Exhibit R-2, RDT&E Budget Item Justification: FY 2018 Navy											Date: May 2017	
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0204311N *I Integrated Surveillance System*							
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	457.401	76.204	58.542	38.972	11.600	50.572	40.135	49.878	58.550	59.704	Continuing	Continuing
0344: *SUB AUXILIARIES*	4.482	0.843	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	5.325
0766.: *IUSS Detect/Classif System*	452.919	75.361	58.542	38.972	11.600	50.572	40.135	49.878	58.550	59.704	Continuing	Continuing

A. Mission Description and Budget Item Justification

This Program Element (PE) comprises two projects - 0766 and 0344. Project 0766 provides for Integrated Undersea Surveillance Systems (IUSS) Research and Development Projects under the Maritime Surveillance Systems (MSS) Program Office (PEO SUB PMS 485). IUSS provides the Navy with its primary means of submarine detection both nuclear and diesel. A portion of project 0766 (FSS) is classified, with details available at a higher classification level. Project 0344 funded the Shallow Water Surveillance System (SWSS) project to develop and demonstrate the technology to enable autonomous installation of a passive acoustic array with processing and communications gear.

The IUSS Research and Development project (0766) funds SURTASS Passive and SURTASS Low Frequency Active (LFA) developments. SURTASS provides the mobile, tactical arm of the Integrated Undersea Surveillance System, providing long range detection and cueing for tactical weapons platforms or other vessels of interest. SURTASS LFA provides an active adjunct capability for IUSS passive and tactical sensors to assist in countering the quieter diesel and nuclear threats of the 1990s and beyond. The LFA tasks are directed at detection of slow quiet threats in harsh littoral waters.

Development and improvement continues on the common IUSS processor based on NAVSEA's Acoustic Rapid COTS Insertion (ARCI) program with a cyclical tech refresh of hardware and software in conjunction with the submarine Advanced Processor Build (APB) process. The IUSS Integrated Common Processor (ICP) has the capability to process and display data from all fixed and mobile underwater systems. The IUSS ICP is used for all new system installations and replaces the legacy systems as they reach end of life and require upgrading. Additionally, SURTASS consolidated on the TB-29A Twin-line array, a variant of the Submarine TB-29A Long line array. This reduced the number of array variants employed by SURTASS from 3 to 1, and enabled development and logistics cost savings by leveraging off the submarine TB-29A program.

In FY16, funds were reprogrammed to complete the first prototype contracting and deployment in support of the Navy's Theater Anti-Submarine Warfare (TASW) Offset Strategy. This is Military Intelligence Program (MIP).

In FY17, the IUSS Research and Development project (0766) funds the second major prototype contracting and deployment to support the Navy's TASW Offset Strategy. This is a MIP.

In FY18, the IUSS Research and Development project (0766) funds the third major prototype contracting and deployment to support the Navy's TASW Offset Strategy. This is a MIP.

Exhibit R-2, RDT&E Budget Item Justification: FY 2018 Navy	Date: May 2017
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0204311N *I Integrated Surveillance System*

FY18 OCO request of $11.600M is to support the TASW FY18 European Initiative Program Budget Recommendation (ERI PBR). The TASW ERI PBR responds to an urgent EUROCOM/AFRICOM requirement for additional maritime intelligence, surveillance, and reconnaissance capabilities. PEOSUB, in conjunction with COMSUBFOR and CNO, directed a rapid prototyping program be undertaken utilizing systems developed by the Office of Naval Research (ONR), the Defense Advanced Research Projects Agency (DARPA) and the Naval Undersea Warfare Center (NUWC). Development of TASW capabilities to meet TASW requirements against evolving threats in the EUROCOM/AFRICOM Area of Responsibility (AOR) will also serve to address similar requirements globally.

The Shallow Water Surveillance System (SWSS) project (0344) funds the development and demonstration of the Version 1 system with technology to enable autonomous classification and reporting of specific submarine targets of interest.

B. Program Change Summary ($ in Millions)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Previous President's Budget	49.587	58.542	29.903	-	29.903
Current President's Budget	76.204	58.542	38.972	11.600	50.572
Total Adjustments	26.617	0.000	9.069	11.600	20.669
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	26.617	0.000			
• SBIR/STTR Transfer	-	-			
• Program Adjustments	0.000	0.000	9.000	11.600	20.600
• Rate/Misc Adjustments	0.000	0.000	0.069	-	0.069

Change Summary Explanation

Program Adjustments:
Increase of $26.6M in FY16 is to support the TASW initiative.
Increase of $8.9M in FY18 is to support IUSS wholeness ($1.2M SURTASS/$7.7M FSS).
Increase of $11.6M in FY18 OCO is to support continued funding for the TASW ERI PBR.

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy			Date: May 2017
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0204311N / *Integrated Surveillance System*	Project (Number/Name) 0344 / *SUB AUXILIARIES*	

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
0344: *SUB AUXILIARIES*	4.482	0.843	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	5.325
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Shallow Water Surveillance System (SWSS) project (0344) funded the development and demonstration of the Version 1 system with technology to enable autonomous classification and reporting of specific submarine targets of interest.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: SWSS	0.843	0.000	0.000	0.000	0.000
Articles:	-	-	-	-	-
FY 2016 Accomplishments: FY16 funding will be used to implement features for system ruggedization and reliability testing.					
FY 2017 Plans: Removed all existing SWSS development funding beginning in FY17 to fund higher priority investments during budget integration					
FY 2018 Base Plans: N/A					
FY 2018 OCO Plans: N/A					
Accomplishments/Planned Programs Subtotals	0.843	0.000	0.000	0.000	0.000

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: FY 2018 Navy			Date: May 2017
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0204311N / *Integrated Surveillance System*	Project (Number/Name) 0766. / *IUSS Detect/Classif System*	

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
0766.: *IUSS Detect/Classif System*	452.919	75.361	58.542	38.972	11.600	50.572	40.135	49.878	58.550	59.704	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

A. This project includes efforts for SURTASS and the Theater ASW Offset Initiative. The SURTASS project comprises the mobile, tactical arm of the Integrated Undersea Surveillance System, providing long range detection and cueing for tactical weapons platforms against both diesel and nuclear powered submarines. SURTASS also provides the undersea surveillance necessary to support regional conflicts and sea-lane protection. SURTASS has experienced recent passive and active success against diesel submarines operating in shallow water. SURTASS is leveraging existing developments and reducing costs by using Non-Developmental Items and commercial hardware, supporting common Navy Undersea Warfare processing and towed array developments, and increasing operator efficiency through computer-aided detection and classification processing. SURTASS development efforts include LFA/CLFA improvements, common IUSS processing, twin-line array development and processing, improved detection and classification/passive automation to counter quieter threats, additional signal processing, integrated active and passive operations, improved Battle Group support, and improved information processing.

LFA provides an active adjunct capability for IUSS passive and tactical sensors to counter the quieter diesel and nuclear threats of the 1990s and beyond. The LFA tasks are directed at detection of slow, quiet threats in harsh littoral waters. Improvements include TL-29A/LFA integration enhancements, advanced waveforms for littoral/shallow water operations including Doppler sensitive waveforms, and processing algorithms to reduce clutter and reverberation false alarms in shallow water. The Integrated Common Processor (ICP) is a derivative of the NAVSEA Submarine Acoustic Rapid Commercial Off the Shelf (COTS) Insertion (ARCI) program, and is being augmented for IUSS requirements. Together, the LFA/CLFA improvements, TL-29A, and the ICP support the SURTASS Active Improvement Program.

Functional improvements to ICP are delivered to the Fleet in software "builds" while hardware improvements are delivered through the Tech Insertion (TI) process. Software improvements delivered via the Advanced Surveillance Build (ASB) process are based on the Advanced Processor Build (APB) process begun by the NAVSEA Submarine USW program. Each ASB will introduce new capabilities into SURTASS systems including improved automation, normalizer techniques, adaptive beam forming, and display enhancements. SURTASS participates in the process by contributing algorithms for consideration, supplying peer group members for review of candidate algorithms, participating in test evolutions, and incorporating improved algorithms into operational systems. The TI process, modeled after the NAVSEA Submarine USW hardware improvement program, delivers processing technology improvements to platforms on roughly a 4-6 year cycle. Hardware upgrades for active and passive arrays and communications systems will also be provided during TI upgrades, but not on a regular planned development cycle as for the processing upgrades.

B. PEO SUB is involved with the development and maintenance of various IUSS systems. These systems include Fixed Distributed systems (FDS), Fixed Distributed Systems-Commercial (FDS-C), and SURTASS. The existing system architectures, signal processing, contact management, and reporting requirements will be evaluated as well as the requirements for future systems. The cyclical development of the ICP will take advantage of automation advancement, array technology improvements, along with IUSS, submarine, and surface USW system commonality to address these requirements.

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204311N / *Integrated Surveillance System*	**Project (Number/Name)** 0766. / *IUSS Detect/Classif System*

C. Theater Anti-Submarine Warfare Strategy (TASW) Offset Initiative responds to an urgent EUROCOM/AFRICOM requirement for additional maritime intelligence, surveillance, and reconnaissance capabilities. PEOSUB, in conjunction with COMSUBFOR and CNO, directed a rapid prototyping program be undertaken utilizing systems developed by the Office of Naval Research (ONR), the Defense Advanced Research Projects Agency (DARPA) and the Naval Undersea Warfare Center (NUWC). Development of TASW capabilities to meet TASW requirements against evolving threats in the EUROCOM/AFRICOM Area of Responsibility (AOR) will also serve to address similar requirements globally.
The FSS portion of 0766 is classified with details available at a higher classification level.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: Integrated Common Processor (ICP)	9.807	13.866	15.831	0.000	15.831
Articles:	-	-	-	-	-
FY 2016 Accomplishments: Project continued development of operator automation to allow operator to more quickly detect targets of interest. Specific focus placed on compensating for array shape in a ship maneuver as well as system improvements to alert the operator of potential targets of interest in both the active and passive realms. Project continued to develop software to implement technology refresh for SURTASS ships as well as in support of the Integrated Undersea Surveillance Systems' (IUSS) Advanced Surveillance Build (ASB) in coordination with the Submarine Acoustic Rapid Commercial Off The Shelf (COTS) Insertion (ARCI) program Advanced Processor Build (APB). Project continued to address processing improvement recommendations and deficiencies associated with Compact Low Frequency Active (CLFA) Developmental Testing (DT)/Operational Testing (OT) and LFA Follow-On Operational Test & Evaluation (FOT&E). Project updated processing to provide seamless integration of active/passive processing to support geo-centric contact-based search. Project investigated methods to reduce surface ship clutter in order to enhance detection performance. Project supported technical insertion hardware replacement to enhance ICP surveillance capability.					
FY 2017 Plans: Develop advanced Undersea Warfare (USW) sensor technology and associated processor and Advanced Surveillance Build (ASB) processing to enhance capabilities necessary to meet Key Performance Parameters against adversary's advanced submarines. Both processing and sensors are required to detect increasingly quiet threats in a cluttered environment with the emerging situation of insufficient numbers of qualified Fleet operators available to staff. These CNO high priority systems provide for the requirement to increase focus on operator workload reduction and processing capability enhancement/development as well as increased sensitivity of sensors. Continue to investigate methods to reduce surface ship clutter in order to enhance					

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204311N / *Integrated Surveillance System*	**Project (Number/Name)** 0766. / *IUSS Detect/Classif System*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
detection performance. Continue to support technical insertion hardware replacement to enhance ICP surveillance capability. ***FY 2018 Base Plans:*** Develop advanced Undersea Warfare (USW) sensor technology and associated processor and Advanced Surveillance Build (ASB) processing to enhance capabilities necessary to meet Key Performance Parameters against adversary's advanced submarines. Both processing and sensors are required to detect increasingly quiet threats in a cluttered environment with the emerging situation of insufficient numbers of qualified Fleet operators available to staff. These CNO high priority systems provide for the requirement to increase focus on operator workload reduction and processing capability enhancement/development as well as increased sensitivity of sensors. Work will include development of software updates for afloat ICP installations and associated Engineering Measurements Program (EMP) systems. Continue to investigate methods to reduce surface ship clutter in order to enhance detection performance to include incorporation of Passive Sonar Automation Technology (PSAT) aspects. Continue to support technical insertion 18 hardware replacement to enhance ICP surveillance capability. ***FY 2018 OCO Plans:*** N/A					
Title: Compact Low Frequency Active (CLFA) ***Articles:*** ***FY 2016 Accomplishments:*** Continued product improvement and upgrade efforts associated with CLFA DT/OT and LFA FOT&E. Conducted pierside and at-sea test and evaluation efforts to research alternative LFA/CLFA system performance enhancements. Conducted dockside cyber security testing as part of FOT&E. ***FY 2017 Plans:*** Continue product improvement and upgrade efforts associated with CLFA DT/OT and LFA FOT&E. Develop cyber security enhancements. Conduct pierside and at-sea test and evaluation efforts to research alternative LFA/CLFA system performance enhancements. Conduct dockside cyber security testing as part of FOT&E. ***FY 2018 Base Plans:***	1.750 -	2.000 -	2.000 -	0.000 -	2.000 -

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204311N / *Integrated Surveillance System*	**Project (Number/Name)** 0766. / *IUSS Detect/Classif System*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Continue product improvement and upgrade efforts associated with CLFA DT/OT and LFA FOT&E. Develop cyber security enhancements. Conduct pierside and at-sea test and evaluation efforts to research alternative LFA/CLFA system performance enhancements. Conduct dockside cyber security testing as part of FOT&E. ***FY 2018 OCO Plans:*** N/A					
Title: TB-29A/Twin-Line	1.750	2.000	2.000	0.000	2.000
Articles:	-	-	-	-	-
FY 2016 Accomplishments: Continued development of true fiber optic array technologies and array components with reduced connection points. Continued efforts to explore Twin-line variants of new submarine Long-line arrays for future application to SURTASS. Continued development of fishing net mitigation approaches and associated test and evaluation efforts to facilitate operations in littoral waters. Developed upgraded components to address component obsolescence. Improvements intended to increase sensor capability, improve operational reliability, and reduce maintenance touch-points.					
FY 2017 Plans: Continue development of connectionless array technologies and true fiber-optic arrays. Continue efforts to explore Twin-line variants of new submarine Long-line arrays for future application to SURTASS. Continue development of fishing net mitigation approaches and associated test and evaluation efforts. Develop upgraded components to enhance system performance. Improvements intended to modernize equipment to address system deficiencies, improve operational reliability, and reduce maintenance touch-points.					
FY 2018 Base Plans: Continue development of true fiber optic array technologies and array components with reduced connection points. Continue efforts to explore Twin-line variants of new submarine Long-line arrays for future application to SURTASS. Continue development of fishing net mitigation approaches and supports associated test and evaluation efforts to facilitate operations in littoral waters and reduced potential for array damage from fishing apparatus. Continue development of upgraded components to address component obsolescence. Improvements intended to modernize equipment to address system deficiencies, improve operational reliability, and reduce maintenance touch-points.					
FY 2018 OCO Plans:					

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204311N / *Integrated Surveillance System*	**Project (Number/Name)** 0766. / *IUSS Detect/Classif System*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
N/A					
Title: Theater Anti-Submarine Warfare (TASW)	26.617	29.080	0.000	11.600	11.600
Articles:	-	-	-	-	-
FY 2016 Accomplishments: Completed contract actions for eight (8) Transformational Reliable Acoustic Path System (TRAPS). Completed deployment of 1st TASW prototype barriers. Preliminary staging, planning, and preparation for the Q1FY17 TASW prototype operations.					
FY 2017 Plans: Preliminary staging, planning and preparation for the Q1FY18 TASW prototype operations. Complete contract action for second barrier of prototype units. Complete deployment of second barrier prototype units.					
FY 2018 Base Plans: N/A					
FY 2018 OCO Plans: Execute Q1 FY18 TASW prototype operations preliminary staging, planning and preparation for the Q1FY19 TASW prototype operations. Complete contract actions for additional prototype units to augment existing prototype barriers. Complete deployment of additional prototype units. Recover and demilitarize TASW hardware in FY19 following completion of TASW FY19 prototype operations					
Title: Classified Effort	35.437	11.596	19.141	0.000	19.141
Articles:	-	-	-	-	-
Description: The FSS portion of 0766 is classified with details available at a higher classification level.					
FY 2016 Accomplishments: The FSS portion of 0766 is classified with details available at a higher classification level.					
FY 2017 Plans: The FSS portion of 0766 is classified with details available at a higher classification level.					
FY 2018 Base Plans: The FSS portion of 0766 is classified with details available at a higher classification level.					
FY 2018 OCO Plans:					

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
N/A					
Accomplishments/Planned Programs Subtotals	75.361	58.542	38.972	11.600	50.572

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
• OPN/2237: *Surveillance Towed Array Sensor System*	26.153	46.136	30.180	-	30.180	19.918	23.254	28.545	25.545	Continuing	Continuing

Remarks

D. Acquisition Strategy

FY 2010: T&E Milestones: CLFA/TL-29A/ICP DT.
FY 2011: Engineering Milestones: ICP Tech Refresh.
FY 2011: T&E Milestones: CLFA/TL-29A/ICP DT. LFA/TL-29A/ICP FOT&E.
FY 2012: T&E Milestones: CLFA/TL-29A/ICP DT/OT. LFA/TL-29A/ICP FOT&E.
FY 2013: LFA/TL-29A/ICP FOT&E.
FY 2014: ICP Tech Refresh. CLFA OT/CLFA/TL-29A/ICP FOT&E
FY 2015: ICP Tech Refresh. LFA/CLFA/TL-29A/ICP FOT&E
FY 2016: ICP Tech Refresh. ASB Step 4 Testing.
FY 2017: ICP Tech Refresh. CLFA/TL-29A/ICP FOT&E
FY 2018: ICP Tech Refresh. ASB Step 4 Testing.
The FSS portion of 0766 is classified with details available at a higher classification level.

E. Performance Metrics

Successfully complete CLFA Operational Test Readiness Review. Successfully complete CLFA Developmental Test / Operational Test. Successful demonstration of required LFA/CLFA improvements capability. Successful transition of Submarine Advanced Processing Build (APB) functionality and advanced capabilities into IUSS products. Successful transition of net mitigation technologies into Towed Array baseline.
The FSS portion of 0766 is classified with details available at a higher classification level.

Exhibit R-3, RDT&E Project Cost Analysis: FY 2018 Navy		Date: May 2017
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0204311N / *Integrated Surveillance System*	Project (Number/Name) 0766. / *IUSS Detect/Classif System*

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
IUSS COMMON ARCHITECTURE	C/CPFF	LOCKHEED MARTIN : VA	29.610	4.034	Dec 2015	5.566	Feb 2017	6.394	Dec 2017	-		6.394	Continuing	Continuing	Continuing
IUSS COMMON ARCHITECTURE	SS/CPFF	APL/JHU : MD	2.721	0.640	Feb 2016	0.767	Apr 2017	0.914	Feb 2018	-		0.914	Continuing	Continuing	Continuing
IUSS COMMON ARCHITECTURE	Various	VARIOUS : Not Specified	66.596	1.093	Dec 2015	2.004	Jan 2017	2.056	Dec 2017	-		2.056	Continuing	Continuing	Continuing
IUSS COMMON ARCHITECTURE	C/CPFF	ADAPTIVE Methods : VA	2.150	0.500	Dec 2015	0.687	Feb 2017	0.792	Dec 2017	-		0.792	Continuing	Continuing	Continuing
ACTIVE IMPROVEMENT/ CLFA/LFA	WR	NFESC : CA	1.807	0.363	Dec 2015	0.414	Mar 2017	0.413	Dec 2017	-		0.413	Continuing	Continuing	Continuing
ACTIVE IMPROVEMENT/ CLFA/LFA	WR	SSC PAC : CA	1.342	0.205	Dec 2015	0.199	Jan 2017	0.172	Dec 2017	-		0.172	Continuing	Continuing	Continuing
ACTIVE IMPROVEMENT/ CLFA/LFA	SS/CPFF	APL/JHU : MD	2.293	0.522	Feb 2016	0.512	Apr 2017	0.446	Feb 2018	-		0.446	Continuing	Continuing	Continuing
ACTIVE IMPROVEMENT/ CLFA/LFA	Various	VARIOUS : Not Specified	117.072	0.000		0.000		0.000		-		0.000	0.000	117.072	-
ARRAY IMPROVEMENTS	SS/CPFF	APL/JHU : VA	2.623	0.842	Feb 2016	0.920	Apr 2017	0.901	Feb 2018	-		0.901	Continuing	Continuing	Continuing
ARRAY IMPROVEMENTS	SS/CPFF	ADAPTIVE METHODS : VA	0.989	0.258	Jan 2016	0.339	Feb 2017	0.401	Jan 2018	-		0.401	Continuing	Continuing	Continuing
ARRAY IMPROVEMENTS	Various	VARIOUS : Not Specified	9.405	0.355	Dec 2015	0.441	Jan 2017	0.407	Dec 2017	-		0.407	Continuing	Continuing	Continuing
TASW FIELDING	Various	SSC PAC : CA	0.731	2.353	Dec 2016	1.337	Jan 2017	0.000		0.100	Nov 2017	0.100	0.000	4.521	-
TASW FIELDING	Various	NUWC NEWPORT : RI	0.300	0.853	Aug 2016	0.425	Mar 2017	0.000		0.300	Feb 2018	0.300	0.000	1.878	-
TASW FIELDING	SS/CPFF	APL/UW : WA	6.740	5.335	Feb 2017	5.501	May 2017	0.000		0.900	Feb 2018	0.900	0.000	18.476	-
TASW FIELDING	C/CPFF	L3 CSC : MD	0.000	2.335	Feb 2017	0.000		0.000		-		0.000	0.000	2.335	-
TASW FIELDING	Various	VARIOUS : CA	0.461	1.422	Jan 2017	1.484	May 2017	0.000		-		0.000	0.000	3.367	-
TASW FIELDING	C/CPFF	LEIDOS : CA	23.652	11.206	Dec 2016	14.323	May 2017	0.000		5.400	Feb 2018	5.400	0.000	54.581	-
TASW FIELDING	Various	NSWC CARDEROCK : MD	0.075	0.000		0.000		0.000		-		0.000	0.000	0.075	-
TASW FIELDING	C/CPFF	PROTEQ : VA	0.000	1.180	Mar 2017	1.900	May 2017	0.000		1.000	Jan 2018	1.000	0.000	4.080	-

Exhibit R-3, RDT&E Project Cost Analysis: FY 2018 Navy		Date: May 2017
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204311N / *Integrated Surveillance System*	**Project (Number/Name)** 0766. / *IUSS Detect/Classif System*

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
TASW FIELDING	SS/CPFF	SANDIA : NM	0.000	0.000		0.621	Mar 2017	0.000		-		0.000	0.000	0.621	-
TASW FIELDING	WR	NAVY OCEANOGRAPHIC OFFICE : MS	0.000	0.000		0.000		0.000		0.200	Feb 2018	0.200	0.000	0.200	-
TASW FIELDING	C/CPFF	OASIS : MA	0.000	0.000		0.000		0.000		0.300	Feb 2018	0.300	0.000	0.300	-
FSS - Classified	Various	TBD : Not Specified	102.647	35.437	Nov 2015	11.596	Nov 2016	19.141	Nov 2017	-		19.141	Continuing	Continuing	Continuing
		Subtotal	371.214	68.933		49.036		32.037		8.200		40.237	-	-	-

Remarks

The FSS portion of 0766 is classified with details available at a higher classification level.

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
IUSS COMMON ARCHITECTURE	WR	SSC PAC : CA	3.992	0.250	Dec 2015	0.381	Jan 2017	0.421	Dec 2017	-		0.421	Continuing	Continuing	Continuing
IUSS COMMON ARCHITECTURE	C/CPFF	APL/JHU : MD	1.411	0.700	Feb 2016	1.031	Apr 2017	1.173	Dec 2017	-		1.173	Continuing	Continuing	Continuing
IUSS COMMON ARCHITECTURE	C/CPFF	Lockheed Martin : VA	2.552	0.700	Dec 2015	0.906	Feb 2017	1.035	Dec 2017	-		1.035	Continuing	Continuing	Continuing
IUSS COMMON ARCHITECTURE	Various	VARIOUS : Not Specified	4.626	0.280	Dec 2015	0.397	Jan 2017	0.423	Dec 2017	-		0.423	Continuing	Continuing	Continuing
ACTIVE IMPROVEMENT/ CLFA/LFA	WR	SSC PAC : CA	0.778	0.150	Dec 2015	0.195	Jan 2017	0.213	Dec 2017	-		0.213	Continuing	Continuing	Continuing
ACTIVE IMPROVEMENT/ CLFA/LFA	Various	VARIOUS : Not Specified	7.555	0.075	Jan 2016	0.141	Feb 2017	0.184	Jan 2018	-		0.184	Continuing	Continuing	Continuing
ARRAY IMPROVEMENTS	Various	VARIOUS : Not Specified	1.352	0.200	Jan 2016	0.200	Feb 2017	0.191	Jan 2018	-		0.191	Continuing	Continuing	Continuing
TASW FIELDING	WR	NUWC NEWPORT : MA	0.000	0.180	Jan 2017	0.250	May 2017	0.000		0.700	Nov 2017	0.700	0.000	1.130	-

Exhibit R-3, RDT&E Project Cost Analysis: FY 2018 Navy			Date: May 2017
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0204311N / *Integrated Surveillance System*	Project (Number/Name) 0766. / *IUSS Detect/Classif System*	

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
TASW FIELDING	WR	NUWC KEYPORT : WA	0.000	0.400	Jan 2017	0.640	May 2017	0.000		0.700	Nov 2017	0.700	0.000	1.740	-
TASW FIELDING	SS/CPFF	APL/JHU : MD	0.000	0.350	Nov 2016	0.150	Feb 2017	0.000		0.100	Jan 2018	0.100	0.000	0.600	-
TASW FIELDING	WR	SSC PAC : CA	0.000	0.000		0.700	May 2017	0.000		1.200	Nov 2017	1.200	0.000	1.900	-
		Subtotal	22.266	3.285		4.991		3.640		2.700		6.340	-	-	-

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
IUSS COMMON ARCHITECTURE	C/CPFF	LOCKHEED MARTIN : VA	3.641	0.700	Dec 2015	0.846	Jan 2017	1.014	Dec 2017	-		1.014	Continuing	Continuing	Continuing
IUSS COMMON ARCHITECTURE	Various	VARIOUS : Not Specified	7.831	0.375	Dec 2015	0.550	Mar 2017	0.741	Dec 2017	-		0.741	Continuing	Continuing	Continuing
ACTIVE IMPROVEMENT/ CLFA/LFA	WR	OPTEVFOR : VA	0.462	0.090	Mar 2016	0.095	Feb 2017	0.089	Mar 2018	-		0.089	Continuing	Continuing	Continuing
ACTIVE IMPROVEMENT/ CLFA/LFA	Various	VARIOUS : Not Specified	20.849	0.070	Dec 2015	0.084	Mar 2017	0.087	Dec 2017	-		0.087	Continuing	Continuing	Continuing
ARRAY IMPROVEMENTS	SS/CPFF	APL/JHU : MD	0.705	0.185	Feb 2016	0.235	Apr 2017	0.253	Feb 2018	-		0.253	Continuing	Continuing	Continuing
ARRAY IMPROVEMENTS	Various	VARIOUS : Not Specified	2.768	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
TASW FIELDING	WR	NUWC NEWPORT : MA	0.000	0.149	Oct 2016	0.250	Mar 2017	0.000		-		0.000	0.000	0.399	-
TASW FIELDING	WR	NAVY OCEANOGRAPHIC OFFICE : MS	0.000	0.854	Apr 2017	0.800	May 2017	0.000		-		0.000	0.000	1.654	-
		Subtotal	36.256	2.423		2.860		2.184		-		2.184	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: FY 2018 Navy		Date: May 2017
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204311N / *Integrated Surveillance System*	**Project (Number/Name)** 0766. / *IUSS Detect/Classif System*

Management Services ($ in Millions)

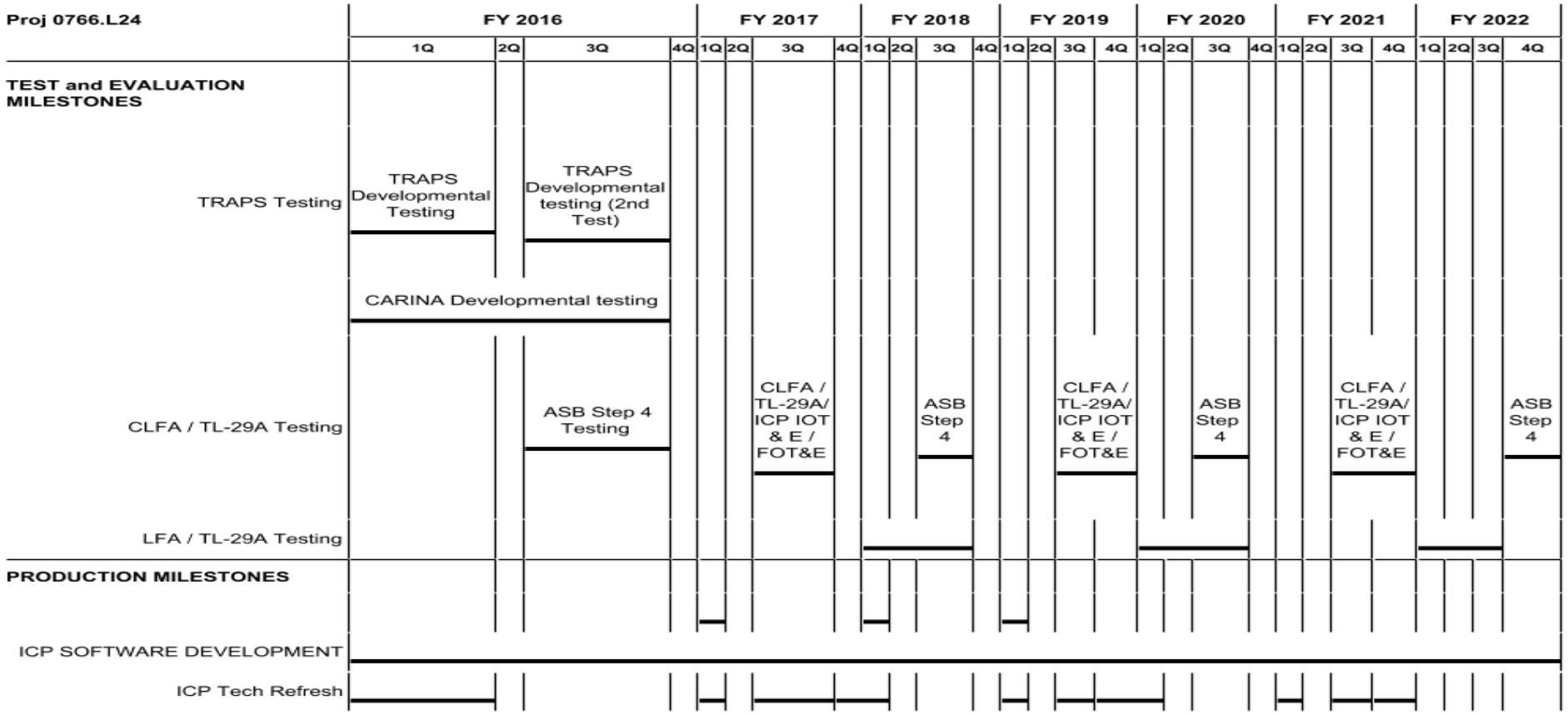
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2016 Cost	FY 2016 Award Date	FY 2017 Cost	FY 2017 Award Date	FY 2018 Base Cost	FY 2018 Base Award Date	FY 2018 OCO Cost	FY 2018 OCO Award Date	FY 2018 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
IUSS COMMON ARCHITECTURE	Various	VARIOUS : Not Specified	6.575	0.535	Mar 2016	0.730	Mar 2017	0.869	Mar 2018	-		0.869	Continuing	Continuing	Continuing
ACTIVE IMPROVEMENT/ CLFA/LFA	Various	VARIOUS : Not Specified	15.760	0.090	Mar 2016	0.125	Mar 2017	0.142	Mar 2018	-		0.142	Continuing	Continuing	Continuing
ARRAY IMPROVEMENTS	Various	VARIOUS : Not Specified	0.463	0.095	Mar 2016	0.100	Mar 2017	0.100	Mar 2018	-		0.100	Continuing	Continuing	Continuing
TASW FIELDING	C/CPFF	BAH : VA	0.385	0.000		0.700	Jun 2017	0.000		0.700	Jan 2018	0.700	0.000	1.785	-
		Subtotal	23.183	0.720		1.655		1.111		0.700		1.811	-	-	-

	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	452.919	75.361		58.542		38.972		11.600		50.572	-	-	-

Remarks

The R3 and the R4 / R4A reflect the UNCLASSIFIED portion of the PE.
The FSS portion of 0766 is classified with details available at a higher classification level.

Exhibit R-4, RDT&E Schedule Profile: FY 2018 Navy		Date: May 2017
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204311N / *Integrated Surveillance System*	**Project (Number/Name)** 0766. / *IUSS Detect/Classif System*



2018OSD - 0204311N - 0766.L24

Exhibit R-4A, RDT&E Schedule Details: FY 2018 Navy		Date: May 2017
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204311N / *Integrated Surveillance System*	**Project (Number/Name)** 0766. / *IUSS Detect/Classif System*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 0766.L24				
TEST and EVALUATION MILESTONES: TRAPS Testing: TRAPS Developmental testing	1	2016	1	2016
TEST and EVALUATION MILESTONES: TRAPS Testing: TRAPS Developmental testing (2nd test)	3	2016	3	2016
TEST and EVALUATION MILESTONES: TRAPS Testing: CARINA Developmental testing	1	2016	3	2016
TEST and EVALUATION MILESTONES: CLFA / TL-29A Testing: ASB Step 4 Testing	3	2016	3	2016
TEST and EVALUATION MILESTONES: CLFA / TL-29A Testing: CLFA / TL-29A/ ICP IOT & E / FOT&E (COMPL 2017)	3	2017	3	2017
TEST and EVALUATION MILESTONES: CLFA / TL-29A Testing: ASB Step 4 (3rd qtr FY18)	3	2018	3	2018
TEST and EVALUATION MILESTONES: CLFA / TL-29A Testing: CLFA / TL-29A/ ICP IOT & E / FOT&E (COMPL 2019)	3	2019	4	2019
TEST and EVALUATION MILESTONES: CLFA / TL-29A Testing: ASB Step 4	3	2020	3	2020
TEST and EVALUATION MILESTONES: CLFA / TL-29A Testing: CLFA / TL-29A/ ICP IOT & E / FOT&E (COMPL 2021)	3	2021	4	2021
TEST and EVALUATION MILESTONES: CLFA / TL-29A Testing: ASB Step 4	4	2022	4	2022
TEST and EVALUATION MILESTONES: LFA / TL-29A Testing: LFA / TL-29A/ ICP FOT & E (COMPLETE 2018)	1	2018	3	2018
TEST and EVALUATION MILESTONES: LFA / TL-29A Testing: LFA / TL-29A/ ICP FOT & E (COMPLETE 2020)	1	2020	3	2020
TEST and EVALUATION MILESTONES: LFA / TL-29A Testing: LFA /TL-29A/ICP FOT & E (COMPLETE 2022)	1	2022	3	2022
PRODUCTION MILESTONES: Field First Segment TRAPS/Carina	1	2017	1	2017

Exhibit R-4A, RDT&E Schedule Details: FY 2018 Navy		Date: May 2017
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204311N / *Integrated Surveillance System*	**Project (Number/Name)** 0766. / *IUSS Detect/Classif System*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
PRODUCTION MILESTONES: Field Second Segment TRAPS	1	2018	1	2018
PRODUCTION MILESTONES: Field Third Segment TRAPS/CARINA	1	2019	1	2019
PRODUCTION MILESTONES: ICP SOFTWARE DEVELOPMENT: ICP Software Development	1	2016	4	2022
PRODUCTION MILESTONES: ICP Tech Refresh: ICP Tech Refresh 4th QTR FY15	1	2016	1	2016
PRODUCTION MILESTONES: ICP Tech Refresh: ICP Tech Refresh 1st QTR FY17	1	2017	1	2017
PRODUCTION MILESTONES: ICP Tech Refresh: ICP Tech Refresh 3rd QTR FY17	3	2017	3	2017
PRODUCTION MILESTONES: ICP Tech Refresh: ICP Tech Refresh 4th QTR FY17	4	2017	1	2018
PRODUCTION MILESTONES: ICP Tech Refresh: ICP Tech Refresh 1st QTR FY19	1	2019	1	2019
PRODUCTION MILESTONES: ICP Tech Refresh: ICP Tech Refresh 3rd QTR FY19	3	2019	3	2019
PRODUCTION MILESTONES: ICP Tech Refresh: ICP Tech Refresh 4th QTR FY19	4	2019	1	2020
PRODUCTION MILESTONES: ICP Tech Refresh: ICP Tech Refresh 1st QTR FY21	1	2021	1	2021
PRODUCTION MILESTONES: ICP Tech Refresh: ICP Tech Refresh 3rd QTR FY21	3	2021	3	2021
PRODUCTION MILESTONES: ICP Tech Refresh: ICP Tech Refresh 4th QTR FY21	4	2021	4	2021