Exhibit R-2, RDT&E Budget Item Justification: PB 2017 Navy	Date: February 2016
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 Program Element (Number/Name)** PE 0603713N *I Ocean Engineering Tech Dev*

COST ($ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
Total Program Element	115.542	6.126	4.520	4.556	-	4.556	6.455	6.061	5.769	5.890	Continuing	Continuing
0099: *Deep Submergence Bio Med Dev*	28.649	2.157	4.000	3.603	-	3.603	4.697	4.630	4.507	4.601	Continuing	Continuing
0394: *Shallow Depth Diving EQ*	86.893	3.969	0.520	0.953	-	0.953	1.758	1.431	1.262	1.289	Continuing	Continuing

A. Mission Description and Budget Item Justification

Developments in this program will enable the U.S. Navy to overcome deficiencies that constrain underwater operations in the areas of search, location, rescue, recovery, salvage, underwater ship husbandry, construction, and protection of offshore assets. This program develops medical technology, diver life support equipment, and the vehicles, systems, tools, and procedures to permit manned underwater operations.

B. Program Change Summary ($ in Millions)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Previous President's Budget	6.264	4.520	5.946	-	5.946
Current President's Budget	6.126	4.520	4.556	-	4.556
Total Adjustments	-0.138	0.000	-1.390	-	-1.390
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.137	0.000			
• Program Adjustments	0.000	0.000	-1.265	-	-1.265
• Rate/Misc Adjustments	-0.001	0.000	-0.125	-	-0.125

Change Summary Explanation

Decrease in Ocean Engineering Tech Dev RDTE,N by $209K as required for the Department of the Navy to comply with the Bipartisan Budget Act of 2015.

The FY 2017 funding request was reduced by $1.056 million to account for the availability of prior years execution balance.

FY 2015 was reduced due to Submarine Rescue System program delay.

Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy			Date: February 2016
Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0603713N / *Ocean Engineering Tech Dev*	Project (Number/Name) 0099 / *Deep Submergence Bio Med Dev*	

COST ($ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
0099: *Deep Submergence Bio Med Dev*	28.649	2.157	4.000	3.603	-	3.603	4.697	4.630	4.507	4.601	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project:
1) Develops advanced biomedical and bioengineering technology for enhancing medical and life support for submarine escape and rescue;
2) Conducts research for diver health, safety and effectiveness; and
3) Supports deeper, longer, and more flexible dives.

Deliverables for DISSUB (disabled submarine) include: medical procedures for submarine escape and rescue (including new Submarine Rescue Diving and Recompression System (SRDRS)), life support parameters, medical procedures for life support, exposure guidance for atmospheric contaminants, non-chemical CO2 scrubbing, prevention and treatment of decompression illness, and senior survivor expert decision system.
Deliverables for diver enhancement include: exposure guidance for diver underwater continuous noise, impulse noise, and underwater blast, exposure guidance for oxygen breathing, collection of operational diving depth/time profiles to predict decompression risk, enhanced underwater swimming efficiency, enhanced diver thermal protection, and real-time decompression guidance.
Requirements: NAPDD #587-873, Deep Submergence Biomedical Development, 23 November 1999.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Title: Deep Submergence Bio Med Dev - Diver Health and Safety	1.079	2.000	1.802	0.000	1.802
Articles:	-	-	-	-	-
Description: Diver Health and Safety Research: Pulmonary oxygen toxicity exposure limits. Procedures for assessing and mitigating risk for diving in contaminated water. Procedure to determine remaining CO2 scrubber duration. Development of advanced insulation garments for diver thermal protection. Develop guidance for optimizing thermal control during decompression. Continue collection of operational dive profiles for advanced modeling. Novel methods for diver thermal protection. Improve resistance to O2 toxicity. Diver anthropometry. Chemical hardening of diving equipment. Predictive index of visual and auditory O2 toxicity. Guidelines for flying after diving. Guidelines for infra- and ultra-sound diver exposure. Develop an advanced diver thermal model. Electronic collection of operational dive data. Diver sound monitor. Investigation of diver in-water maladies, develop/improve real-time decompression guidance and dive planning.					

Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy		Date: February 2016
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603713N / *Ocean Engineering Tech Dev*	**Project (Number/Name)** 0099 / *Deep Submergence Bio Med Dev*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
FY 2015 Accomplishments: Breathing cheaper nitrox (oxygen/nitrogen) breathing mixtures was found to be as good as or better than expensive trimix (oxygen/helium/nitrogen) in preventing decompression sickness in diver bounce for dives tested. Developed probabilistic decompression algorithm models and decompression tables, pulmonary oxygen toxicity model recovery model, Preliminary physiological collected and information provided for divers performing multiple long-duration dives, and on the effects of breathing resistance (due to diving apparatus) and carbon dioxide with underwater exercise. Tools developed for measuring heat loss through different parts of body in divers in cold water. Multi-year projects are ongoing. ***FY 2016 Plans:*** Complete above projects. Initiate scientific and operational studies of enhanced diver communications and hearing protection, cognitive and performance effects of diver CO2 levels, direct contribution of oxygen to decompression stress, identification of decompression sickness biomarkers, development of optimal heat distribution for cold water diving, mitigation of performance decrements from long oxygen diving. ***FY 2017 Base Plans:*** Continue multi-year projects and investigations into decompression modeling/guidance/tables; reducing risks of Central Nervous System (CNS) and pulmonary oxygen toxicity; developing strategies for enhancing diver performance and reducing injury risks under varying conditions of carbon dioxide, oxygen, temperature, breathing resistance, hydration, and workload; and investigate new modalities in the diagnosis and treatment of decompression sickness and arterial gas embolism. Investigate medical aspects of diving at altitude. ***FY 2017 OCO Plans:*** N/A					
Title: Deep Submergence Bio Med Dev - Submarine Rescue	1.078	2.000	1.801	0.000	1.801
Articles:	-	-	-	-	-
Description: Submarine Rescue: Decompression procedures for pressurized SRDRS operators. Use of perfluorocarbons to accelerate decompression in submarine rescue. Adjunctive therapies for treating DISSUB survivors. Guidance for food, water, clothing, medical supplies to enhance survival of submarine crews awaiting rescue. Flexible computer generated decompression schedules for wide range of conditions in a DISSUB. Develop DISSUB triage procedures. DISSUB survival trial. Develop oxygen metabolizer for closed vehicles. Treatment guidance for decompression sickness and arterial gas embolism in submarine escape and rescue. Interventions for toxicological problems with rescued submariners. Minimizing decompression sickness and					

Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy		Date: February 2016
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603713N / *Ocean Engineering Tech Dev*	**Project (Number/Name)** 0099 / *Deep Submergence Bio Med Dev*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
arterial gas embolism with Submarine Escape and Immersion Suit (SEIS) training. Use of pharmacologic agents to reduce decompression risk in submarine rescuees. Development of toxic gas analyzer for use in pressurized DISSUB. ***FY 2015 Accomplishments:*** Certain drugs appear potentially useful for decreasing the Central Nervous System (CNS) oxygen toxicity and pulmonary oxygen toxicity in animals for certain dives. Magnitude of effect in people is unknown, so there's no magic pill available at this time. Multiyear studies are ongoing. ***FY 2016 Plans:*** Complete Saturation drop out predictions for decompression sickness (DCS). Initiate scientific studies of Titotropium inhaler use to reduce pulmonary oxygen toxicity in DISSUB survivors, and executive decision performance decrements in chronic and acute exposures of submariners to very mild elevations of CO2. ***FY 2017 Base Plans:*** Continue multi-year projects and investigations into optimizing the prevention of decompression sickness, oxygen toxicity, and other medical problems in rescues and rescuers (tenders/attendants) during pressurized submarine rescue operations and training. Investigate biomedical modalities to reduce DCS, Arterial Gas Embolism (AGE) and other injury for escape/rescue from a pressurized disabled submarine at depths too shallow for safe mating with the SRDRS rescue vehicle. ***FY 2017 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	2.157	4.000	3.603	0.000	3.603

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Integrated thrust area teams (e.g., decompression research) are established with university, commercial, and in-house Navy labs to jointly execute biomedical R&D. Peer review of research proposals accomplished by independent Technical Advisory Board. Annual review of progress by Executive Review Board (CNO/NAVSEA/ ONR/BUMED). Program management by 0-6 Undersea Medical Officer. Contracting by competitive process using BAA and leveraging ONR capabilities.

Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy		Date: February 2016
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603713N / *Ocean Engineering Tech Dev*	**Project (Number/Name)** 0099 / *Deep Submergence Bio Med Dev*

E. Performance Metrics

Quarterly Program Reviews

Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Navy		Date: February 2016
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603713N / *Ocean Engineering Tech Dev*	**Project (Number/Name)** 0099 / *Deep Submergence Bio Med Dev*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Diving Equipment Product Development	C/CPAF	Phoenix International : Largo, MD	0.738	0.000		0.000		0.000		-		0.000	0.000	0.738	-
Diving Equipment Product Development	WR	Various : Various	0.600	0.000		0.000		0.000		-		0.000	0.000	0.600	-
		Subtotal	1.338	0.000		0.000		0.000		-		0.000	0.000	1.338	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Development Test & Evaluation	WR	NEDU : Panama City, FL	18.691	1.069	Jun 2015	1.117	Nov 2015	1.132	Nov 2016	-		1.132	Continuing	Continuing	Continuing
Development Test & Evaluation	WR	NMRC : Silver Spring, MD	7.004	0.415	Mar 2015	0.296	Nov 2015	0.100	Nov 2016	-		0.100	Continuing	Continuing	Continuing
Development Test & Evaluation	Various	DUKE UNIV : Durham, NC	0.538	0.174	Nov 2014	1.070	Jul 2016	1.045	Jul 2017	-		1.045	0.000	2.827	-
Development Test & Evaluation	WR	NIST : Gaithersburg, MD	0.040	0.000		0.000		0.000		-		0.000	0.000	0.040	-
Development Test & Evaluation	C/CPAF	GPC : Irvine, CA	0.200	0.000		0.000		0.000		-		0.000	0.000	0.200	-
Development Test & Evaluation	C/CPFF	ROH : Arlington, VA	0.030	0.022	Jun 2015	0.000		0.000		-		0.000	0.000	0.052	-
Development Test & Evaluation	TBD	TBD : Not Specified	0.000	0.000		1.123	Mar 2016	0.914	Mar 2017	-		0.914	0.000	2.037	-
Development Test & Evaluation	C/CPFF	Unknown : Not Specified	0.000	0.000		0.022	Mar 2016	0.022	Nov 2016	-		0.022	0.000	0.044	-
Development Test & Evaluation	C/FFP	WISCONSIN : Madison, WI	0.000	0.200	Oct 2015	0.000		0.000		-		0.000	0.000	0.200	-
Development Test & Evaluation	C/FFP	SUNY : Buffalo, NY	0.000	0.134	Apr 2015	0.312	Apr 2016	0.290	Apr 2017	-		0.290	0.000	0.736	-
		Subtotal	26.503	2.014		3.940		3.503		-		3.503	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Navy			Date: February 2016
Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0603713N / *Ocean Engineering Tech Dev*	Project (Number/Name) 0099 / *Deep Submergence Bio Med Dev*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Support	Various	NEDU : Panama City	0.229	0.000		0.000		0.000		-		0.000	0.000	0.229	-
Travel	Various	Various : Various	0.381	0.070	Oct 2014	0.010	Oct 2015	0.050	Oct 2016	-		0.050	Continuing	Continuing	Continuing
*SBIR Assessment	Various	Various : Various	0.182	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Acquisition Workforce	Various	Various : Various	0.016	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Program Management Support	WR	NSWC : Carderock, MD	0.000	0.063	Apr 2015	0.000		0.000		-		0.000	0.000	0.063	-
Program Management Support	WR	FISC : Yorktown, VA	0.000	0.010	Oct 2015	0.000		0.000		-		0.000	0.000	0.010	-
Program Management Support	C/CPFF	Unknown: Not Specified : Not Specified	0.000	0.000		0.050	Jun 2016	0.050	Nov 2016	-		0.050	0.000	0.100	-
		Subtotal	0.808	0.143		0.060		0.100		-		0.100	-	-	-

	Prior Years	FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	28.649	2.157		4.000		3.603		-		3.603	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2017 Navy		Date: February 2016
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603713N / *Ocean Engineering Tech Dev*	**Project (Number/Name)** 0099 / *Deep Submergence Bio Med Dev*

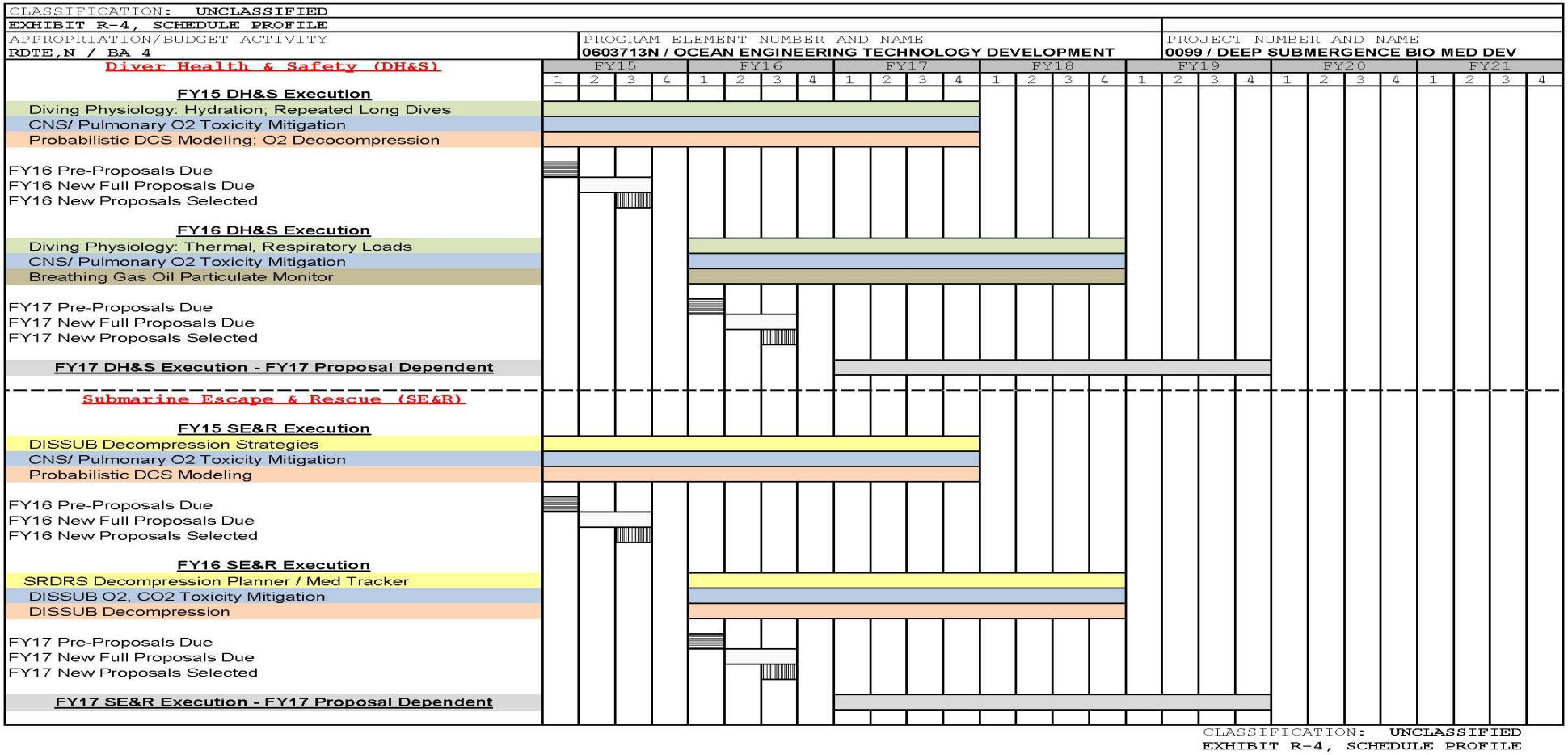


Exhibit R-4A, RDT&E Schedule Details: PB 2017 Navy		Date: February 2016
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603713N / *Ocean Engineering Tech Dev*	**Project (Number/Name)** 0099 / *Deep Submergence Bio Med Dev*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 0099				
Diver Health & Safety (DH&S): FY15 DH&S Execution: Diving Physiology: Hydration; Repeated Long Dives	1	2015	4	2017
Diver Health & Safety (DH&S): FY15 DH&S Execution: CNS/ Pulmonary O2 Toxicity Mitigation	1	2015	4	2017
Diver Health & Safety (DH&S): FY15 DH&S Execution: Probabilistic DCS Modeling; O2 Decocompression	1	2015	4	2017
Diver Health & Safety (DH&S): FY16 Pre-Proposals Due	1	2015	1	2015
Diver Health & Safety (DH&S): FY16 New Full Proposals Due	2	2015	3	2015
Diver Health & Safety (DH&S): FY16 New Proposals Selected	3	2015	3	2015
Diver Health & Safety (DH&S): 'FY16 DH&S Execution: Diving Physiology: Thermal, Respiratory Loads	1	2016	4	2018
Diver Health & Safety (DH&S): 'FY16 DH&S Execution: CNS/ Pulmonary O2 Toxicity Mitigation	1	2016	4	2018
Diver Health & Safety (DH&S): 'FY16 DH&S Execution: Breathing Gas Oil Particulate Monitor	1	2016	4	2018
Diver Health & Safety (DH&S): FY17 Pre-Proposals Due	1	2016	1	2016
Diver Health & Safety (DH&S): FY17 New Full Proposals Due	2	2016	3	2016
Diver Health & Safety (DH&S): FY17 New Proposals Selected	3	2016	3	2016
Diver Health & Safety (DH&S): FY17 DH&S Execution: FY17 Proposal Dependent	1	2017	4	2019
Submarine Escape & Rescue (SE&R): FY15 SE&R Execution: DISSUB Decompression Strategies	1	2015	4	2017
Submarine Escape & Rescue (SE&R): FY15 SE&R Execution: CNS/ Pulmonary O2 Toxicity Mitigation	1	2015	4	2017

Exhibit R-4A, RDT&E Schedule Details: PB 2017 Navy		Date: February 2016
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603713N / *Ocean Engineering Tech Dev*	**Project (Number/Name)** 0099 / *Deep Submergence Bio Med Dev*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Submarine Escape & Rescue (SE&R): FY15 SE&R Execution: Probabilistic DCS Modeling	1	2015	4	2017
Submarine Escape & Rescue (SE&R): FY16 Pre-Proposals Due	1	2015	1	2015
Submarine Escape & Rescue (SE&R): FY16 New Full Proposals Due	2	2015	3	2015
Submarine Escape & Rescue (SE&R): FY16 New Proposals Selected	3	2015	3	2015
Submarine Escape & Rescue (SE&R): FY16 SE&R Execution: SRDRS Decompression Planner / Med Tracker	1	2016	4	2018
Submarine Escape & Rescue (SE&R): FY16 SE&R Execution: DISSUB O2, CO2 Toxicity Mitigation	1	2016	4	2018
Submarine Escape & Rescue (SE&R): FY16 SE&R Execution: DISSUB Decompression	1	2016	4	2018
Submarine Escape & Rescue (SE&R): FY17 Pre-Proposals Due	1	2016	1	2016
Submarine Escape & Rescue (SE&R): FY17 New Full Proposals Due	2	2016	3	2016
Submarine Escape & Rescue (SE&R): FY17 New Proposals Selected	3	2016	3	2016
Submarine Escape & Rescue (SE&R): FY17 SE&R Execution: FY17 Proposal Dependent	1	2017	4	2019

Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy			Date: February 2016
Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0603713N / *Ocean Engineering Tech Dev*	Project (Number/Name) 0394 / *Shallow Depth Diving EQ*	

COST ($ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
0394: *Shallow Depth Diving EQ*	86.893	3.969	0.520	0.953	-	0.953	1.758	1.431	1.262	1.289	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Submarine Rescue managed under PMS 391. Efforts through FY15 focus on the Submarine Rescue Diving and Recompression System (SRDRS) to provide a new rapidly deployed emergency submarine rescue capability. SRDRS provides a new capability of pressurized transportation of rescuees from a stricken submarine directly to the decompression system replacing the Deep Submergence Rescue Vehicles and Mother Submarines. SRDRS includes an air transportable rapid Assessment/ Underwater Work System (AUWS), a Pressurized Rescue Module (PRM) or Rescue Capable System (RCS), and a Submarine Decompression System (SDS). The AUWS is a manned system that provides intervention system capability. To reduce operational risk, an initiative is in process to transition from AUWS to an unmanned Remote Operated Vehicle (ROV). Intervention assets support clearing disabled submarine seating surfaces, delivery of emergency life support stores, and disabled submarine assessment. The Submarine Rescue System-Rescue Capable System (SRS-RCS) completed OPEVAL in FY08. The Submarine Rescue System-Submarine Decompression System (SRS-SDS) Initial Operational Capability (IOC) and SRDRS Full Operational Capability (FOC) have been delayed due to efforts associated with Pressurized Rescue Module (PRM) restoration to service. The SRDRS will provide a global rapid response capability to support submarine rescue missions with an increase in capability.

Shallow Depth Diving Equipment managed under SEA00C - This project develops systems to support submarine escape and rescue missions, and conventional diver operations. Diver operations include ship husbandry, salvage/recovery, and submarine rescue operations to support national, as well as Navy, needs around the world. Modern certifiable diving systems that ensure diver safety and allow maximum work efficiency will replace currently antiquated systems. R&D will be performed in the areas of contaminated water diving, diver thermal protection, and diver sound protection.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Title: Shallow Depth Diving EQ - SRDRS	2.651	0.000	0.000	0.000	0.000
Articles:	-	-	-	-	-
Description: Continue acceptance testing of the prototype Submarine Decompression System and support equipment. Continue integration and testing of all SRDRS components.					
FY 2015 Accomplishments: Plan to continue design/development/fabrication of Pressurized Rescue Module System 6 atmospheres absolute (ata) efforts.					

Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy		Date: February 2016
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603713N / *Ocean Engineering Tech Dev*	**Project (Number/Name)** 0394 / *Shallow Depth Diving EQ*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Plan to continue developmental testing and development of Operating Procedures, Emergency Procedures, and Test Procedures in support of future evolutions including Unmanned Testing, Manned Testing and Sea Trials. Continue Post Delivery Element Shakedown efforts. ***FY 2016 Plans:*** N/A ***FY 2017 Base Plans:*** N/A ***FY 2017 OCO Plans:*** N/A					
Title: Shallow Depth Diving EQ - Diving ***Articles:*** ***Description:*** Continued research on contaminated water diving and research on diver thermal protection, CO2 monitors, and diver sound protection. ***FY 2015 Accomplishments:*** Start development of a double-lock flexible recompression chamber. Complete testing of production models of the free diver heating system (FDHS). Conduct testing of portable air monitor devices. ***FY 2016 Plans:*** Continue development work on a double lock flexible recompression chamber. ***FY 2017 Base Plans:*** Continue development of a double lock flexible recompression chamber. ***FY 2017 OCO Plans:*** N/A	1.318 -	0.520 -	0.953 -	0.000 -	0.953 -
Accomplishments/Planned Programs Subtotals	3.969	0.520	0.953	0.000	0.953

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy		Date: February 2016
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603713N / *Ocean Engineering Tech Dev*	**Project (Number/Name)** 0394 / *Shallow Depth Diving EQ*

D. Acquisition Strategy

The Submarine Rescue system (SRS) segment of the SRDRS is largely based on the use of Commercial-Off-the-Shelf (COTS) technology and maximum use of Non-Developmental Items (NDI). The SRS segment is being procured using performance based specifications. Many of the SRS contracts were awarded competitively and were based on technical capability and cost considerations (best value). Program management of SRDRS is accomplished through the use of Program Executive Officer, Submarines (PEO SUB) leadership. This change was enacted in February 2003 realigning the responsibility from SEA00C to PEOSUB. The Prototype system provides full operational capability and no additional procurement is planned. The system is designed to be Government Owned/Commercially Operated/Commercially Maintained (GO/CO/CM).

E. Performance Metrics

Quarterly Program Reviews and Critical Design Reviews.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Navy		Date: February 2016
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603713N / *Ocean Engineering Tech Dev*	**Project (Number/Name)** 0394 / *Shallow Depth Diving EQ*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Pressurized Rescue Module System (PRMS)	C/CPIF	Oceanworks : Ontario, Canada	23.824	0.000		0.000		0.000		-		0.000	0.000	23.824	-
PRMS	C/FFP	Oceanworks : Ontario, Canada	4.150	0.000		0.000		0.000		-		0.000	0.000	4.150	-
Systems Engineering - Design, Integration	C/CPAF	Oceaneering : Hanover, MD	22.301	1.257	Oct 2014	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Systems Engineering - Technical	Various	Various : Various	0.537	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Systems Engineering - Design, Integration	C/CPAF	Oceaneering : Hanover, MD	6.391	0.356	Mar 2015	0.000		0.000		-		0.000	0.000	6.747	-
Systems Engineering - Design, Integration	C/CPAF	Oceaneering : Hanover, MD	2.873	0.307	Aug 2015	0.000		0.000		-		0.000	0.000	3.180	-
Systems Engineering - Design & Integration	C/CPAF	Oceaneering : Hanover, MD	1.897	0.000		0.000		0.000		-		0.000	0.000	1.897	-
Diving Equipment Product Development (00C)	Various	Various : Various	2.053	0.569	Jun 2015	0.000		0.553	Jan 2017	-		0.553	0.000	3.175	-
Diving Equipment Product Development (00C)	C/CPFF	GPC : Irvine, CA	1.002	0.363	Aug 2015	0.000		0.000		-		0.000	0.000	1.365	-
Diving Equipment Product Development (00C)	C/CPFF	PCCI : Alexandria, VA	0.000	0.329	Dec 2014	0.452	May 2016	0.300	Jan 2017	-		0.300	0.000	1.081	-
Diving Equipment Product Development (00C)	C/CPFF	RINI TECHOLOGIES : Oviedo, FL	0.000	0.000		0.000		0.000		-		0.000	0.000	0.000	-
		Subtotal	65.028	3.181		0.452		0.853		-		0.853	-	-	-

Remarks

1. Oceaneering is the prime for SRDRS Transfer Under Pressure (TUP) capability. SRDRS Full Operational Capability (FOC) has been delayed due to efforts associated with Pressurized Rescue Module (PRM) restoration to service; FY15 funding decrease is due to program delays.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Navy			Date: February 2016
Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0603713N / *Ocean Engineering Tech Dev*	Project (Number/Name) 0394 / *Shallow Depth Diving EQ*	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Development Support (00C)	Various	Various : Various	4.806	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Integrated Logistics Support	Various	Various : Various	0.841	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Configuration Management	C/CPAF	Oceaneering : Hanover, MD	0.489	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
		Subtotal	6.136	0.000		0.000		0.000		-		0.000	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	Various	Various : Various	3.187	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Operational Test & Evaluation	WR	COMOPTEVFOR : Norfolk, VA	0.899	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Test Baseline Documentation	WR	NUWC Keyport : Keyport, WA	0.032	0.000		0.000		0.000		-		0.000	0.000	0.032	-
		Subtotal	4.118	0.000		0.000		0.000		-		0.000	-	-	-

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Contractor Engineering Support	Various	QBS/Various : Richmond BC, Canada/Various	0.074	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Government Engineering Support	WR	NFESC : Port Hueneme, CA	0.197	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Government Engineering Support	WR	PSNSY/ Various : Bremerton, WA/ Various	2.197	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing

Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Navy		Date: February 2016
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603713N / *Ocean Engineering Tech Dev*	**Project (Number/Name)** 0394 / *Shallow Depth Diving EQ*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Government Engineering Support	Various	Various : Various	1.859	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Program Management Support	Various	Perot : Washington, DC	2.110	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Travel (Submarine Rescue)	Various	NAVSEA : Washington, DC	0.784	0.036	Oct 2014	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Travel (00C)	Various	NAVSEA : Washington, DC	0.100	0.040	Oct 2014	0.018	Oct 2015	0.050	Oct 2016	-		0.050	0.000	0.208	-
SBIR Assessment	Various	Various : Various	0.443	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Acquisition Workforce	Various	Various : Various	0.021	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Program Management Support	C/CPIF	Dell Federal : Washington, DC	0.674	0.000		0.000		0.000		-		0.000	0.000	0.674	-
Program Management Support	C/CPIF	Dell Federal : Washington, DC	0.993	0.000		0.000		0.000		-		0.000	0.000	0.993	-
Program Management Support	C/CPIF	Dell Federal : Washington, DC	1.672	0.695	Jun 2015	0.000		0.000		-		0.000	0.000	2.367	-
Government Engineering Support	WR	PNSY : Portsmouth, NH	0.427	0.000		0.000		0.000		-		0.000	0.000	0.427	-
Program Management Support (00C)	WR	NEDU : Panama City, FL	0.060	0.000		0.000		0.000		-		0.000	0.000	0.060	-
Program Management Support (00C)	C/CPFF	Unknown : Not Specified	0.000	0.017	Mar 2015	0.050	Jun 2016	0.050	Nov 2016	-		0.050	0.000	0.117	-
		Subtotal	11.611	0.788		0.068		0.100		-		0.100	-	-	-

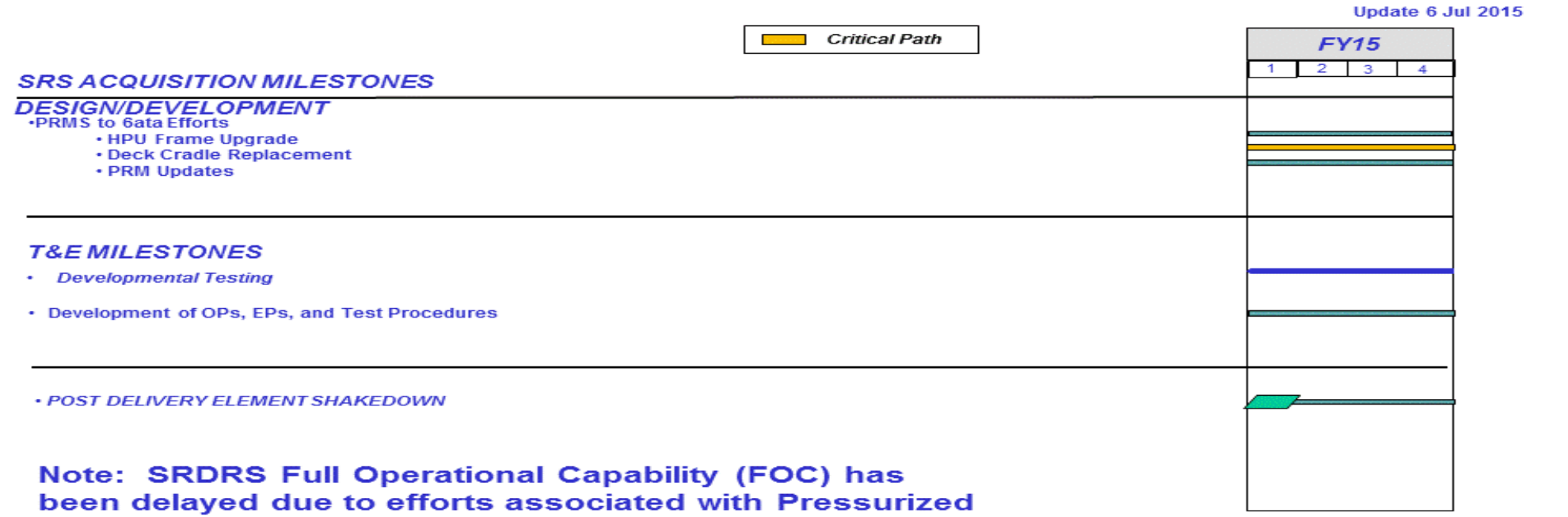
	Prior Years	FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	86.893	3.969		0.520		0.953		-		0.953	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2017 Navy		Date: February 2016
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603713N / *Ocean Engineering Tech Dev*	**Project (Number/Name)** 0394 / *Shallow Depth Diving EQ*

SRDRS Acquisition
Transfer Under Pressure

Update 6 Jul 2015



Note: SRDRS Full Operational Capability (FOC) has been delayed due to efforts associated with Pressurized Rescue Module (PRM) restoration to service; FY15 funding decrease is due to program delays.

Exhibit R-4A, RDT&E Schedule Details: PB 2017 Navy		Date: February 2016
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603713N / *Ocean Engineering Tech Dev*	**Project (Number/Name)** 0394 / *Shallow Depth Diving EQ*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 0394				
Design and Development	1	2015	4	2015
HPU Frame Upgrade	1	2015	4	2015
Deck Cradle Replacement	1	2015	4	2015
PRM Updates	1	2015	4	2015
T&E Milestones	1	2015	4	2015
Developmental Testing	1	2015	4	2015
Development of OPs, EPS, and Test Procedures	1	2015	4	2015
Post Delivery Element Shakedown	1	2015	4	2015