / *Unmanned ISR*	**Project (Number/Name)** S855 / *Unmanned ISR*

Group 3 (STUAS) Schedule

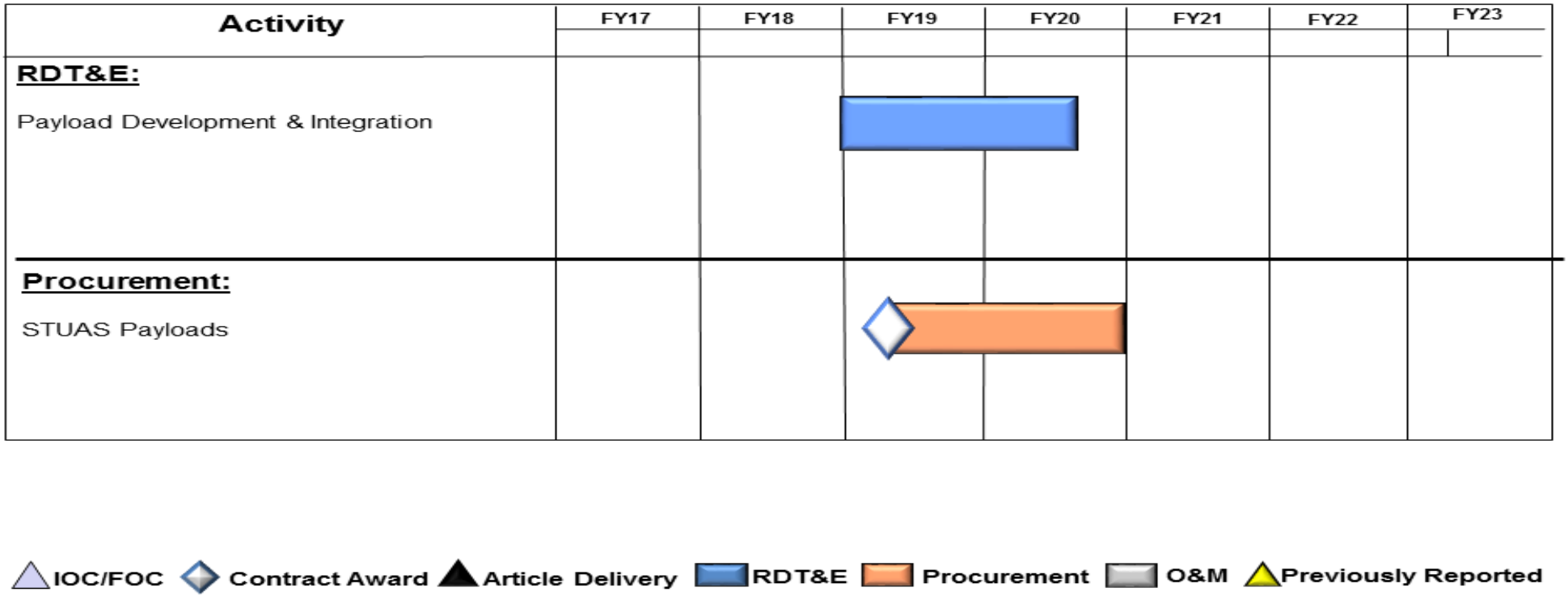

Exhibit R-4, RDT&E Schedule Profile: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160434BB / *Unmanned ISR*	**Project (Number/Name)** S855 / *Unmanned ISR*

Group IV Unmanned ISR Schedule

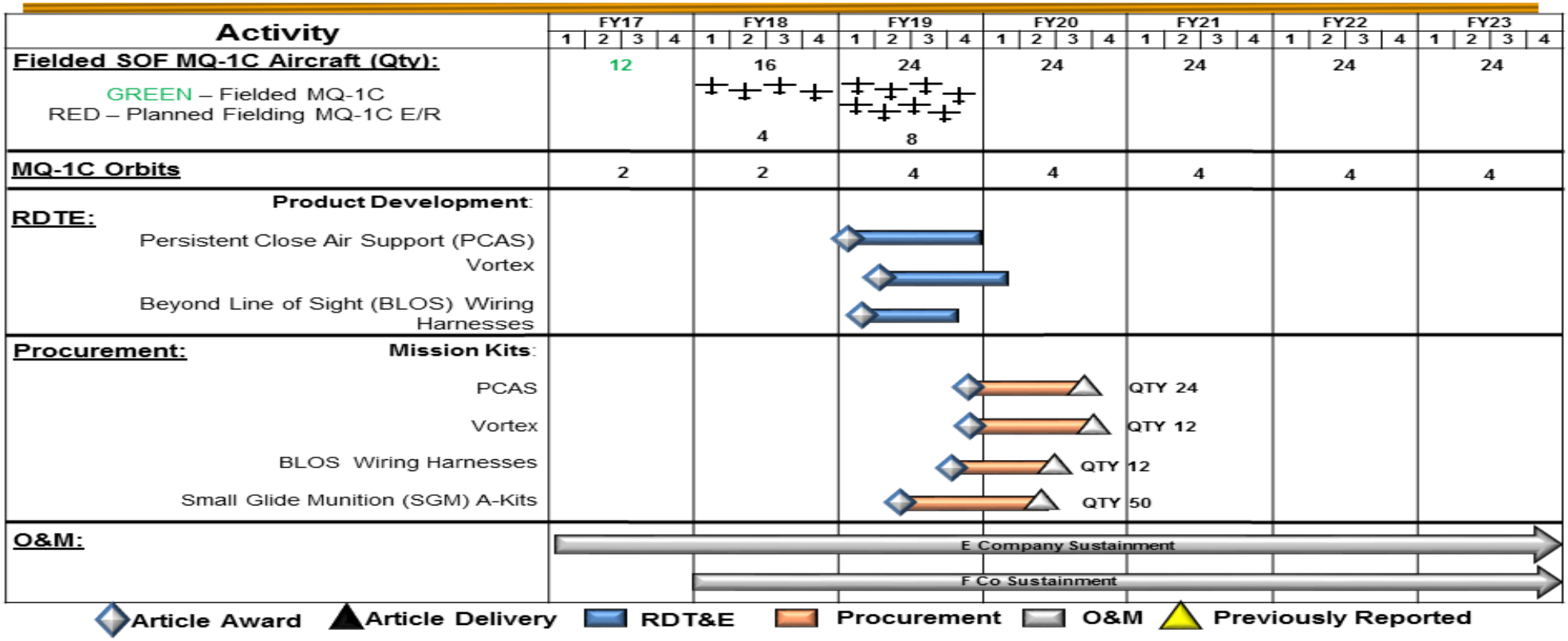

Exhibit R-4A, RDT&E Schedule Details: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160434BB / *Unmanned ISR*	**Project (Number/Name)** S855 / *Unmanned ISR*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
SAFC				
Platform/Payload Development and Integration	2	2017	4	2023
Sensor Testing, Evaluation and Demonstration	2	2017	4	2023
Group 1 Unmanned Aerial System (UAS)				
Payload Integration	2	2017	4	2023
Group 2 UAS				
Operational Test/Operational Assessment (OT/OA)	2	2017	4	2023
Payload Integration	2	2017	4	2023
Group 3 UAS				
Payload Integration	2	2019	4	2023
Group 4 UAS				
Platform/Payload Development and Integration	1	2019	2	2020

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Exhibit R-2, RDT&E Budget Item Justification: PB 2019 United States Special Operations Command	Date: February 2018
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 1160480BB / *SOF Tactical Vehicles*

COST ($ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
Total Program Element	34.524	3.211	2.578	1.121	0.725	1.846	3.551	3.305	2.782	2.838	Continuing	Continuing
S910: *SOF Tactical Vehicles*	34.524	3.211	2.578	1.121	0.725	1.846	3.551	3.305	2.782	2.838	Continuing	Continuing

A. Mission Description and Budget Item Justification

This program element provides for the development and testing of a variety of incremental upgrades to Special Operations Forces (SOF) Vehicles and ancillary equipment. Current SOF tactical vehicles include: Lightweight Tactical All Terrain Vehicles (Light), Ground Mobility Vehicles (Medium), Non-Standard Commercial Vehicles (Commercial) for use in tactical missions, and Mine Resistant Ambush Protected Vehicles (Heavy). The SOF mission mandates that SOF vehicles remain technologically superior, operate in multiple environments and be able to meet any threat to provide a maximum degree of survivability.

B. Program Change Summary ($ in Millions)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Previous President's Budget	3.316	2.578	2.624	-	2.624
Current President's Budget	3.211	2.578	1.121	0.725	1.846
Total Adjustments	-0.105	0.000	-1.503	0.725	-0.778
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.105	-			
• Other Adjustments	-	-	-1.503	0.725	-0.778

Change Summary Explanation

Funding:

FY 2017: Decrease of -$0.105 million is due to the transfer of funds to Small Business Innovative Research/Small Business Technology Research Transfer programs.

FY 2018: None.

FY 2019: Net decrease of $1.503 million is due to a Departmental economic assumption adjustment decrease of $0.022, a reduction of $1.481 million to account for the availability of prior year execution balances.

Exhibit R-2, RDT&E Budget Item Justification: PB 2019 United States Special Operations Command	Date: February 2018
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 1160480BB / *SOF Tactical Vehicles*

FY 2019 OVERSEAS CONTINGENCY OPERATIONS FUNDING: Increase of $0.725 million provides for the design/development, integration, and testing of Remote Weapons Station (RWS) for the deployed GMV 1.1s at multiple locations.

Schedule: None.

Technical: None.

Exhibit R-2A, RDT&E Project Justification: PB 2019 United States Special Operations Command			Date: February 2018
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160480BB / *SOF Tactical Vehicles*	Project (Number/Name) S910 / *SOF Tactical Vehicles*	

COST ($ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
S910: *SOF Tactical Vehicles*	34.524	3.211	2.578	1.121	0.725	1.846	3.551	3.305	2.782	2.838	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Family of Special Operations Vehicles (FSOV) project develops, tests, and evaluates SOF Tactical Vehicles and associated modifications. The Special Operations Forces (SOF) mission mandates that SOF vehicles remain technologically superior, operate in multiple environments and be able to meet any threat to provide a maximum degree of survivability. The current family of SOF tactical vehicles include: individual mobility vehicles, light mobility vehicles, medium mobility vehicles, non-standard commercial vehicles, and heavy mobility vehicles.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Title: FSOV	3.211	2.578	1.121	0.725	1.846
Description: Specific efforts include but are not limited to: Ground Mobility Vehicle (GMV) Medium Version 1.1 effort which provides for a medium vehicle variant capable of meeting specific requirements of internal aircraft transport on the C/MH-47, engineering costs related to performance, endurance, safety testing, integration and logistical analysis of product samples, and Engineering Change Proposal (ECPs) associated with the Non-Standard Commercial Vehicle (NSCV), the Lightweight Tactical All Terrain Vehicle (LTATV). These ECPs will address any identified safety, reliability, and performance concerns. Finally, funding will be used to support vehicle signature reduction efforts.					
FY 2018 Plans: Continue design/development and integration of ECPs that implement incremental upgrades and improve the design of the LTATV, GMV 1.1, and NSCV, to include a C4 effort to incorporate a Chairman of the Joint Chiefs of Staff directed Global Positioning Satellite (GPS) upgrade to M-Code. Continue safety, reliability, performance, and operational testing of multiple variants of NSCV from the new contract.					
FY 2019 Base Plans: Continues design/development and integration of ECPs that implement incremental upgrades and improve the design of the LTATV, GMV 1.1, and NSCV. Efforts will include next-generation cards based radio integration design and testing on the GMV 1.1 and NSCV. Completes safety, reliability, performance, and operational testing of multiple variants of NSCV from the new contract.					
FY 2019 OCO Plans:					

Exhibit R-2A, RDT&E Project Justification: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160480BB / *SOF Tactical Vehicles*	**Project (Number/Name)** S910 / *SOF Tactical Vehicles*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Provides design/development, integration, and testing of Remote Weapons Station (RWS) for the deployed GMV 1.1s at multiple locations.					
FY 2018 to FY 2019 Increase/Decrease Statement: Net decrease of $0.732 million: Base decrease of $1.457 million is due to a department economic assumption adjustment (decrease of $0.022 million), a reduction to account for the availability of prior year execution balances (decrease of $1.435 million) and additional Overseas Contingency Operations funding of $0.725 million for the development and testing of lifecycle/durability/environmental improvements for the Non-standard Commercial Vehicle.					
Accomplishments/Planned Programs Subtotals	3.211	2.578	1.121	0.725	1.846

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
• PROC/0204TACVEH: *Tactical Vehicles*	74.169	101.831	88.608	59.891	148.499	76.192	37.684	28.696	29.270	Continuing	Continuing

Remarks

D. Acquisition Strategy

Apply SOF-Peculiar modifications to service common or Commercial Off The Shelf (COTS) vehicles whenever possible. Otherwise, incorporate purpose-built, Non-Developmental Item, or modified COTS vehicles if/when service solution is unavailable.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 United States Special Operations Command			Date: February 2018
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160480BB / *SOF Tactical Vehicles*	Project (Number/Name) S910 / *SOF Tactical Vehicles*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
FSOV GMV 1.1 Capability Enhancements / ECP Development	Various	Various : Various	11.740	0.545	Jul 2017	0.689	Jun 2018	0.336	Feb 2019	-		0.336	Continuing	Continuing	-
FSOV NSCV Capability Enhancements / ECP Development	Various	Various : Various	0.807	0.060	Jul 2017	1.294	Jun 2018	0.335	Apr 2019	-		0.335	Continuing	Continuing	-
FSOV LTATV Capability Enhancements / ECP Development	Various	Various : Various	0.381	0.539	Aug 2017	0.595	Jun 2018	-		-		-	Continuing	Continuing	-
FSOV GMV 1.1 and NSCV Survivability Enhancement/ Improvement Efforts	Various	Various : Various	-	0.033	Jul 2017	-		0.200	Jun 2019	-		0.200	Continuing	Continuing	-
FSOV GMV 1.1 Capability Enhancements / ECP Development (OCO)	Various	Various : Various	-	-		-		0.000		0.725	Mar 2018	0.725	Continuing	Continuing	-
Prior Year Funding	Various	Various : Various	0.385	-		-		-		-		-	Continuing	Continuing	-
		Subtotal	13.313	1.177		2.578		0.871		0.725		1.596	Continuing	Continuing	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
FSOV GMV 1.1 Medium ECP Development & C4 Integration	C/FFP	General Dynamics - OTS : St. Petersburg, FL	0.925	-		-		-		-		-	Continuing	Continuing	-
FSOV LTATV ECP	C/FFP	Polaris Defense : Minneapolis, MN	0.187	-		-		-		-		-	Continuing	Continuing	-
FSOV NSCV ECP	MIPR	HQ USSOCOM : Tampa, FL	0.500	-		-		-		-		-	Continuing	Continuing	-
Prior Year Funding	Various	Various : Various	3.910	-		-		-		-		-	Continuing	Continuing	-
		Subtotal	5.522	-		-		-		-		-	Continuing	Continuing	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 United States Special Operations Command			Date: February 2018
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160480BB / *SOF Tactical Vehicles*	Project (Number/Name) S910 / *SOF Tactical Vehicles*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
FSOV GMV 1.1 Medium Initial Operational Test and Evaluation (IOT&E)	MIPR	Nevada Automotive Test Center : Carson City, NV	0.447	-		-		-		-		-	Continuing	Continuing	-
FSOV GMV 1.1 Test Support	MIPR	Nevada Automotive Test Center : Carson City, NV	0.112	-		-		-		-		-	Continuing	Continuing	-
GMV 1.1 Test and Evaluation Validation Efforts (Automotive, C4I, Ballistics, Operator Events)	Various	Various : Various	-	0.339	Apr 2017	-		0.000		-		0.000	Continuing	Continuing	-
NSCV Test and Evaluation Validation Efforts (Automotive, C4I, Ballistics, Operator Events)	Various	Various : Various	-	1.695	Nov 2016	-		0.250	Dec 2018	-		0.250	Continuing	Continuing	-
Prior Year Funding	Various	Various : Various	15.130	-		-		-		-		-	Continuing	Continuing	-
		Subtotal	15.689	2.034		-		0.250		-		0.250	Continuing	Continuing	N/A

	Prior Years	FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	34.524	3.211		2.578		1.121		0.725		1.846	Continuing	Continuing	N/A

Remarks

*** PLEASE ADD COSTS OR ENTER REMARKS ***

Exhibit R-4, RDT&E Schedule Profile: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160480BB / *SOF Tactical Vehicles*	**Project (Number/Name)** S910 / *SOF Tactical Vehicles*

FSOV Schedule

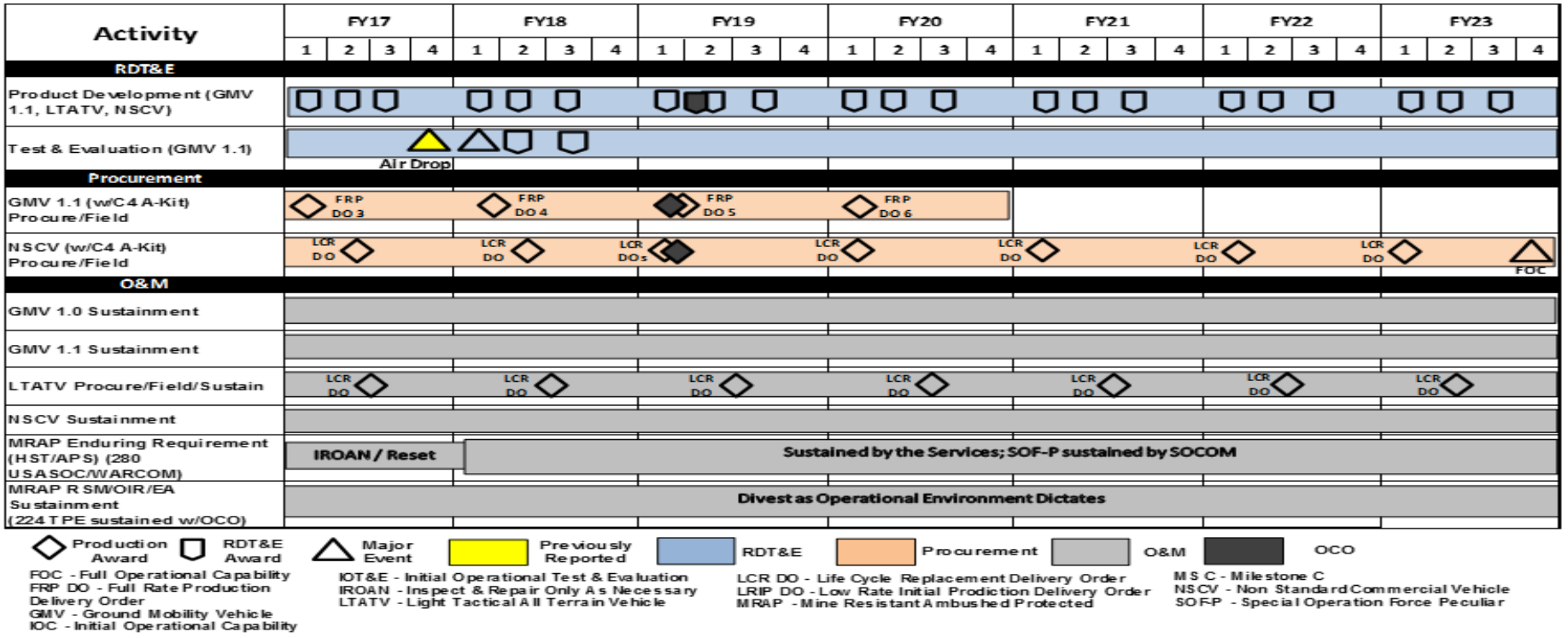

Exhibit R-4A, RDT&E Schedule Details: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160480BB / *SOF Tactical Vehicles*	**Project (Number/Name)** S910 / *SOF Tactical Vehicles*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Family of Special Operations Vehicles (FSOV)				
Product Development (GMV 1.1, LTATV, NSCV)	1	2017	4	2023
Test & Evaluation (GMV 1.1)	1	2017	4	2023

Exhibit R-2, RDT&E Budget Item Justification: PB 2019 United States Special Operations Command	Date: February 2018
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 1160483BB / *Maritime Systems*

COST ($ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
Total Program Element	350.185	52.199	42.315	42.471	-	42.471	31.865	29.982	21.197	46.307	Continuing	Continuing
S0417: *Underwater Systems*	321.000	48.317	35.114	26.897	-	26.897	22.693	21.595	17.572	42.610	Continuing	Continuing
S1684: *Surface Craft*	29.185	3.882	7.201	15.574	-	15.574	9.172	8.387	3.625	3.697	Continuing	Continuing

A. Mission Description and Budget Item Justification

This program element provides for engineering and manufacturing development (EMD) of Special Operations Forces (SOF) Surface and Undersea Mobility platforms. This program element also provides for pre-acquisition activities to quickly respond to new requirements for SOF surface and undersea mobility, looking at multiple alternatives to include cross-platform technical solutions, service-common solutions, Commercial-Off-The-Shelf technologies, and new development efforts.

The Underwater Systems project provides for EMD of combat submersibles, SOF operator diving systems, underwater support systems, and underwater equipment. This project also provides for pre-acquisition activities (materiel solutions analysis, advanced component and prototype development) to respond to emergent requirements. These submersibles, equipment, and diving systems are used by SOF in the conduct of infiltration/extraction, personnel/material recovery, hydrographic/ inland reconnaissance, beach obstacle clearance, underwater ship attack, and other missions. The capabilities of the submersible systems, diving systems, and unique equipment provide small, highly trained forces the ability to successfully engage the enemy and conduct clandestine operations associated with SOF maritime missions.

The Surface Craft project provides for EMD of medium and heavy surface combatant craft, combatant craft mission equipment, and pre-planned product improvement and technology insertion engineering changes to meet the unique requirements of SOF. This project element also provides for pre-acquisition activities (materiel solutions analysis, advanced component development and prototypes) to quickly respond to new requirements for maritime craft and subsystems. The craft capabilities and unique equipment provide small, highly trained forces the ability to successfully engage the enemy and conduct operations associated with SOF maritime missions.

B. Program Change Summary ($ in Millions)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Previous President's Budget	54.577	42.315	20.457	-	20.457
Current President's Budget	52.199	42.315	42.471	-	42.471
Total Adjustments	-2.378	0.000	22.014	-	22.014
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-0.389	-			
• SBIR/STTR Transfer	-1.989	-			
• Other	-	-	22.014	-	22.014

Exhibit R-2, RDT&E Budget Item Justification: PB 2019 United States Special Operations Command	Date: February 2018
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 1160483BB / *Maritime Systems*

Change Summary Explanation

Funding:

FY 2017: Decrease of $2.378 million is due to the transfer of funds (-$1.989 million) to Small Business Innovative Research/Small Business Technology Transfer programs and a reprogramming of -$0.389 million from Surface Craft for higher Command priorities.

FY 2018: None.

FY 2019: Net increase of $22.014 million is due to FY 2019 funding request reduction of -$8.733 million to account for the availability of prior year execution balances, a -$0.321 million decrease to reflect Departmental economic adjustments, an increase of $5.810 million to conduct Developmental Testing (DT) and Initial Operational Test and Evaluation (OT&E) for Threat Awareness System, an increase of $15.258 million to develop and integrate a Mid-Water Column lock-in/lock-out, decompression pump, signature management capabilities on Dry Combat Submersible (DCS) vessels, and conduct DT and OT&E on DCS 1 and an increase of $10 million for Maritime Precision Engagement Production Representative Article.

Schedule: None.

Technical: None.

Exhibit R-2A, RDT&E Project Justification: PB 2019 United States Special Operations Command			Date: February 2018
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160483BB / *Maritime Systems*	Project (Number/Name) S0417 / *Underwater Systems*	

COST ($ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
S0417: *Underwater Systems*	321.000	48.317	35.114	26.897	-	26.897	22.693	21.595	17.572	42.610	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project provides for engineering and manufacturing development of combat underwater submersibles, Special Operations Forces (SOF) operator diving systems, underwater support systems, and underwater equipment. This project also provides for pre-acquisition activities (materiel solutions analysis, advanced component development and prototypes) to respond to emergent requirements. These submersibles, equipment, and diving systems are used by SOF in the conduct of infiltration/ extraction, personnel/material recovery, hydrographic/inland reconnaissance, beach obstacle clearance, underwater ship attack, and other missions. The capabilities of the submersible systems, diving systems, and unique equipment provides small, highly trained forces the ability to successfully engage the enemy and conduct clandestine operations associated with SOF maritime missions.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019
Title: Shallow Water Combat Submersible (SWCS)	0.950	1.378	1.247
Description: This sub-project provides for the design, development, test, manufacturing and sustainment of one Engineering Development Model (EDM) and ten production units to replace the legacy MK 8 MOD 1 Seal Delivery Vehicle (SDV) system. SWCS is a free-flooding combat submersible mobility platform suitable for transporting and deploying SOF and their payloads for a variety of SOF missions. SWCS will be deployable from a Dry Deck Shelter (DDS), surface ships, and land. The SWCS system includes the SWCS vehicle and SWCS support Equipment, comprised of Mission Support Equipment (MSE), Pack-Up Kit (PUK), and Transportation and Handling (T&H). It also includes integration efforts with the current Dry Deck Sheltere (DDS) and development of product improvements accomplished throughout the lifecycle of the system.			
FY 2018 Plans: Continue Initial Operational Test and Evaluation (IOT&E).			
FY 2019 Plans: Continues pre-planned product improvements and complete IOT&E.			
FY 2018 to FY 2019 Increase/Decrease Statement: Decrease of $0.131 million is due to minor adjustments.			
Title: Dry Combat Submersible (DCS)	39.139	21.497	15.024
Description: This sub-project provides for the advanced development, engineering, manufacturing, and testing efforts for a surface-launched, dry, diver lock-in/lock-out vessel capable of inserting and extracting SOF and/or payloads into denied areas. USSOCOM awarded an Engineering and Manufacturing Development (EMD) contract in FY 2016 to produce one production representative vessel, with options to produce two additional vessels. USSOCOM is testing one submersible prototype to validate			

Exhibit R-2A, RDT&E Project Justification: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160483BB / *Maritime Systems*	**Project (Number/Name)** S0417 / *Underwater Systems*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019
test methodologies, commercial classification, and SOCOM safety certification processes and will continue to use the prototype to evaluate capability enhancing technologies and reduce risk in the DCS program. This project includes funding for enhanced warfighter capabilities such as Mid-Water Column Lock-In/Lock-Out, depressurization pump, and submarine interoperability. ***FY 2018 Plans:*** Continue to evaluate capability enhancing technologies and reduce risk in the DCS program. Continue manufacturing of DCS production representative EMD Vessel. Achieve Milestone C. ***FY 2019 Plans:*** Continues to evaluate capability enhancing technologies and reduce risk in the DCS program. Conduct Government Acceptance Testing and initiate developmental testing and operational testing. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** The FY 2019 funding request was reduced by $6.473 million to account for the availability of prior year execution balances and due to completion of Production Representative Article.			
Title: Dry Deck Shelter (DDS) Modernization ***Description:*** This sub-project provides for the pre-planned product improvements, testing, and integration of specialized underwater systems to meet the unique requirements of SOF, and compatibility with the submarine fleet. The current DDS is a certified diving system which attaches to modified host submarines that provides for insertion of SOF forces and platforms. Funding supports product improvements to the current DDS, as well as associated diver equipment for in-service submarine support systems, unmanned underwater vehicles, and follow on development efforts for future SOF payloads. ***FY 2018 Plans:*** Continue development of the modernization necessary to extend useful life of the DDS, transition from SSGN to Virginia Class host platform, and increase capacity to carry larger payloads. ***FY 2019 Plans:*** Continues development of the modernization necessary to extend useful life of the DDS, transitions from SSGN to Virginia Class host platform, and increases capacity to carry larger payloads. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** The FY 2019 funding request was reduced by $1.636 million to account for the availability of prior year execution balances.	6.228	10.200	8.564
Title: SOF Combat Diving ***Description:*** This sub-project provides for the development, testing, and fielding of SOF peculiar diving equipment providing the SOF combat diver the ability to engage the enemy and conduct operations. SOF Combat Diving will support the SDV, SWCS, and DCS with the conduct of infiltration/extraction, material recovery, underwater ship attack, beach clearance, and	2.000	2.039	2.062

Exhibit R-2A, RDT&E Project Justification: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160483BB / *Maritime Systems*	**Project (Number/Name)** S0417 / *Underwater Systems*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019
other missions. Technologies include, but are not limited to, commercial and developmental life support, maneuverability, diver navigational accuracy and situational awareness, thermal protection, and underwater communications. ***FY 2018 Plans:*** Continue development for environmental protection, navigation, communication, and propulsion. ***FY 2019 Plans:*** Continues development, to include test and evaluation for environmental protection, navigation, communication, and propulsion. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Increase of $0.023 million due to minor adjustments.			
Accomplishments/Planned Programs Subtotals	48.317	35.114	26.897

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
• PROC/0210US: *Underwater Systems*	42.840	92.606	136.723	-	136.723	75.126	40.817	24.017	22.609	Continuing	Continuing

Remarks

D. Acquisition Strategy

• SWCS used full and open competition with a down select to a single contractor. The full spectrum of contracting activities are being utilized for any integration and subsystem requirements, using existing contracts where appropriate, government agencies, and new contracts as necessary.

• DCS used full and open competition, resulting in the selection of a single prime contractor. A Fixed Price Incentive Firm Target contract for a production representative system was awarded in FY 2016 with options to procure one vessel in FY 2018 and one in FY 2019.

• The DDS is currently in sustainment through a series of maintenance and service contracts which were competitively sourced, and awarded for a 5-year period. The modernization and engineering/change efforts for the six DDS in inventory are executed utilizing existing services contracts.

• SOF Combat Diving efforts are executed using existing contracts, government agencies, and new contracts competitively selected as appropriate.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 United States Special Operations Command			Date: February 2018
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160483BB / *Maritime Systems*	Project (Number/Name) S0417 / *Underwater Systems*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
DCS Technologies Government Furnished Equipment	C/Various	Various : Various	30.292	7.461	Mar 2017	3.000	Mar 2018	3.118	Mar 2019	-		3.118	Continuing	Continuing	-
DCS Engineering & Manufacturing Development	C/FPIF	Lockheed Martin : Riviera Beach, FL	26.846	26.015	Mar 2017	12.997	Mar 2018	-		-		-	0.000	65.858	-
DCS Engineering Changes	C/Various	Various : Various	0.000	3.135	Mar 2017	1.571	Mar 2018	2.087	Mar 2019	-		2.087	Continuing	Continuing	-
Dry Deck Shelter (DDS) Modernization	SS/CPFF	Oceaneering International Inc. Marine Services Division : Chesapeake, VA	8.543	6.006	Jan 2017	9.850	Jan 2018	8.242	Jan 2019	-		8.242	Continuing	Continuing	-
SOF-Unique Diving Technologies	Various	Various : Various	0.370	1.500	Nov 2016	1.369	Nov 2017	1.379	Nov 2018	-		1.379	Continuing	Continuing	-
SWCS Engineering Changes	C/Various	Various : Various	-	-		-		1.047	Feb 2019	-		1.047	Continuing	Continuing	-
Prior Year Funding	Various	Various : Various	202.681	-		-		-		-		-	0.000	202.681	-
		Subtotal	268.732	44.117		28.787		15.873		-		15.873	Continuing	Continuing	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Prior Year Funding	Various	Various : Various	9.094	-		-		-		-		-	0.000	9.094	-
		Subtotal	9.094	-		-		-		-		-	0.000	9.094	N/A

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
SWCS	Various	Puget Sound Naval Shipyard : Seattle, Washington	1.214	0.600	Nov 2016	1.378	Nov 2017	0.200	Nov 2018	-		0.200	0.000	3.392	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 United States Special Operations Command			Date: February 2018
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160483BB / *Maritime Systems*	Project (Number/Name) S0417 / *Underwater Systems*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
DCS	C/Various	NAVSEA / CRANE : Crane, IN	10.306	-		1.525	Jun 2018	7.448	Mar 2019	-		7.448	0.000	19.279	-
SOF Combat Diving	Various	Various : Various	0.130	0.500	Jun 2017	0.500	Jun 2018	0.510	Mar 2019	-		0.510	Continuing	Continuing	-
Prior Year Funding	Various	Various : Various	9.320	-		-		-		-		-	0.000	9.320	-
		Subtotal	20.970	1.100		3.403		8.158		-		8.158	Continuing	Continuing	N/A

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
SWCS	Various	Penn State University : University Park, PA	2.781	0.350	Jun 2017	-		-		-		-	0.000	3.131	-
DCS	Various	Booz Allen Hamilton : Tampa, FL	12.116	2.528	Jun 2017	2.404	Jun 2018	2.371	Mar 2019	-		2.371	Continuing	Continuing	-
DDS	MIPR	NAVSEA : Washington, DC	1.107	0.222	Jan 2017	0.350	Jan 2018	0.322	Jan 2019	-		0.322	Continuing	Continuing	-
SOF Combat Diving	C/Various	Booz Allen Hamilton : Tampa, FL	-	-		0.170	Dec 2017	0.173	Dec 2018	-		0.173	Continuing	Continuing	-
Prior Year Funding	Various	Various : Various	6.200	-		-		-		-		-	0.000	6.200	-
		Subtotal	22.204	3.100		2.924		2.866		-		2.866	Continuing	Continuing	N/A

	Prior Years	FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	321.000	48.317		35.114		26.897		-		26.897	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160483BB / *Maritime Systems*	**Project (Number/Name)** S0417 / *Underwater Systems*

Shallow Water Combat Submersible Schedule

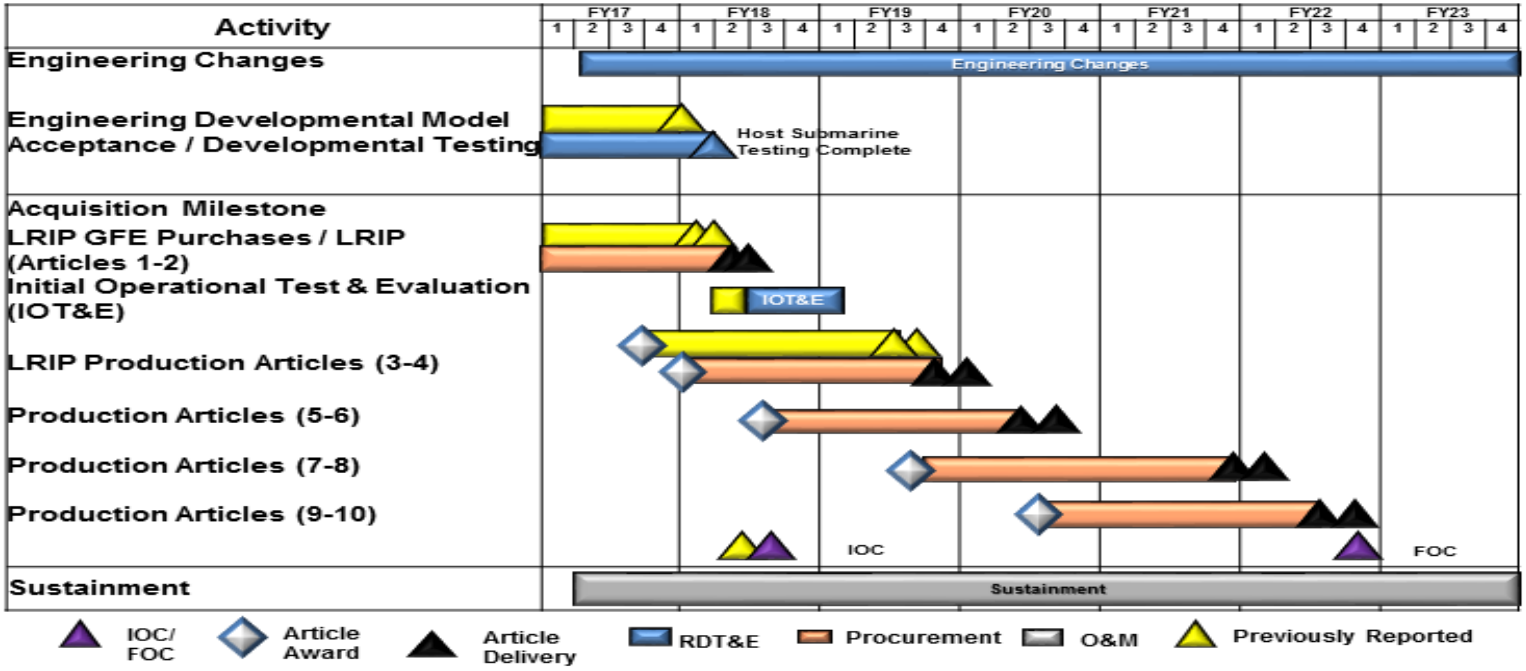

Exhibit R-4, RDT&E Schedule Profile: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160483BB / *Maritime Systems*	**Project (Number/Name)** S0417 / *Underwater Systems*

Dry Combat Submersible Schedule

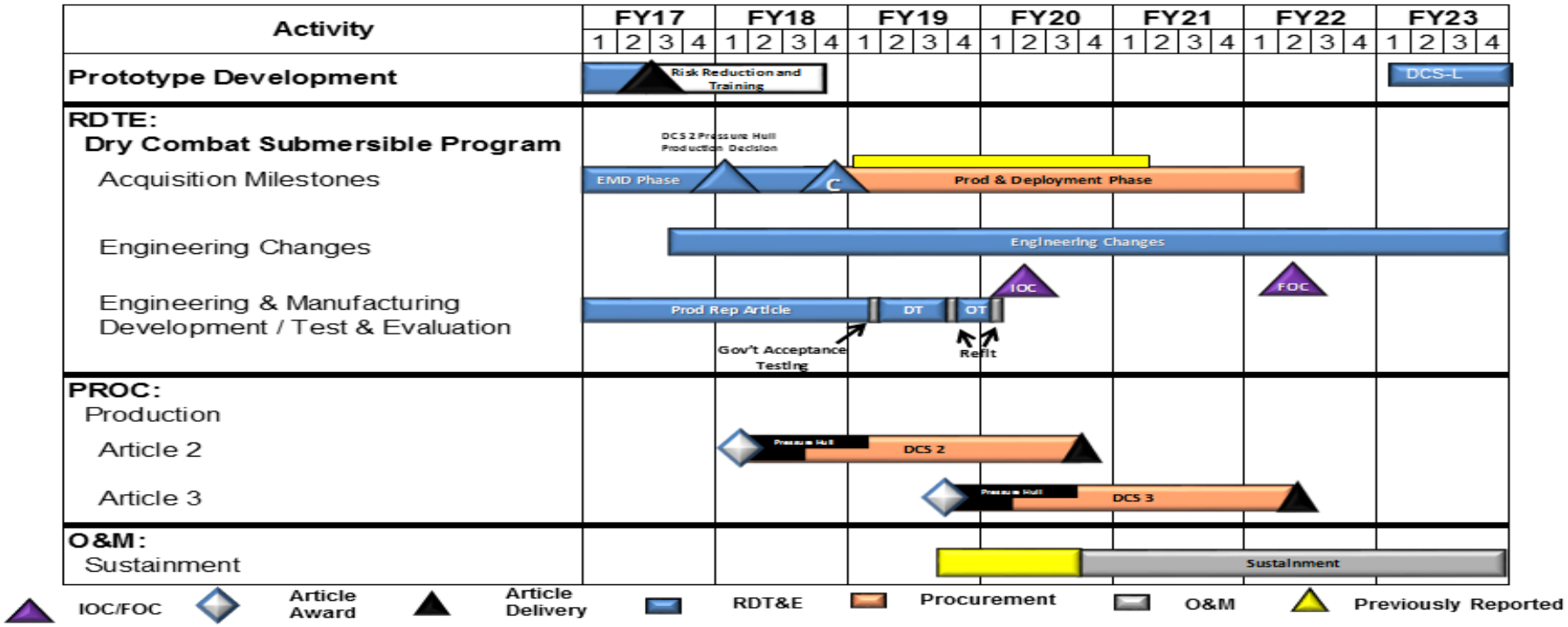

Exhibit R-4, RDT&E Schedule Profile: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160483BB / *Maritime Systems*	**Project (Number/Name)** S0417 / *Underwater Systems*

Dry Deck Shelter Schedule

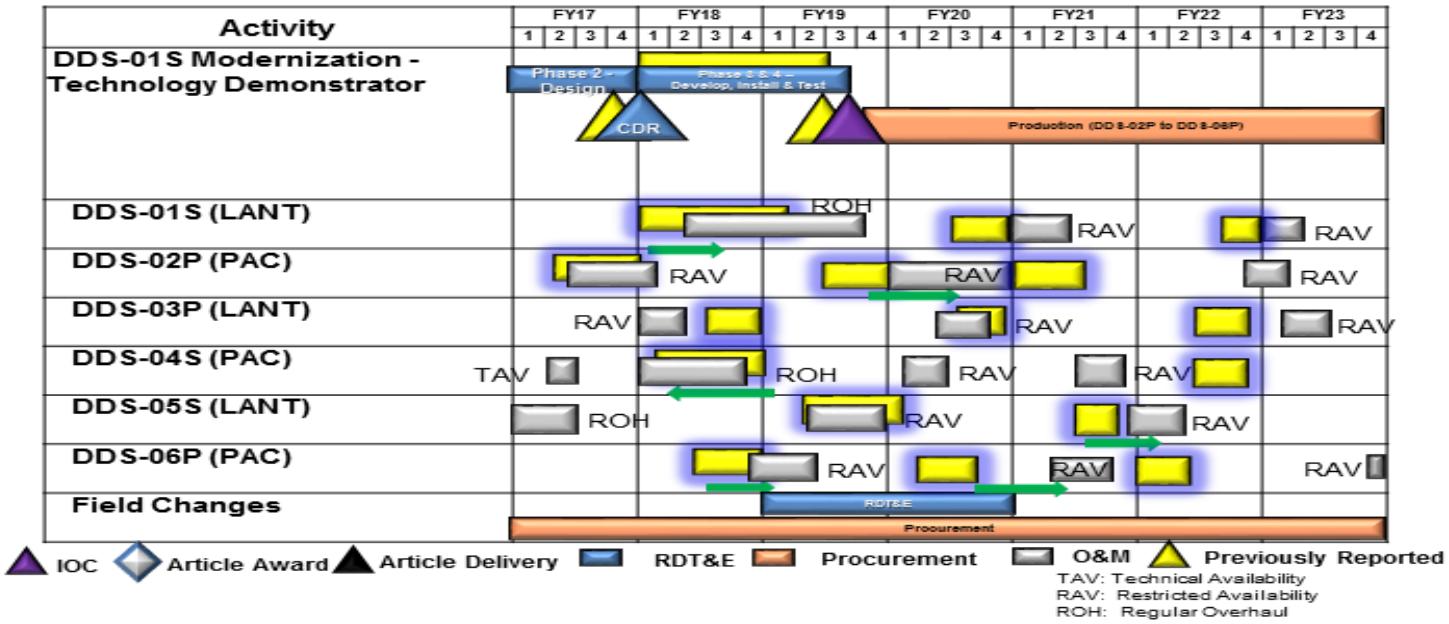

Exhibit R-4, RDT&E Schedule Profile: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160483BB / *Maritime Systems*	**Project (Number/Name)** S0417 / *Underwater Systems*

SOF Combat Diving Schedule

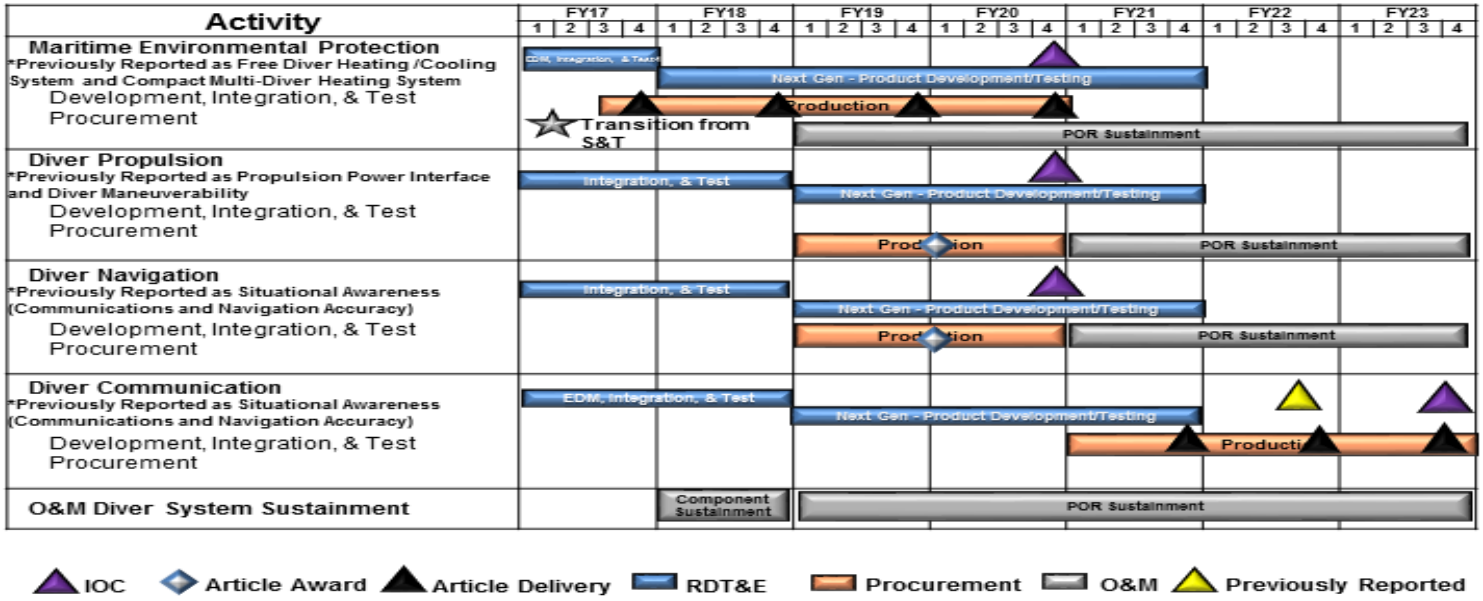

Exhibit R-4A, RDT&E Schedule Details: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160483BB / *Maritime Systems*	**Project (Number/Name)** S0417 / *Underwater Systems*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Shallow Water Combat Submersible				
Engineering Changes	2	2017	4	2023
Engineering Development Model Acceptance	1	2017	2	2018
Developmental Test	1	2017	2	2018
IOT&E	2	2018	1	2019
Dry Combat Submersibles				
Prototype Development	1	2017	2	2017
DCS-L	1	2023	4	2023
Engineering and Manufacturing Development Phase	1	2017	4	2018
Engineering Changes	3	2017	4	2023
Milestone C	4	2018	4	2018
Production Representative Article	1	2017	2	2019
Developmental Test and Evaluation	2	2019	3	2019
Operational Test and Evaluation	4	2019	1	2020
Dry Deck Shelter Modernization				
Phase 2 Design	1	2017	4	2017
Phase 3 & 4 Development	1	2018	3	2019
Critical Design Review	1	2018	1	2018
Field Changes	1	2019	4	2020
SOF Combat Diving				
Maritime Environmental Protection Development, Integration, and Test	1	2017	4	2021
Propulsion Development / Manufacturing / Test / Integration	1	2017	4	2021
Navigation Development / Manufacturing / Test / Integration	1	2017	4	2021

Exhibit R-4A, RDT&E Schedule Details: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160483BB / *Maritime Systems*	**Project (Number/Name)** S0417 / *Underwater Systems*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Communications Development / Manufacturing / Test / Integration	1	2017	4	2021

Exhibit R-2A, RDT&E Project Justification: PB 2019 United States Special Operations Command			Date: February 2018
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160483BB / *Maritime Systems*	Project (Number/Name) S1684 / *Surface Craft*	

COST ($ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
S1684: *Surface Craft*	29.185	3.882	7.201	15.574	-	15.574	9.172	8.387	3.625	3.697	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project provides for engineering and manufacturing development of medium and heavy surface combatant craft, combatant craft mission equipment, and pre-planned product improvement (P3I) and technology insertion engineering changes to meet the unique requirements of Special Operations Forces (SOF). This project also provides for pre-acquisition activities (materiel solutions analysis, advanced component development and prototypes) to quickly respond to new requirements for maritime craft and subsystems. The craft capabilities and unique equipment provide small, highly trained forces the ability to successfully engage the enemy and conduct operations associated with SOF maritime missions.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2017	FY 2018	FY 2019
Title: Combatant Craft Medium (CCM) Mk 1	1.202	1.662	0.788
Description: This sub-project is a semi-enclosed multi-mission combatant craft for platoon-size maritime mobility in maritime denied environments. It is multi-mission capable, including Maritime Interdiction, Insert / Extract, and Visit, Board, Search, and Seizure (VBSS) Operations. CCM is Naval Special Warfare's (NSW) craft-of-choice for long-range, high-payload SOF mobility operations in denied environments up to high threat. CCM has NSW's best Iron Triangle: 40 knot (kt) speed; 4 crew + 19 passengers (pax) / 10,000 pound (lb) payload; and 600 nautical miles (nm) range. CCM Mk 1 payload capacity enables inclusion of shock mitigating seats, which is critical for ride quality, operator tactical readiness, and operator health. At 60 feet long, CCM is C-17 / C5 transportable and can launch/recover by well deck or shore based trailer.			
FY 2018 Plans: Continue integration of CCFLIR2 and begins integration of Tactical Operations Center (TOCNET) Intercommunications System and Joint Threat Warning System (JTWS).			
FY 2019 Plans: Continues integration of CCFLIR2, TOCNET Intercommunications System and JTWS and begins integration of Threat Awareness System (TAS).			
FY 2018 to FY 2019 Increase/Decrease Statement: The FY 2019 funding request was reduced by $0.874 million to account for the availability of prior year execution balances.			
Title: Combatant Craft Heavy (CCH)	0.542	0.877	0.885
Description: This sub-project represents a family of solutions that provides platoon-size maritime surface mobility. The current CCH is the Sea, Air, Land Insertion, Observation, and Neutralization (SEALION) craft. SEALION is a fully-enclosed, climate-controlled, semi-submersible craft that operates in denied environments up to high-threat. SEALION is NSW's most versatile and			

Exhibit R-2A, RDT&E Project Justification: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160483BB / *Maritime Systems*	**Project (Number/Name)** S1684 / *Surface Craft*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2017	FY 2018	FY 2019
survivable combatant craft and the craft-of-choice for sensitive maritime intelligence, surveillance, and reconnaissance missions and those missions requiring a prolonged presence in denied environments. Its clandestine mobility capability is only exceeded by an undersea craft. Iron Triangle: 40 kt speed; 7 crew + 12 pax / 3,300 lb payload; and 400 nm range. SEALION payload capacity enables inclusion of shock mitigating seats, which is critical for ride quality, operator tactical readiness, and operator health. At 77+ feet long, SEALION is C-17/C-5 transportable and can launch/recover by well deck or shore based mobile travel lift or crane. ***FY 2018 Plans:*** Continue CCFLIR2 integration and continue development and integration of upgraded Satellite Communications (SATCOM) antennas. Begin development of CCH Next. ***FY 2019 Plans:*** Completes CCFLIR2 integration and continues development and integration of upgraded SATCOM antennas and development of CCH Next. Begins integration of TAS. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Increase of $0.008 million is due to minor adjustments.			
Title: Combatant Craft Mission Equipment (CCME) ***Description:*** This sub-project provides a rapid response capability to support SOF combatant craft systems, subsystems, and their emerging requirements. CCME provides technology refresh efforts to correct system deficiencies, improve asset life, and enhance mission capability. Demonstrations and modifications may be made to support emerging capability enhancements such as, but not limited to, conformal antennas, identification friend-or-foe capabilities, enhanced communications, weapon integration, software refresh, and navigation subsystems in support of future missions. Solutions to these emerging requirements may be commercial-off-the-shelf leveraged from other Government agencies, or new solutions. ***FY 2018 Plans:*** Evaluate candidate solutions for technology development to include, but not limited to, Maritime Precision Engagement, family of antennas testing, Airborne Mission Networking Marinization, and situational awareness. ***FY 2019 Plans:*** Continues evaluation of candidate solutions for technology development to include, but not limited to, Maritime Precision Engagement, family of antennas testing, Airborne Mission Networking Marinization, and situational awareness. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Increase of $0.018 million is due to minor adjustments.	1.717	1.107	1.125
Title: Combatant Craft Assault (CCA)	0.421	0.510	0.515

Exhibit R-2A, RDT&E Project Justification: PB 2019 United States Special Operations Command		Date: February 2018
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2017	FY 2018	FY 2019
Description: This sub-project CCA is a combatant craft for squad-size maritime mobility operations in maritime denied environments. CCA is NSW's best craft for VBSS in maritime denied environments up to and including medium threat. It is the craft-of-choice for maritime interdiction and boarding operations because of the open deck space, maneuverability, and interoperability with an Afloat Forward Staging Base. Iron Triangle: 40 kt speed; 3 crew + 12 pax / 5,000 lb payload; and 300 nm range. At 41 feet long, CCA is air transportable by C-130 / C-17 / C-5 and can launch/recover by crane, davit, well deck, or shore based trailer. ***FY 2018 Plans:*** Continue integration and testing of CCFLIR2 mast design and SSN-8 Tactical Computer System. ***FY 2019 Plans:*** Continues integration and testing of CCFLIR2 mast design and SSN-8 Tactical Computer System. Begins integration of TAS. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Increase of $0.005 million is due to minor adjustments.			
Title: Threat Awareness System (TAS)	-	3.045	2.261
Articles:	-	-	1
Description: This sub-project provides SOF with an Electronic Intelligence capability for enhanced force protection of SOF in Maritime denied environments by allowing them to identify and avoid enemy detection capabilities. TAS will utilize technological advancements to gain significant improvements in capability such as miniaturization and marinization to enable seamless craft integration. ***FY 2018 Plans:*** Begin development and testing of TAS. ***FY 2019 Plans:*** Continues development and testing of TAS. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** The FY 2019 funding request was reduced by $0.784 million to account for the availability of prior year execution balances.			
Title: Maritime Precision Engagement (MPE)	-	-	10.000
Description: This sub-project, Maritime Precision Engagement is a family of standoff, loitering, man-in-the-loop weapons systems deployed on combatant craft and capable of targeting individuals, groups, vehicles, high value targets, and small oceangoing craft with low collateral damage. The program consists of combatant craft alterations, launcher systems, and munitions. ***FY 2019 Plans:***			

Exhibit R-2A, RDT&E Project Justification: PB 2019 United States Special Operations Command		Date: February 2018
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2017	FY 2018	FY 2019
Begin design and development of the production representative article.			
FY 2018 to FY 2019 Increase/Decrease Statement: Increase of $10 million to initiate the design and development of the production representative article.			
Accomplishments/Planned Programs Subtotals	3.882	7.201	15.574

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
• PROC/0204SCCS: *Combatant Craft Systems*	46.548	23.272	7.313	-	7.313	38.433	31.372	37.854	66.617	Continuing	Continuing

Remarks

N/A

D. Acquisition Strategy

• CCM was a two-phase source selection process. Phase I involved a Small Business Set-Aside competition for two vendors to design, build and deliver test articles. Phase II selected a single vendor to provide a fully integrated baseline craft system for test and evaluation with options for production, engineering support, and contractor logistic support.

• CCH SEALION I & II were transitioned from United States Navy advanced technology demonstrator craft to USSOCOM. Sustainment for SEALION I & II is conducted via Special Operations Forces Support Activity. SEALION III is Sole Source to the OEM in order to take advantage of previous Government investments in manufacturing infrastructure for SEALION I & II.

• CCME emphasizes on spearheading Technology Readiness Level (TRL) 6 technology for successful transition into SOF Combatant Crafts. CCME accomplishes this by employing the full spectrum of contracting services, using existing contracts where appropriate, and leveraging from other Government agencies to include the Services and USSOCOM SOF AT&L Science & Technology Directorate. CCME focuses on developing the technology for maturity, marinization and compatibility, finally transitioning to the craft. The integration and procurement piece is managed by the individual Combatant Craft Program.

• CCA utilizes various contracting and better buying power practices to develop, test, and integrate capability enhancements required to increase the craft's current performance envelope.

• TAS PM JTWS will perform market research to determine feasibility and appropriateness of conducting a full and open competition. PM JTWS is planning a developmental effort in FY18/FY19 to mature existing technologies. PM-SS will retain funds to support integration across the family of Combatant Craft.

Exhibit R-2A, RDT&E Project Justification: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160483BB / *Maritime Systems*	**Project (Number/Name)** S1684 / *Surface Craft*

• MPE will be a full and open competition 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.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 United States Special Operations Command			Date: February 2018
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160483BB / *Maritime Systems*	Project (Number/Name) S1684 / *Surface Craft*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Combat Craft Medium (CCM)	C/Various	Various : Various	11.089	1.202	Jun 2017	1.662	Nov 2017	0.788	Nov 2018	-		0.788	Continuing	Continuing	-
Combatant Craft Heavy (CCH)	C/Various	Various : Various	4.392	0.542	Apr 2017	0.877	Jan 2018	0.885	Jan 2019	-		0.885	Continuing	Continuing	-
Combatant Craft Assault	C/Various	Various : Various	0.000	0.421	Apr 2017	0.510	Nov 2017	0.515	Nov 2018	-		0.515	Continuing	Continuing	-
Combat Craft Mission Equipment (CCME)	C/Various	Various : Various	2.939	1.514	Mar 2017	0.878	Nov 2017	0.888	Nov 2018	-		0.888	Continuing	Continuing	-
Threat Awareness System (TAS)	C/Various	Various : Crane, IN	0.000	-		3.045	Mar 2018	1.661	Mar 2019	-		1.661	Continuing	Continuing	-
Prior Year Costs	C/Various	Various : Various	3.679	-		-		-		-		-	0.000	3.679	-
Maritime Precision Engagement (MPE)	C/Various	Various : Various	-	-		-		9.800	Dec 2018	-		9.800	Continuing	Continuing	-
		Subtotal	22.099	3.679		6.972		14.537		-		14.537	Continuing	Continuing	N/A

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
CCME	C/Various	Various : Various	1.155	0.203	Jun 2017	0.229	Nov 2017	0.237	Nov 2018	-		0.237	Continuing	Continuing	-
TAS	C/Various	Various : Various	-	-		-		0.239	Mar 2019	-		0.239	Continuing	Continuing	-
Prior Year Costs	C/Various	Various : Various	2.395	-		-		-		-		-	0.000	2.395	-
		Subtotal	3.550	0.203		0.229		0.476		-		0.476	Continuing	Continuing	N/A

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
TAS	C/Various	Various : Various	-	-		-		0.361	Mar 2019	-		0.361	Continuing	Continuing	-
MPE	C/Various	Various : Various	-	-		-		0.200	Dec 2018	-		0.200	Continuing	Continuing	-
Prior Year Costs	C/Various	Various : Various	3.536	-		-		-		-		-	0.000	3.536	-
		Subtotal	3.536	-		-		0.561		-		0.561	Continuing	Continuing	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 United States Special Operations Command			Date: February 2018
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160483BB / *Maritime Systems*	Project (Number/Name) S1684 / *Surface Craft*	

	Prior Years	FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	29.185	3.882		7.201		15.574		-		15.574	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160483BB / *Maritime Systems*	**Project (Number/Name)** S1684 / *Surface Craft*

Combatant Craft Medium Schedule

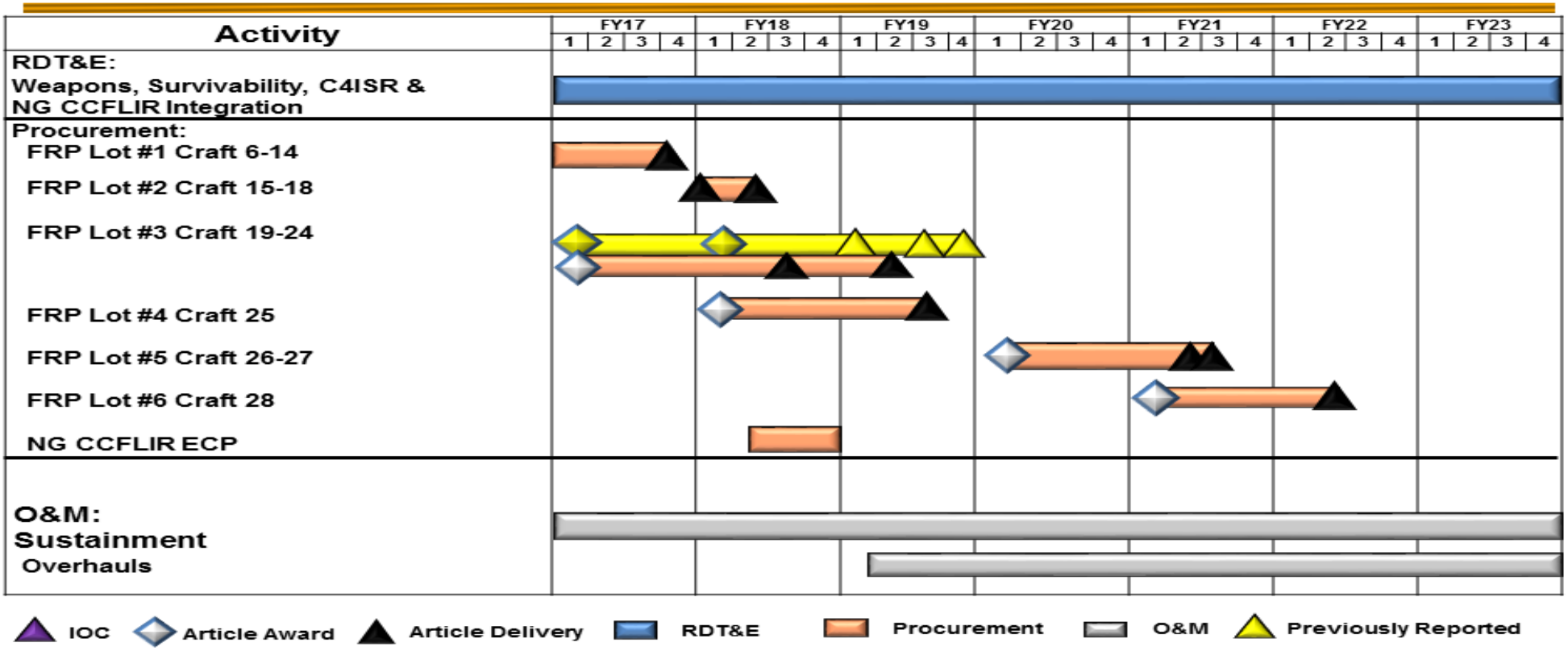

Exhibit R-4, RDT&E Schedule Profile: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160483BB / *Maritime Systems*	**Project (Number/Name)** S1684 / *Surface Craft*

Combatant Craft Heavy Schedule

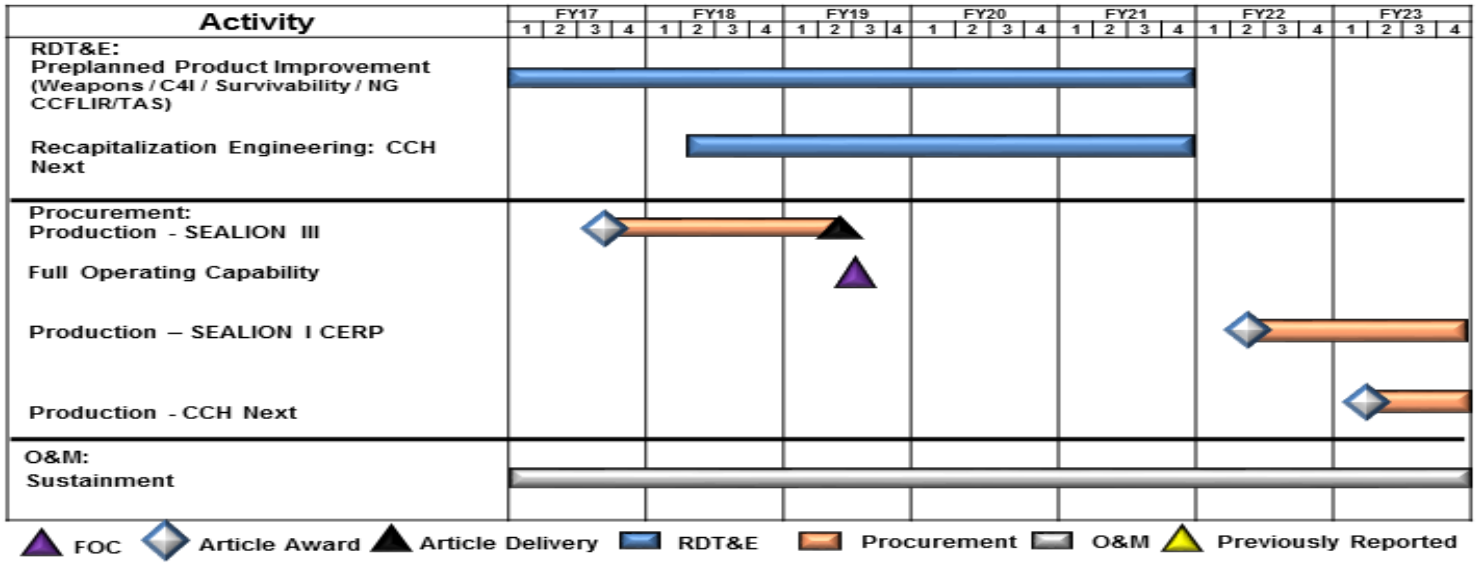

Exhibit R-4, RDT&E Schedule Profile: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160483BB / *Maritime Systems*	**Project (Number/Name)** S1684 / *Surface Craft*

CCME Schedule

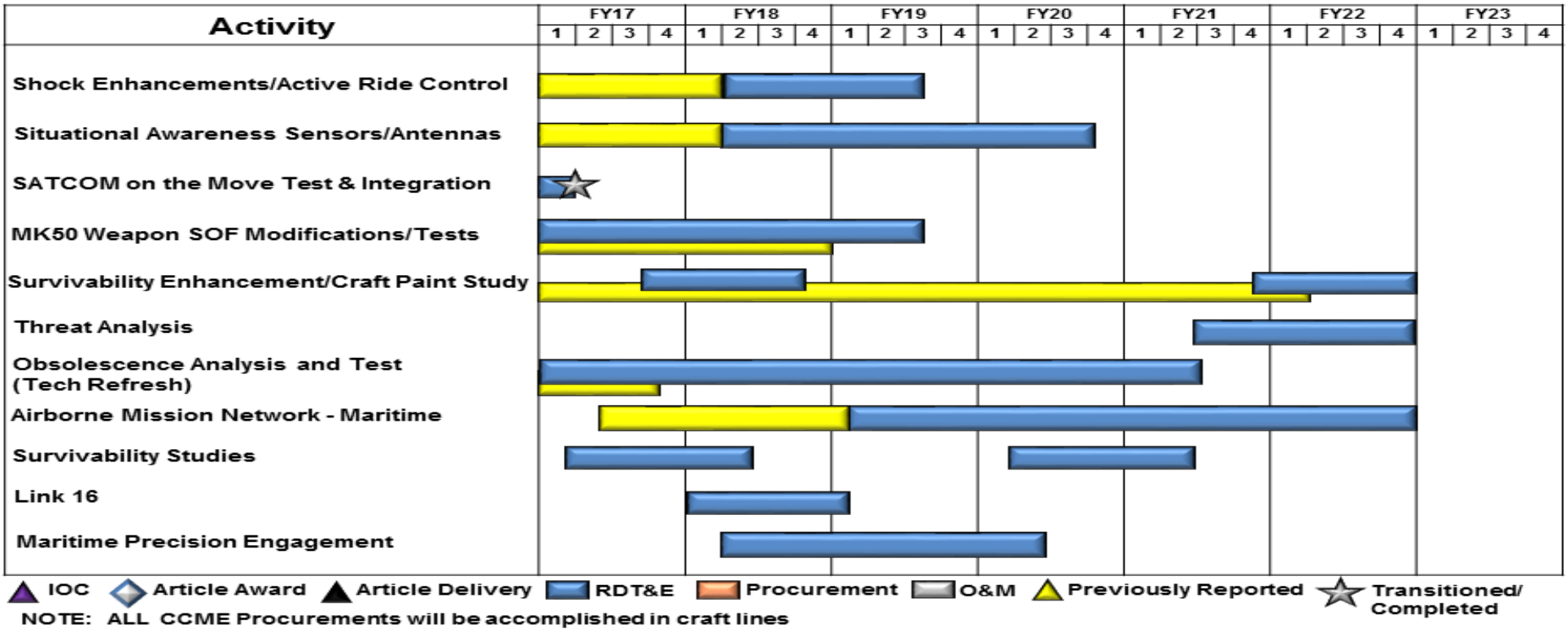

Exhibit R-4, RDT&E Schedule Profile: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160483BB / *Maritime Systems*	**Project (Number/Name)** S1684 / *Surface Craft*

Combatant Craft Assault Schedule

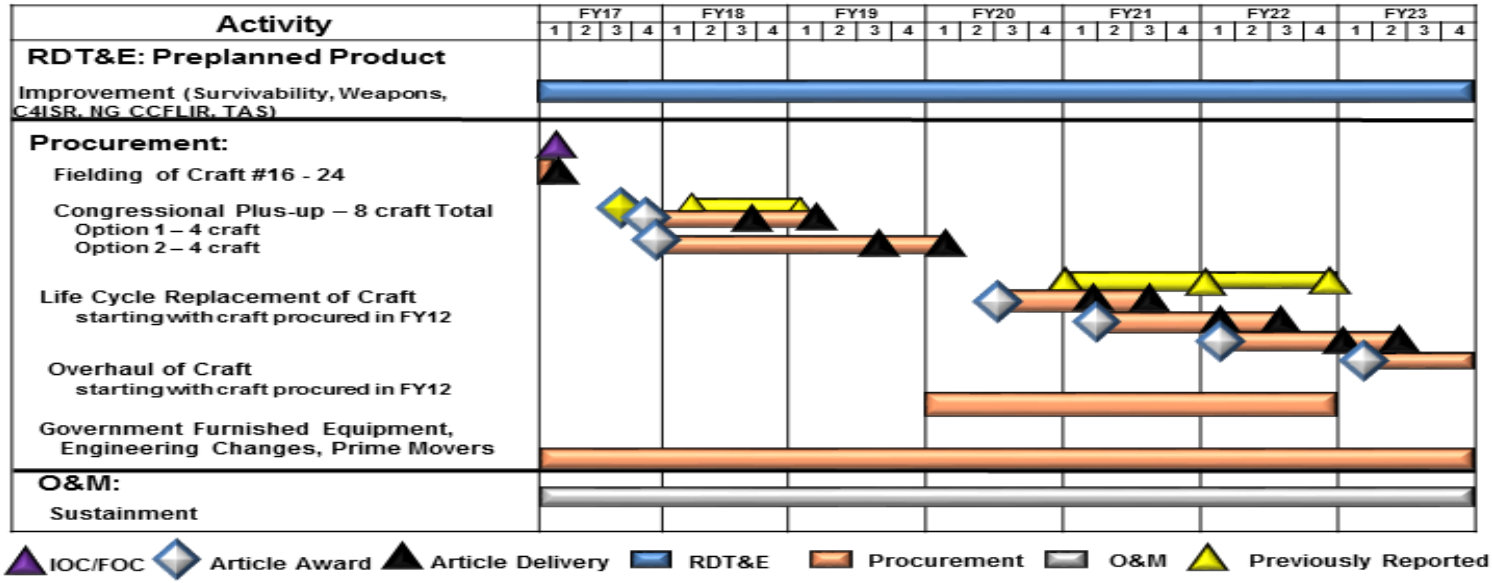

Exhibit R-4, RDT&E Schedule Profile: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160483BB / *Maritime Systems*	**Project (Number/Name)** S1684 / *Surface Craft*

Threat Awareness System Schedule

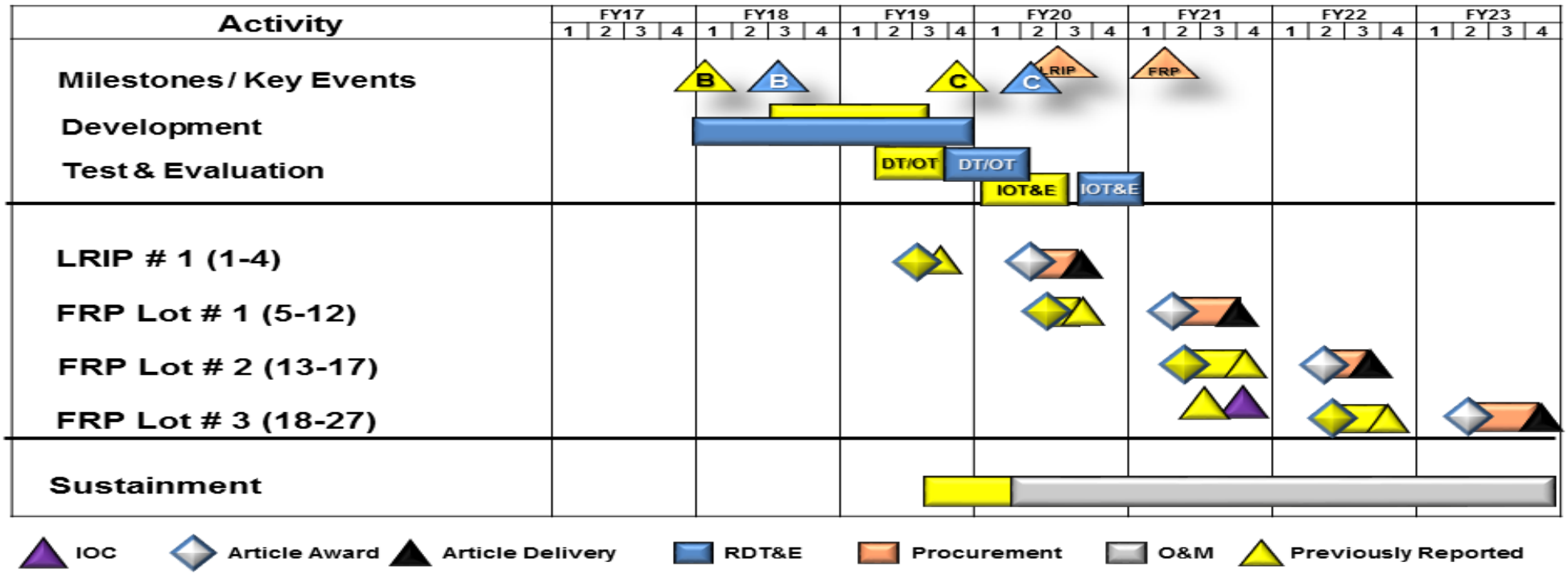

Exhibit R-4, RDT&E Schedule Profile: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160483BB / *Maritime Systems*	**Project (Number/Name)** S1684 / *Surface Craft*

Maritime Precision Engagement Schedule

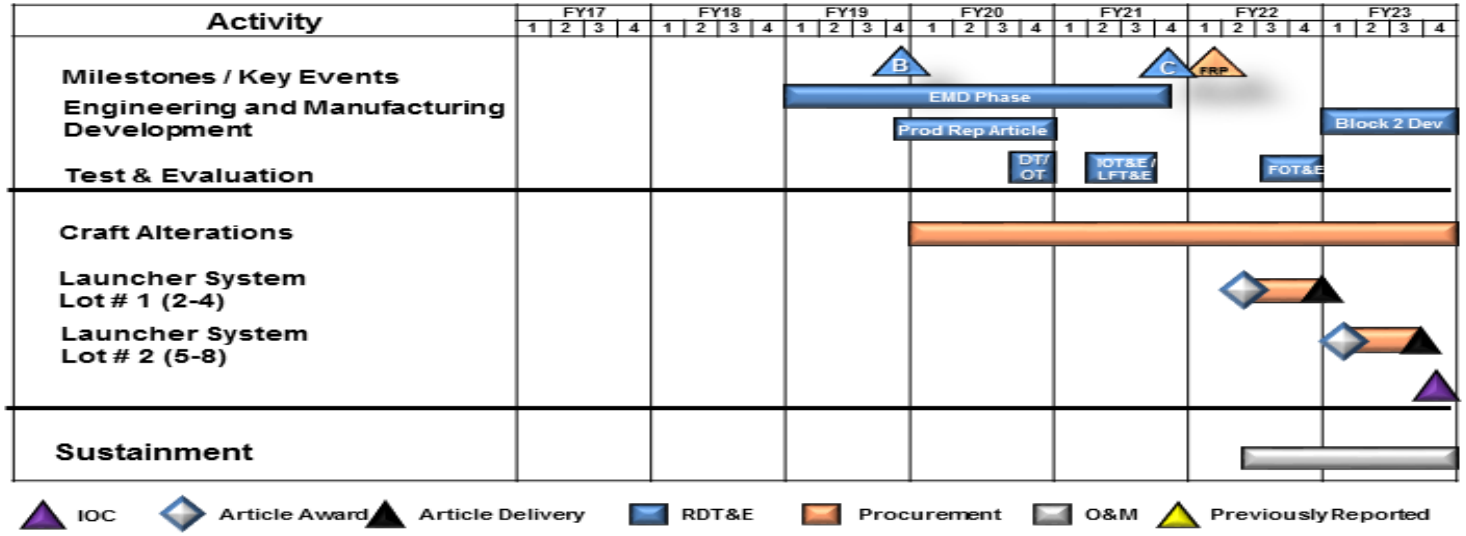

Exhibit R-4A, RDT&E Schedule Details: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160483BB / *Maritime Systems*	**Project (Number/Name)** S1684 / *Surface Craft*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Combatant Craft Medium				
Weapons, Survivability, C4ISR and NG CCFLIR Integration	1	2017	4	2023
Combatant Craft Heavy				
Preplanned Product Improvement (Weapons / C4I / Survivability / NG CCFLIR / TAS)	1	2017	4	2021
Recapitalization Engineering: CCH Next	2	2018	4	2021
Combatant Craft Mission Equipment				
Shock Enhancements/Active Ride Control	2	2018	3	2019
Situational Awareness Sensors/Antennas	2	2018	4	2020
SATCOM on the Move Test & Integration	2	2017	2	2017
MK50 Weapon SOF Modifications/Tests	1	2017	3	2019
Survivability Enhancement/Craft Paint Study	3	2017	4	2018
Threat Analysis	3	2021	4	2022
Obsolescence Analysis and Test (Tech Refresh)	1	2017	3	2021
Airborne Mission Network - Maritime	1	2019	4	2022
Survivability Studies	2	2017	2	2021
Link 16	1	2018	1	2019
Maritime Precision Engagement	2	2018	2	2020
Combatant Craft Assault				
Preplanned Product Improvement (Survivability, Weapons, C4ISR, NG CCFLIR, TAS)	1	2017	4	2023
Threat Awareness System				
Milestone B	3	2018	3	2018
Milestone C	2	2020	2	2020
Development	1	2018	4	2019

Exhibit R-4A, RDT&E Schedule Details: PB 2019 United States Special Operations Command		Date: February 2018
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160483BB / *Maritime Systems*	**Project (Number/Name)** S1684 / *Surface Craft*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Test and Evaluation	4	2019	1	2021
Maritime Precision Engagement				
Milestone B	4	2019	4	2019
Milestone C	4	2021	4	2021
Engineering and Manufacturing Development	1	2019	4	2021
Production Representative Article	4	2019	4	2020
Test and Evaluation	4	2020	4	2022

Exhibit R-2, RDT&E Budget Item Justification: PB 2019 United States Special Operations Command	Date: February 2018
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 1160489BB / *Global Video Surveillance Activities*

COST ($ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
Total Program Element	49.976	3.841	4.661	4.780	-	4.780	5.388	5.496	5.606	5.718	Continuing	Continuing
S500C: *Global Video Surveillance Activities*	49.976	3.841	4.661	4.780	-	4.780	5.388	5.496	5.606	5.718	Continuing	Continuing

A. Mission Description and Budget Item Justification

This program element is part of the Military Intelligence Program. Details are provided under separate cover.

B. Program Change Summary ($ in Millions)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Previous President's Budget	3.841	4.661	4.820	-	4.820
Current President's Budget	3.841	4.661	4.780	-	4.780
Total Adjustments	0.000	0.000	-0.040	-	-0.040
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-	-	-0.040	-	-0.040

Change Summary Explanation

Funding:

FY2017: None.

FY2018: None.

FY2019: Decrease of $0.040 million is due to a Department economic assumption decrease.

Technical: None.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2019 United States Special Operations Command	Date: February 2018
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 1160490BB / *Operational Enhancements Intelligence*

COST ($ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
Total Program Element	85.993	12.034	12.049	12.176	-	12.176	13.573	13.844	14.121	14.403	Continuing	Continuing
S500D: *Operational Enhancements Intelligence*	85.993	12.034	12.049	12.176	-	12.176	13.573	13.844	14.121	14.403	Continuing	Continuing

A. Mission Description and Budget Item Justification

This project is part of the Military Intelligence Program. This project is reported in accordance with Title 10, United States Code, Section 119(a)(1) in the Special Access Program Annual Report to Congress.

B. Program Change Summary ($ in Millions)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Previous President's Budget	11.834	12.049	12.279	-	12.279
Current President's Budget	12.034	12.049	12.176	-	12.176
Total Adjustments	0.200	0.000	-0.103	-	-0.103
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	0.200	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-	-	-0.103	-	-0.103

Change Summary Explanation

Funding:

FY2017: Details for increase of $0.200 million are available under separate cover.

FY2018: None.

FY2019: Decrease of $0.103 million is due to a Department economic assumption decrease.

Schedule: None.

Technical: None.

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