Exhibit R-2, RDT&E Budget Item Justification: FY 2018 United States Special Operations Command	Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
Total Program Element	288.199	57.544	54.577	42.315	-	42.315	20.457	15.275	13.455	8.351	Continuing	Continuing
S0417: *Underwater Systems*	270.558	50.442	50.150	35.114	-	35.114	16.109	8.746	6.809	4.694	Continuing	Continuing
S1684: *Surface Craft*	17.641	7.102	4.427	7.201	-	7.201	4.348	6.529	6.646	3.657	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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Previous President's Budget	59.597	54.577	29.451	-	29.451
Current President's Budget	57.544	54.577	42.315	-	42.315
Total Adjustments	-2.053	0.000	12.864	-	12.864
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-2.053	-			
• Other	-	-	12.864	-	12.864

Exhibit R-2, RDT&E Budget Item Justification: FY 2018 United States Special Operations Command	Date: May 2017
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 2016: Decrease of $2.053 million is due to a transfer of funds to Small Business Innovative Research/Small Business Technology Transfer programs.

FY 2017: None.

FY 2018: Net Increase of $12.864 million is due to an increase of $0.441 million to support Independent Operational Test and Evaluation of the Shallow Water Combat Submersible, an increase of $5.200 million for Dry Deck Shelter Modernization efforts, an increase of $3.045 million for development and test of the Threat Awareness System (TAS), $6.000 million for the Dry Combat Submersible developmental and acceptance testing, and a decrease of $1.822 million to support higher command priorities.

Schedule: None.

Technical: Added TAS.

Exhibit R-2A, RDT&E Project Justification: FY 2018 United States Special Operations Command			Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
S0417: *Underwater Systems*	270.558	50.442	50.150	35.114	-	35.114	16.109	8.746	6.809	4.694	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. Sub-projects include:

• Shallow Water Combat Submersible (SWCS): This sub-project provides for the engineering, manufacturing, testing, and development of one Engineering Developmental Model (EDM) to replace the SEAL Delivery Vehicle (SDV) system. The EDM is being developed due to obsolescence of the SDV system. This project will utilize mature technologies, which include electric propulsion along with upgraded navigation, communication, and sensor suites. It also provides for integration efforts with the current Dry Deck Shelter (DDS), development of engineering changes for SWCS production craft configuration, and integration of other diving technologies to meet SOF requirements.

• Dry Combat Submersible (DCS): This sub-project provides for the advanced engineering, manufacturing, testing, and development 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 test, 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.

• DDS Modernization: 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.

• SOF Combat Diving: This sub-project provides for the engineering, manufacturing, testing, development, and transition of SOF peculiar diving equipment providing the SOF combat diver the ability to engage the enemy and conduct operations. SOF Combat Diving will provide capabilities to USSOCOM components and will support the SDV, SWCS, and DCS in conduct of infiltration/extraction, material recovery, underwater ship attack, beach clearance, and other missions. Technologies include, but are not limited to, commercial and developmental life support, maneuverability, employment of weapons, diver navigational accuracy and situational awareness, thermal protection, and underwater communications.

Exhibit R-2A, RDT&E Project Justification: FY 2018 United States Special Operations Command		Date: May 2017
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 2016	FY 2017	FY 2018
Title: SWCS ***FY 2016 Accomplishments:*** Continued EDM development testing. Completed successful Dry Deck Shelter (DDS) fit checks. Received certification approval for government divers and for contractor maintenance under NAVSEA NOTE5000. Completed a successful Milestone C and awarded the initial production contract. ***FY 2017 Plans:*** Complete EDM, including final logistics packages, develop and incorporate any engineering changes into SWCS production craft configuration as needed. ***FY 2018 Plans:*** Completes Initial Operational Test and Evaluation. Delivers first articles to the fleet.	5.750	0.950	1.378
Title: DCS ***FY 2016 Accomplishments:*** Continued testing of safe Li-Ion batteries, completed government acceptance testing on two prototypes and began characterization testing on one prototype. Achieved SOF embarkation on one prototype. Awarded an EMD contract for a production representative system and completed contract kick-off, Integrated Baseline Review, System Requirements Review, and Preliminary Design Reviews, and Pressure Vessel Critical Design Review. ***FY 2017 Plans:*** Continue EMD for DCS production representative system. Complete testing of the prototypes and initiate refit of one prototype submersible to be used as a training vessel. ***FY 2018 Plans:*** Continues to evaluate capability enhancing technologies and reduce risk in the DCS program. Completes EMD for DCS production representatives system. Completes government acceptance testing and initiates developmental testing. Achieves Milestone C.	35.299	38.700	21.497
Title: DDS Modernization ***FY 2016 Accomplishments:*** Began development of the modernization necessary to extend useful life, transition from SSGN to Virginia Class host platform, and increase capacity to carry larger payloads. Completed Preliminary Design Review (PDR) for field changes. ***FY 2017 Plans:***	8.893	8.500	10.200

Exhibit R-2A, RDT&E Project Justification: FY 2018 United States Special Operations Command		Date: May 2017
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 2016	FY 2017	FY 2018
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 2018 Plans:*** Continues 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.			
Title: SOF Combat Diving ***FY 2016 Accomplishments:*** Transitioned Free-Swimming Diver Heating and Cooling System from Science and Technology to Program of Record. ***FY 2017 Plans:*** Continue thermal protection testing. Begin development for situational awareness and underwater breathing apparatuses. ***FY 2018 Plans:*** Continues development for environmental protection, navigation, communication, and propulsion.	0.500	2.000	2.039
Accomplishments/Planned Programs Subtotals	50.442	50.150	35.114

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
• PROC/0210US: *Underwater Systems*	29.021	37.098	92.606	-	92.606	88.541	42.097	9.523	9.714	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 is being utilized for any integration and subsystem requirements, using existing contracts where appropriate, government agencies, and new contracts as necessary.

• DCS acquisition strategy was a full and open competitive source selection process resulting in award for an EMD contract. This Fixed Price Incentive Firm Target contract is for a production representative system in FY 2016 with options to procure one vessel in FY 2018 and one in FY 2019.

• The DDS modernization and engineering/change efforts for the six DDS in inventory are executed utilizing existing services contracts awarded for a five year period.

• SOF Combat Diving utilizes a full spectrum of contracting activities, using existing contracts where appropriate, government agencies, and new contracts competitively selected as necessary.

Exhibit R-2A, RDT&E Project Justification: FY 2018 United States Special Operations Command		Date: May 2017
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160483BB / *Maritime Systems*	**Project (Number/Name)** S0417 / *Underwater Systems*

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: FY 2018 United States Special Operations Command			Date: May 2017
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 2016 Cost	FY 2016 Award Date	FY 2017 Cost	FY 2017 Award Date	FY 2018 Base Cost	FY 2018 Base Award Date	FY 2018 OCO Cost	FY 2018 OCO Award Date	FY 2018 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Shallow Water Combat Submersible (SWCS)	C/CPIF	Teledyne Brown Engineering : Huntsville, AL	78.594	3.918	Jan 2016	-		-		-		-	0.000	82.512	-
Dry Combat Submersibles (DCS) (Button 5.60 prototype)	C/Various	General Dynamic-Electric Boat : Groton, CT	27.299	0.261	May 2016	-		-		-		-	0.000	27.560	-
DCS Technologies Government Furnished Equipment	C/Various	Various : Various	26.199	4.093	Jun 2016	7.377	Jun 2017	3.000	Jun 2018	-		3.000	Continuing	Continuing	-
DCS Engineering & Manufacturing Development	C/FPIF	Lockheed Martin : Riviera Beach, FL	-	26.846	Jul 2016	25.723	Jun 2017	12.997	Jun 2018	-		12.997	9.772	75.338	75.338
DCS Engineering Changes	C/Various	Various : Various	-	-		3.100	Jun 2017	1.571	Jun 2018	-		1.571	Continuing	Continuing	-
Dry Deck Shelter (DDS) Modernization	SS/CPFF	Oceaneering International Inc. Marine Services Division : Chesapeake, VA	-	8.543	Nov 2015	8.197	Jan 2017	9.850	Jan 2018	-		9.850	Continuing	Continuing	-
SOF-Unique Diving Technologies	Various	Various : Various	-	0.370	Mar 2016	1.500	Nov 2016	1.369	Nov 2017	-		1.369	Continuing	Continuing	-
Prior Year Funding	Various	Various : Various	92.609	-		-		-		-		-	0.000	92.609	-
		Subtotal	224.701	44.031		45.897		28.787		-		28.787	-	-	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2016 Cost	FY 2016 Award Date	FY 2017 Cost	FY 2017 Award Date	FY 2018 Base Cost	FY 2018 Base Award Date	FY 2018 OCO Cost	FY 2018 OCO Award Date	FY 2018 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	-

Exhibit R-3, RDT&E Project Cost Analysis: FY 2018 United States Special Operations Command			Date: May 2017
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 2016 Cost	FY 2016 Award Date	FY 2017 Cost	FY 2017 Award Date	FY 2018 Base Cost	FY 2018 Base Award Date	FY 2018 OCO Cost	FY 2018 OCO Award Date	FY 2018 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
SWCS	Various	Puget Sound Naval Shipyard : Seattle, Washington	0.599	0.615	Jan 2016	0.950	Dec 2016	1.378	Dec 2017	-		1.378	0.000	3.542	-
DCS	C/Various	NAVSEA / CRANE : Panama City, FL	9.007	1.299	Jul 2016	-		2.144	Jun 2018	-		2.144	0.000	12.450	-
SOF Combat Diving	Various	Various : Various	-	0.130	Mar 2016	0.500	Jun 2017	0.500	Jun 2018	-		0.500	Continuing	Continuing	-
Prior Year Funding	Various	Various : Various	9.320	-		-		-		-		-	0.000	9.320	-
		Subtotal	18.926	2.044		1.450		4.022		-		4.022	-	-	-

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2016 Cost	FY 2016 Award Date	FY 2017 Cost	FY 2017 Award Date	FY 2018 Base Cost	FY 2018 Base Award Date	FY 2018 OCO Cost	FY 2018 OCO Award Date	FY 2018 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
SWCS	Various	John Hopkins University : Columbia, MD	1.564	1.217		-		-		-		-	0.000	2.781	-
DCS	Various	SRA : Tampa, FL	9.316	2.800	Jun 2016	2.500	Jun 2017	1.785	Jun 2018	-		1.785	Continuing	Continuing	-
DDS	MIPR	NAVSEA : Washington, DC	0.757	0.350	Jan 2016	0.303	Jan 2017	0.350	Jan 2018	-		0.350	Continuing	Continuing	-
SOF Combat Diving	C/Various	SRA : Tampa, FL	-	-		-		0.170	Dec 2017	-		0.170	Continuing	Continuing	-
Prior Year Funding	Various	Various : Various	6.200	-		-		-		-		-	0.000	6.200	-
		Subtotal	17.837	4.367		2.803		2.305		-		2.305	-	-	-

	Prior Years	FY 2016		FY 2017		FY 2018 Base		FY 2018 OCO		FY 2018 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	270.558	50.442		50.150		35.114		-		35.114	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: FY 2018 United States Special Operations Command		Date: May 2017
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

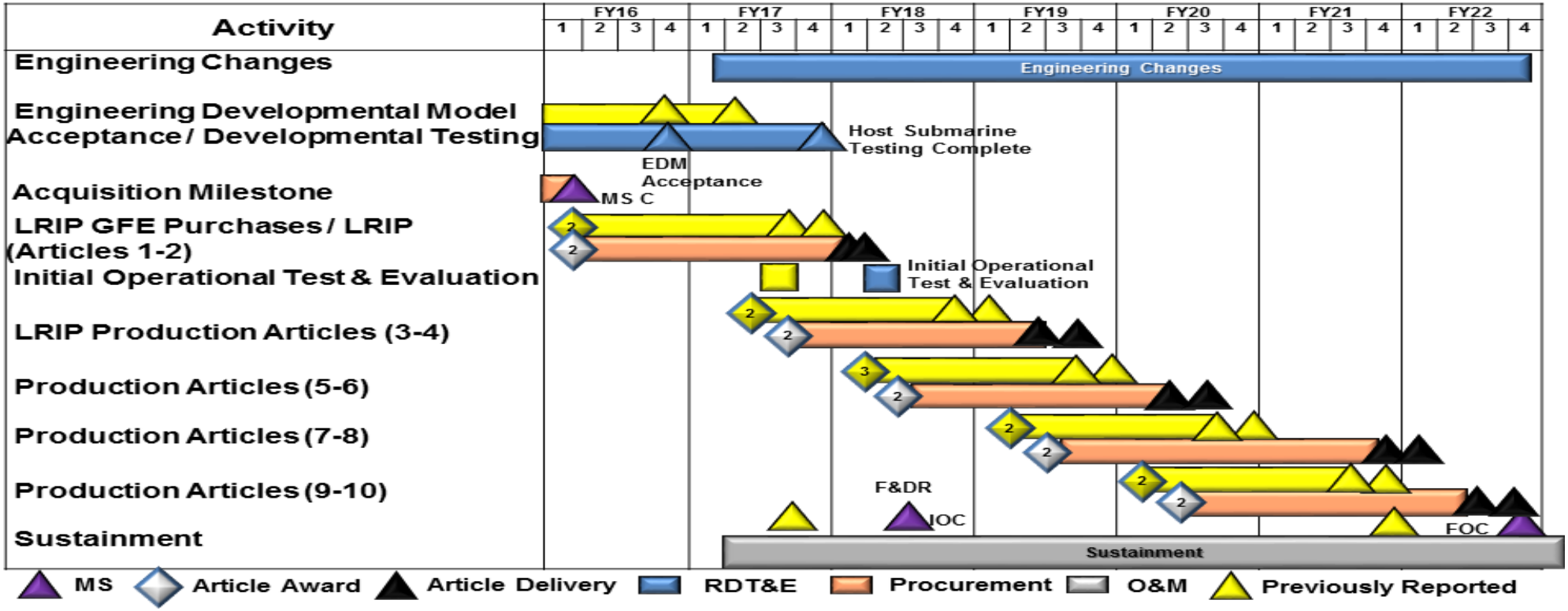

Exhibit R-4, RDT&E Schedule Profile: FY 2018 United States Special Operations Command		Date: May 2017
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160483BB / *Maritime Systems*	**Project (Number/Name)** S0417 / *Underwater Systems*

Dry Combat Submersible Schedule

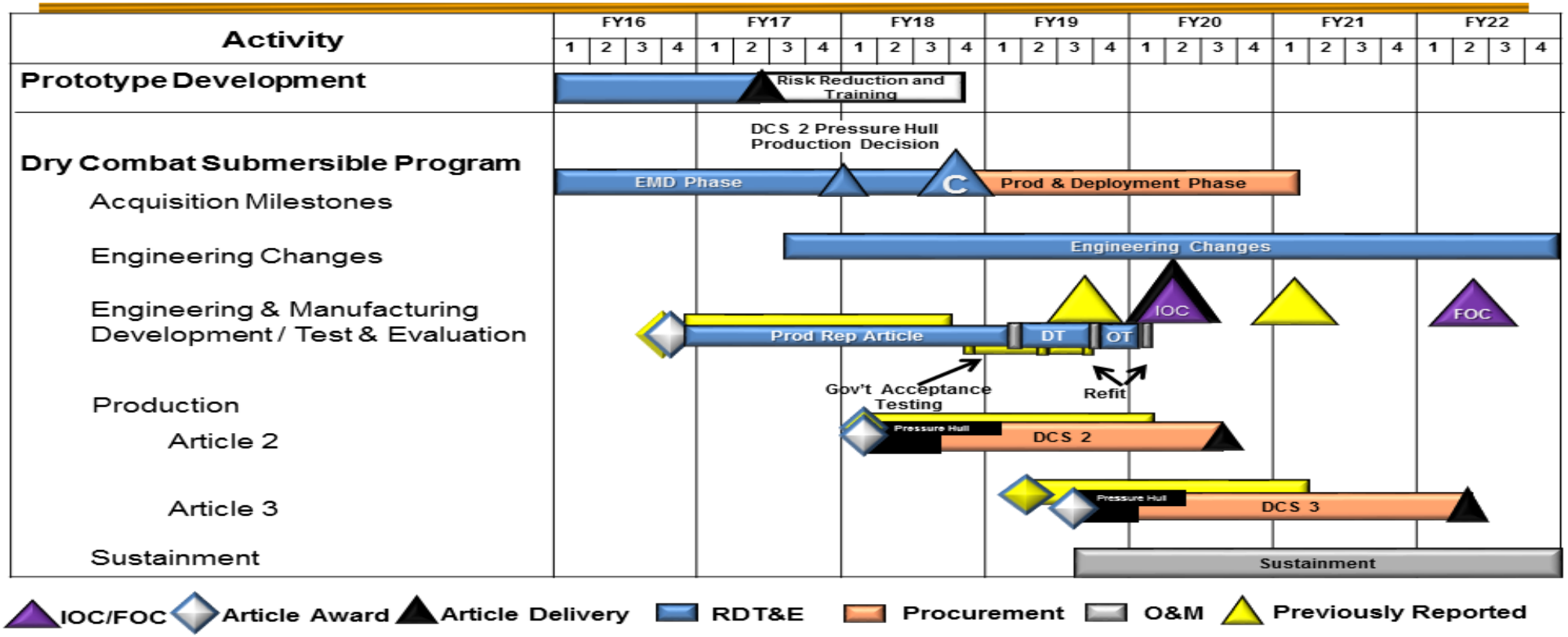

Exhibit R-4, RDT&E Schedule Profile: FY 2018 United States Special Operations Command		Date: May 2017
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160483BB / *Maritime Systems*	**Project (Number/Name)** S0417 / *Underwater Systems*

Dry Deck Shelter Schedule

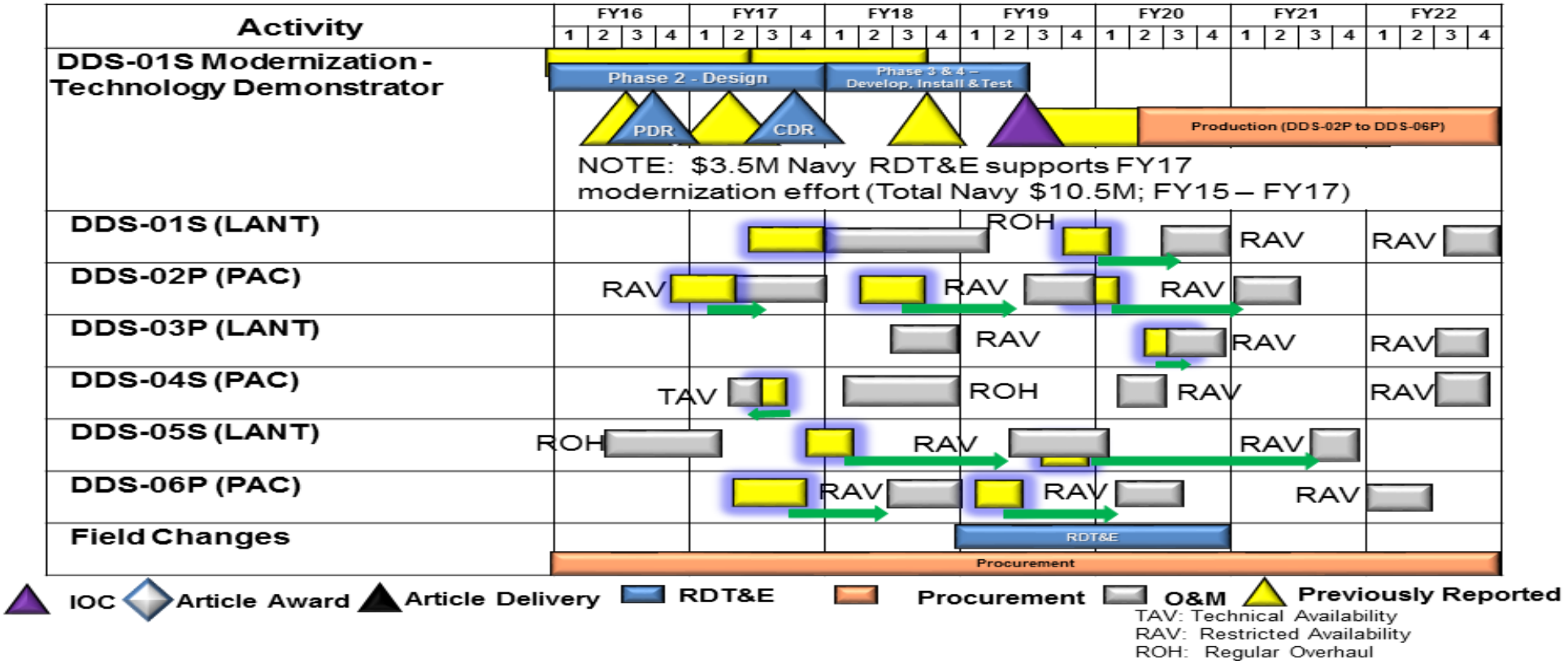

Exhibit R-4, RDT&E Schedule Profile: FY 2018 United States Special Operations Command		Date: May 2017
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160483BB / *Maritime Systems*	**Project (Number/Name)** S0417 / *Underwater Systems*

SOF Combat Diving Schedule

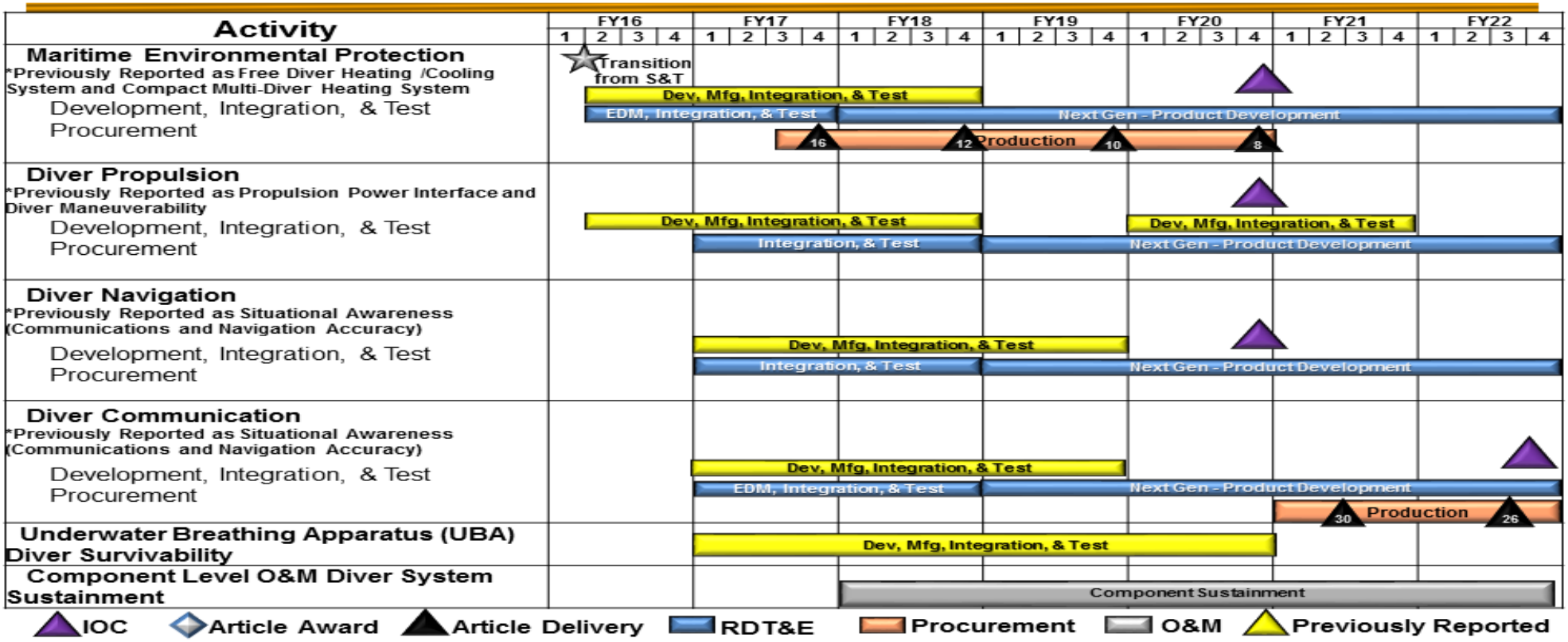

Exhibit R-4A, RDT&E Schedule Details: FY 2018 United States Special Operations Command		Date: May 2017
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160483BB / *Maritime Systems*	**Project (Number/Name)** S0417 / *Underwater Systems*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Shallow Water Combat Submersible				
Engineering Changes	1	2017	4	2022
Engineering Development Model Acceptance	4	2016	4	2016
Developmental Test	1	2016	4	2017
Milestone C	1	2016	1	2016
Dry Combat Submersibles				
Prototype Development	1	2016	2	2017
Engineering and Manufacturing Development Phase	1	2016	4	2018
Engineering Changes	3	2017	4	2022
Milestone C	4	2018	4	2018
Developmental Test and Evaluation	1	2019	3	2019
Operational Test and Evaluation	3	2019	1	2020
Dry Deck Shelter Modernization				
Phase 2 Design	1	2016	4	2017
Phase 3 & 4 Development	1	2018	2	2019
Preliminary Design Review	3	2016	3	2016
Critical Design Review	4	2017	4	2017
SOF Combat Diving				
Maritime Environmental Protection Development, Integration, and Test	2	2016	4	2022
Propulsion Development / Manufacturing / Test / Integration	1	2017	4	2022
Navigation Development / Manufacturing / Test / Integration	1	2017	4	2022
Communications Development / Manufacturing / Test / Integration	1	2017	4	2022

Exhibit R-2A, RDT&E Project Justification: FY 2018 United States Special Operations Command			Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
S1684: *Surface Craft*	17.641	7.102	4.427	7.201	-	7.201	4.348	6.529	6.646	3.657	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. Sub-projects include:

• Combatant Craft Medium Mk 1 (CCM): This sub-project is a semi-enclosed, low-observable, 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.

• Combatant Craft Heavy (CCH): 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, low-observable, semi-submersible craft that operates in denied environments up to high-threat. SEALION is NSW's most versatile and 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.

• Next Generation Combatant Craft Forward Looking Infrared Radar (NG CCFLIR): The CCFLIR capability provides SOF with a multi-sensor, electro-optic system that enhances SOF effectiveness by improving their ability to detect, recognize, identify, range, track, and highlight objects of interest in a maritime environment. The NG CCFLIR will use technological advancements to gain significant improvements in capability such as operational range, image fusion, net-centric data sharing, information assurance, and seamless craft and combat systems integration.

• Combatant Craft Mission Equipment (CCME): This sub-project (previously Next Generation Surface Systems) 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 (COTS), leveraged from other Government agencies , or new solutions.

• Combatant Craft Assault (CCA): This sub-project is a National-to-Theater transition. The CCA is the theater version of the High Speed Assault Craft. The CCA is a low-observable 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.

• Threat Awareness System (TAS): 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.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2016	FY 2017	FY 2018
Title: CCM	1.256	1.659	1.662
FY 2016 Accomplishments: Completed craft Initial Operational Test and Evaluation. Began design for integration of MK50 remote weapon system.			
FY 2017 Plans: Develop conceptual, preliminary, and detail design drawings necessary to integrate and conduct initial testing of MK50 remote weapon system on the CCM test article. Begin integration of NG CCFLIR.			
FY 2018 Plans: Continues integration of NG CCFLIR and begins integration of Tactical Operations Center (TOCNET) Intercommunications System.			
Title: CCH	2.156	0.887	0.877
FY 2016 Accomplishments: Continued development and integration of enhanced communication equipment and windows. Initiated studies and analysis for upgraded CCH craft.			
FY 2017 Plans: Complete tactical computer system upgrades. Continue P3I and technology insertion. Begin integration of NG CCFLIR and applicable CCME technology onto CCH crafts.			
FY 2018 Plans:			

Exhibit R-2A, RDT&E Project Justification: FY 2018 United States Special Operations Command		Date: May 2017
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)	FY 2016	FY 2017	FY 2018
Completes NG CCFLIR integration and continues development and integration of upgraded Satellite Communications (SATCOM) antennas.			
Title: NG CCFLIR ***FY 2016 Accomplishments:*** Completed testing and integration with combatant craft systems. Began Developmental and Operational Testing.	1.650	-	-
Title: CCME ***FY 2016 Accomplishments:*** Analyzed Magnetic Antenna technology for Combatant Craft Assault. Completed Combatant Craft threat vulnerabilities study to address capability gaps. Conducted Maritime Intercom System (TOCNET) at-sea operational test and user assessment to address VIC3 obsolescence. ***FY 2017 Plans:*** Evaluate candidate solutions for technology development to include, but not limited to, MK50 SOF improvements (i.e., accuracy and increased rounds), Vehicular Intercommunications-3 intercom control integration tests, craft survivability painting studies and verification, and situational awareness studies. ***FY 2018 Plans:*** Evaluates 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.	2.040	1.381	1.107
Title: CCA ***FY 2017 Plans:*** Begin integration of NG CCFLIR and applicable CCME technology onto CCA crafts. ***FY 2018 Plans:*** Completes integration and testing of CCFLIR mast design and SSN-8 Tactical Computer System.	-	0.500	0.510
Title: TAS ***FY 2018 Plans:*** Begins development and testing of TAS.	-	-	3.045
Accomplishments/Planned Programs Subtotals	7.102	4.427	7.201

Exhibit R-2A, RDT&E Project Justification: FY 2018 United States Special Operations Command			Date: May 2017
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160483BB / *Maritime Systems*	**Project (Number/Name)** S1684 / *Surface Craft*	

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
• PROC/0204SCCS: *Combatant Craft Systems*	63.287	55.820	23.272	-	23.272	11.619	36.751	30.403	38.191	Continuing	Continuing

Remarks

N/A

D. Acquisition Strategy

• CCM acquisition strategy was a competition using 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 U.S. Navy advanced technology demonstrator craft to USSOCOM. Sustainment for SEALION I & II is conducted via Special Operations Forces Support Activity. Based on market research completed in December 2015; currently pursuing a Sole Source award for SEALION III in order to take advantage of previous Government investments in manufacturing infrastructure for SEALION I & II.

• NG CCFLIR: Completed a full and open competition in September 2015. An Engineering Manufacturing Development contract was awarded to FLIR Systems Incorporated, which included production and sustainment options. The NG CCFLIR will be installed on the CCM, CCH, and CCA.

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

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

• TAS will conduct market research to determine feasibility and appropriateness of conducting a full and open competition. TAS will pursue existing Government-Off-The-Shelf technology in order to reduce acquisition timeline.

E. Performance Metrics

N/A