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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy										Date: February 2015		
Appropriation/Budget Activity 1319: Research, Development, Test & Evaluation, Navy / BA 7: Operational Systems Development					R-1 Program Element (Number/Name) PE 0101402N / Navy Strategic Comms							
COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
Total Program Element	420.420	21.269	13.672	16.569	-	16.569	16.502	14.373	17.772	17.959	Continuing	Continuing
1083: Shore To Ship Com System	149.910	21.269	13.176	15.772	-	15.772	15.696	13.558	16.945	17.121	Continuing	Continuing
3002: Navy Strategic Comm Project	270.510	-	0.496	0.797	-	0.797	0.806	0.815	0.827	0.838	Continuing	Continuing

A. Mission Description and Budget Item Justification

The Shore to Ship Communication System develops communication elements which support the Navy's Nuclear Command, Control, and Communications (NC3) requirements, providing various communications infrastructure and elements from the regional Submarine Operating Authority (SUBOPAUTH) to the deployed strategic platform (fleet ballistic missile submarines). This portfolio of programs designs and develops shore-to-ship transmit and receive communications systems (i.e., Fixed Submarine Broadcast System (FSBS) and SUBOPAUTH Command, Control, and Communications (C3) Systems) in support of communications with all submarine types (i.e., SSN, SSGN, and SSBN).

The Navy Strategic Communications Project responds to emerging E-6B Airborne Strategic Command, Control and Communications capability requirements by performing technical evaluations, modeling and simulation, investigative ground and flight testing, enhanced software modifications and development of configuration modifications. The E-6B is a manned airborne platform that provides survivable, enduring and reliable Command, Control and Communications capability in support of the President, Secretary of Defense and United States strategic and non-strategic forces. These efforts support follow-on aircraft modification procurements necessary to ensure interoperability in information-assured network-centric strategic environments.

B. Program Change Summary (\$ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	21.723	13.676	13.174	-	13.174
Current President's Budget	21.269	13.672	16.569	-	16.569
Total Adjustments	-0.454	-0.004	3.395	-	3.395
• Congressional General Reductions	-	-0.004			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.454	-			
• Program Adjustments	-	-	4.303	-	4.303
• Rate/Misc Adjustments	-	-	-0.908	-	-0.908

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<u>Change Summary Explanation</u> The FY 2016 funding request was reduced by \$549 thousand to account for the availability of prior year execution balances.		

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy										Date: February 2015		
Appropriation/Budget Activity 1319 / 7					R-1 Program Element (Number/Name) PE 0101402N / Navy Strategic Comms				Project (Number/Name) 1083 / Shore To Ship Com System			
COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
1083: Shore To Ship Com System	149.910	21.269	13.176	15.772	-	15.772	15.696	13.558	16.945	17.121	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		
A. Mission Description and Budget Item Justification												
The Shore to Ship Communication System develops communication elements which provide Nuclear Command, Control and Communications (NC3) from originator to execution platforms. This portfolio of programs provides design and developments for shore-to-ship transmit and receive communications systems.												
The Low Band Universal Communications System (LBUCS) is a modernization program that will upgrade the low-power transmit and receive subsystems of the Fixed Submarine Broadcast System (FSBS) which are approaching their operational end of life. LBUCS will ensure operational capability through the Very Low Frequency (VLF) architecture by providing system life extension and flexibility of submarine broadcast traffic to submarines operating in a stealth posture. The flexibility includes enhanced throughput and anti-jam capability, ensuring more operational products are delivered to a submarine without risking mast exposure. The flexibility further includes a simplified shore architecture to maintain capability while maximizing use of shore nodes. LBUCS also provides an upgrade to the VLF receive system, with all interoperable waveforms, to ensure continued compliance with Nuclear Command and Control System Technical Performance Criteria (NTPC).												
The Strategic Communications Assessment Program/Continued Evaluation Program (SCAP/CEP) provides continuous assessment of the effectiveness of the Navy NC3 network and analysis of system performance in various mission locations.												
The High Voltage Improvement Program (HVIP) develops technologies to improve the high voltage insulators, bushings, antenna and transmitter components used in the high-power Low Frequency/Very Low Frequency (LF/VLF) transmit systems of the Fixed Submarine Broadcast System (FSBS).												
The Broadcast Control Authority (BCA) develops information assurance solutions for the BCA and Submarine Operating Authority (SUBOPAUTH) wide area network are part of this program to mitigate vulnerability concerns.												
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)												
							FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	
Title: Low Band Universal Communication System (LBUCS) Articles:							16.321	8.227	8.719	-	8.719	
							-	-	-	-	-	
FY 2014 Accomplishments:												
-Completed LBUCS Transmit Engineering Design Model (EDM) Developmental Testing (DT) and Operational Assessment (OA).												
-Completed statutory and regulatory acquisition documentation for LBUCS Milestone C, including the Capability Production Document (CPD).												

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Appropriation/Budget Activity 1319 / 7		R-1 Program Element (Number/Name) PE 0101402N / Navy Strategic Comms		Project (Number/Name) 1083 / Shore To Ship Com System		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
-Completed LBUCS Milestone C approval. -Completed LBUCS Receive Preliminary Design Review (PDR). -Continued Phase I Submarine Operating Authority (SUBOPAUTH) Wide Area Network (SWAN) Information Assurance (IA) upgrade development. -Continued LBUCS Receive development. -Continued development of a new Very Low Frequency (VLF) mode, which will be incorporated into the LBUCS Receive development effort. -Commenced statutory and regulatory acquisition documentation in preparation for LBUCS Receive deployment. -Commenced development of LBUCS Receive Engineering Development Model (EDM). FY 2015 Plans: -Complete Phase I SWAN IA upgrade development. -Complete Critical Design Review (CDR). -Continue LBUCS Receive development including Engineering Development Model (EDM). -Continue statutory and regulatory acquisition documentation in preparation for LBUCS Receive deployment. -Continue development of a new Very Low Frequency (VLF) Mode which will be incorporated into the LBUCS Receive development effort. -Commence LBUCS Receive DT/OA. -Commence and complete LBUCS Transmit EDM Developmental Testing with completed LRIP unit (DT-C1). FY 2016 Base Plans: -Complete development of a new Very Low Frequency (VLF) Mode which will be incorporated into the LBUCS Receive development effort. -Complete LBUCS Receive development. -Complete development of LBUCS Receive Engineering Development Model (EDM). -Complete statutory and regulatory acquisition documentation in preparation for LBUCS Receive deployment. -Continue LBUCS Receive DT/OA. -Commence research and development of a comprehensive modernization and standardization effort for the Submarine Operating Authority (SUBOPAUTH) command, control and communications (C3) architecture, to include Phase II SWAN IA upgrade. -Commence LBUCS Receive testing of Engineering Development Model (EDM). FY 2016 OCO Plans: N/A						
Title: Strategic Communications Assessment Program (SCAP)/Continuing Evaluation Program (CEP)		3.811	3.439	4.648	-	4.648

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)					
	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Articles:	-	-	-	-	-
FY 2014 Accomplishments: -Continued mission analysis of Ship Submersible Ballistic Nuclear (SSBN) Emergency Action Message (EAM) reception for SSBN patrols. -Continued development of automated data collection and analysis tools to reduce latency time between missions and results availability. -Continued reporting on performance, adherence to delivery time requirements and shortfalls.					
FY 2015 Plans: -Continue mission analysis of SSBN EAM reception for SSBN patrols. -Continue development of automated data collection and analysis tools to reduce latency time between missions and results availability. -Continue reports on performance, adherence to delivery time requirements and shortfalls.					
FY 2016 Base Plans: -Complete development of automated data collection and analysis tools to reduce latency time between missions and results availability. -Complete reports on performance, adherence to delivery time requirements and shortfalls. -Continue mission analysis of SSBN EAM reception for SSBN patrols. -Commence development of the Navy's Nuclear Command, Control, and Communications (NC3) Monitoring System.					
FY 2016 OCO Plans: N/A					
Title: High Voltage Improvement Program (HVIP)	0.835	1.132	1.077	-	1.077
Articles:	-	-	-	-	-
FY 2014 Accomplishments: -Commenced examination of innovative lighting methods for high voltage Very Low Frequency (VLF)/Low Frequency (LF) towers. -Commenced analysis of sulfur hexafluoride (SF6) breakdown in high voltage fields.					
FY 2015 Plans: -Complete examination of innovative lighting methods for high voltage VLF/LF towers. -Complete analysis of SF6 breakdown in high voltage fields.					

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
-Commence examination of methods for reducing risk of fire or damage by detection of partial discharge in Helix Houses. FY 2016 Base Plans: -Continue examination of methods for reducing risk of fire or damage by detection of partial discharge in Helix Houses. -Commence analysis of High Voltage Test Facility (HVTF) improvement to reduce sparking and increase operational voltage output to 300kV. -Commence analysis of VLF/LF Tower environmental degradation life span. -Commence analysis of underground magnetic antennas and VLF jamming capability. -Commence testing of operational scale tuning reactor. FY 2016 OCO Plans: N/A						
Title: Broadcast Control Authority (BCA) Articles:		0.302	0.378	1.328	-	1.328
FY 2014 Accomplishments: -Continued development of Submarine Operating Authority (SUBOPAETH) communications tools including: File Repository, Operation Schedule (OpSked) Editor, Submarine Notes (SubNotes) Editor, and Web Off The Air Monitor (WebOTAM). -Continued systems engineering support for Information Assurance (IA) improvements. FY 2015 Plans: -Complete development of SUBOPAETH communications tools including: File Repository, OpSked Editor, SubNote Editor, and WebOTAM. -Continue systems engineering support for IA improvements. FY 2016 Base Plans: -Continue systems engineering support for IA improvements. -Commence research and development to replace the legacy operational serial/Asynchronous Transfer Mode (ATM) network infrastructure systems with a modernized IP-based, defense in-depth networking infrastructure for the submarine Broadcast Control Authorities. FY 2016 OCO Plans:		-	-	-	-	-

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)								FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
N/A												
Accomplishments/Planned Programs Subtotals								21.269	13.176	15.772	-	15.772
C. Other Program Funding Summary (\$ in Millions)												
<u>Line Item</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016 Base</u>	<u>FY 2016 OCO</u>	<u>FY 2016 Total</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>FY 2019</u>	<u>FY 2020</u>	<u>Cost To Complete</u>	<u>Total Cost</u>	
• OPN/3107: Submarine Broadcast	7.856	11.057	20.691	-	20.691	24.805	29.165	28.770	29.539	Continuing	Continuing	
Remarks												
D. Acquisition Strategy												
Low Band Universal Communications System (LBUCS): LBUCS is the modernization program that will upgrade the Transmit and Receive subsystems of the Fixed Submarine Broadcast System which are approaching their operational end of life. The development of LBUCS Receive continues in FY16.												
E. Performance Metrics												
LBUCS Transmit FY16: Achieve full rate production (FRP) for LBUCS Transmit												
LBUCS Receive FY16: Complete Program Review and DT-D1/OA testing of Engineering Development Model (EDM).												
Strategic Communications Assessment Program (SCAP)/Continuing Evaluation Program (CEP) FY16: Delivery of Submersible Ballistic Nuclear Submarine (SSBN) patrol reports.												
High Voltage Improvement (HVIP) Program FY16: Commence analysis of High Voltage Test Facility (HVTF) improvement, VLF/LF Tower environmental degradation life span, underground magnetic antennas, and VLF jamming capability; Commence testing of operational scale tuning reactor.												
Broadcast Control Authority (BCA) FY16: Commence research and development to replace the legacy operational serial/Asynchronous Transfer Mode (ATM) network infrastructure systems with a modernized IP-based, defense in-depth networking infrastructure for the submarine Broadcast Control Authorities.												

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy												Date: February 2015			
Appropriation/Budget Activity 1319 / 7						R-1 Program Element (Number/Name) PE 0101402N / Navy Strategic Comms				Project (Number/Name) 1083 / Shore To Ship Com System					
Product Development (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Development Support	WR	SSC PAC : San Diego, CA	9.004	0.565	Nov 2013	0.208	Nov 2014	-		-		-	Continuing	Continuing	Continuing
Software Development	WR	SSC PAC : San Diego, CA	12.580	0.213	Nov 2013	0.213	Nov 2014	-		-		-	Continuing	Continuing	Continuing
LBUCS: Systems Engineering	WR	SSC LANT : Charleston, SC	5.895	3.228	Nov 2013	-		0.854	Nov 2015	-		0.854	Continuing	Continuing	Continuing
LBUCS: Primary Hardware Development	C/CPIF	SAIC : San Diego, CA	13.275	1.920	Nov 2013	-		-		-		-	Continuing	Continuing	Continuing
LBUCS: Primary Hardware Development	WR	SSC LANT : Charleston, SC	0.000	-		-		0.367	Nov 2015	-		0.367	Continuing	Continuing	Continuing
LBUCS: Systems Engineering	WR	SSC PAC : San Diego, CA	0.000	1.430	Nov 2013	0.430	Nov 2014	0.839	Nov 2015	-		0.839	Continuing	Continuing	Continuing
LBUCS: Software Development	WR	SSC PAC : San Diego, CA	0.000	4.024	Nov 2013	0.553	Nov 2014	0.555	Nov 2015	-		0.555	Continuing	Continuing	Continuing
LBUCS: Software Development (DC)	C/IDIQ	SSC PAC : San Diego, CA	0.000	-		1.023	Nov 2014	0.942	Nov 2015	-		0.942	Continuing	Continuing	Continuing
Systems Engineering	WR	SSC PAC : San Diego, CA	50.733	-		-		-		-		-	-	50.733	-
Shore to Ship: Ancillary Hardware	WR	SSC PAC : San Diego, CA	0.147	-		-		-		-		-	-	0.147	-
Shore to Ship: Engineering	WR	SSC PAC : San Diego, CA	0.222	-		-		-		-		-	-	0.222	-
Subtotal			91.856	11.380		2.427		3.557		-		3.557	-	-	-
Support (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Acquisition/Program Development	WR	SSC PAC : San Diego, CA	2.467	0.379	Nov 2013	0.354	Nov 2014	0.204	Nov 2015	-		0.204	Continuing	Continuing	Continuing
LBUCS: Information Assurance	C/CPFF	Merdan Group : San Diego, CA	0.797	0.386	Nov 2013	0.123	Nov 2014	0.127	Nov 2015	-		0.127	Continuing	Continuing	Continuing

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Appropriation/Budget Activity 1319 / 7						R-1 Program Element (Number/Name) PE 0101402N / Navy Strategic Comms				Project (Number/Name) 1083 / Shore To Ship Com System					
Support (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
LBUCS: Information Assurance	WR	SSC PAC : San Diego, CA	0.454	0.454	Nov 2013	0.425	Nov 2014	0.234	Nov 2015	-		0.234	Continuing	Continuing	Continuing
LBUCS: Acquisition/ Program Development	C/CPFF	CSA : San Diego, CA	2.077	0.800	Nov 2013	0.679	Nov 2014	0.690	Nov 2015	-		0.690	Continuing	Continuing	Continuing
LBUCS: Systems Engineering	C/CPFF	FSI : San Diego, CA	0.789	0.412	Nov 2013	0.329	Nov 2014	0.334	Nov 2015	-		0.334	Continuing	Continuing	Continuing
Shore to Ship: Broadcast Control Authority	C/CPFF	FSI : San Diego, CA	0.000	0.302	Nov 2013	0.378	Nov 2014	1.328	Nov 2015	-		1.328	Continuing	Continuing	Continuing
LBUCS: Logistics Support	C/CPFF	CSA : San Diego, CA	0.000	0.419	Nov 2013	0.603	Nov 2014	0.607	Nov 2015	-		0.607	Continuing	Continuing	Continuing
LBUCS: Cost Estimating	C/CPFF	TASC : San Diego, CA	0.000	0.165	Nov 2013	0.165	Nov 2014	0.216	Nov 2015	-		0.216	Continuing	Continuing	Continuing
Shore to Ship: High Voltage Improvement Program (HVIP) Studies and Design	WR	SSC PAC : San Diego, CA	2.018	0.835	Nov 2013	1.132	Nov 2014	1.077	Nov 2015	-		1.077	Continuing	Continuing	Continuing
Shore to Ship: Software Support	WR	SSC PAC : San Diego, CA	0.994	-		-		-		-		-	-	0.994	-
Shore to Ship: Broadcast Control Authority	C/CPFF	Predicate Logic : San Diego, CA	1.194	-		-		-		-		-	-	1.194	-
LBUCS: Logistics Support	C/CPFF	Cambridge International : San Diego, CA	0.409	-		-		-		-		-	-	0.409	-
LBUCS: Technical Documentaion	C/CPFF	ANSOL : San Diego, CA	0.626	-		-		-		-		-	-	0.626	-
LBUCS: Cost Estimating	C/CPFF	Booz Allen Hamilton : San Diego, CA	0.653	-		-		-		-		-	-	0.653	-
LBUCS: Logistic Support	C/CPFF	TCI : San Diego, CA	1.716	-		-		-		-		-	-	1.716	-
Subtotal			14.194	4.152		4.188		4.817		-		4.817	-	-	-

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Appropriation/Budget Activity 1319 / 7						R-1 Program Element (Number/Name) PE 0101402N / Navy Strategic Comms				Project (Number/Name) 1083 / Shore To Ship Com System					
Test and Evaluation (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
SCAP/CEP: Strategic OP Systems Performance Evaluation	C/CPFF	APL/JHU : Baltimore, MD	29.973	3.811	May 2014	3.439	May 2015	4.648	May 2016	-		4.648	Continuing	Continuing	Continuing
LBUCS: System Testing	WR	COTF : Norfolk, VA	0.832	0.312	Nov 2013	0.520	Nov 2014	0.525	Nov 2015	-		0.525	Continuing	Continuing	Continuing
LBUCS: System Testing	WR	SSC PAC : San Diego, CA	1.183	0.737	Nov 2013	1.385	Nov 2014	1.247	Nov 2015	-		1.247	Continuing	Continuing	Continuing
LBUCS: System Testing	WR	JITC : Fort Huachuca, AZ	0.000	-		0.203	Nov 2014	0.207	Nov 2015	-		0.207	Continuing	Continuing	Continuing
LBUCS: Hardware Support for Testing	WR	TBD : TBD	0.000	-		0.054	Nov 2014	0.058	Nov 2015	-		0.058	Continuing	Continuing	Continuing
Subtotal			31.988	4.860		5.601		6.685		-		6.685	-	-	-
Management Services (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
LBUCS: Program Management	WR	SSC PAC : San Diego, CA	8.169	0.559	Nov 2013	0.635	Nov 2014	0.386	Nov 2015	-		0.386	Continuing	Continuing	Continuing
Contractor Engineering Support	MIPR	MITRE : San Diego, CA	3.287	0.318	Nov 2013	0.325	Nov 2014	0.327	Nov 2015	-		0.327	Continuing	Continuing	Continuing
LBUCS: Travel	WR	SSC PAC : San Diego, CA	0.416	-		-		-		-		-	-	0.416	-
Subtotal			11.872	0.877		0.960		0.713		-		0.713	-	-	-
			Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			149.910	21.269		13.176		15.772		-		15.772	-	-	-
Remarks															

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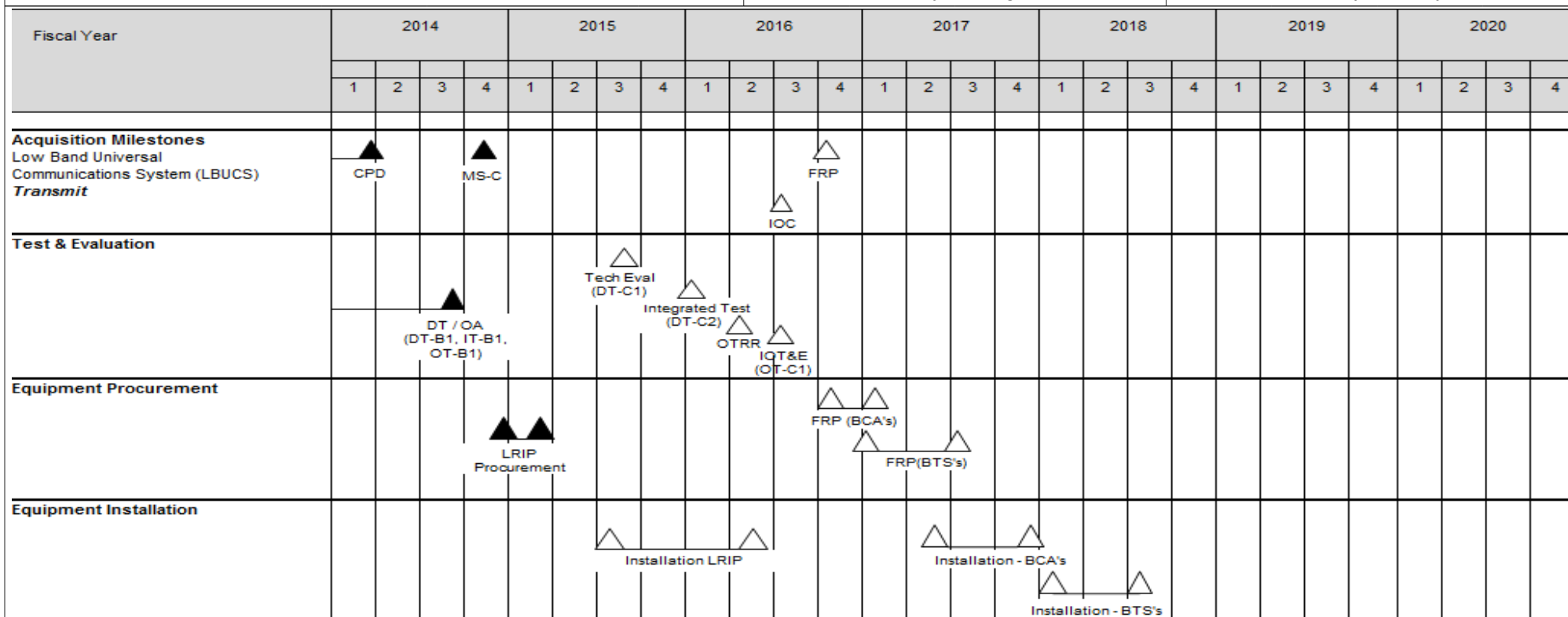
Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy

Date: February 2015

Appropriation/Budget Activity
1319 / 7

R-1 Program Element (Number/Name)
PE 0101402N / Navy Strategic Comms

Project (Number/Name)
1083 / Shore To Ship Com System



Note 1: IOC is achieved following EAM testing in OT-C1

Acronym Legend:

BCA: Broadcast Control Authority
BTS: Broadcast Transmit Station
CPD: Capability Production Document
DT: Developmental Testing
FRP: Full Rate Production
IOC: Initial Operational Capability

IOT&E: Initial Operational Test and Evaluation
LRIP: Low-Rate Initial Production
MS-C: Milestone C
OT: Operational Testing
OTRR: Operational Test Readiness Review
Tech Eval: Technical Evaluation

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Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy

Date: February 2015

Appropriation/Budget Activity

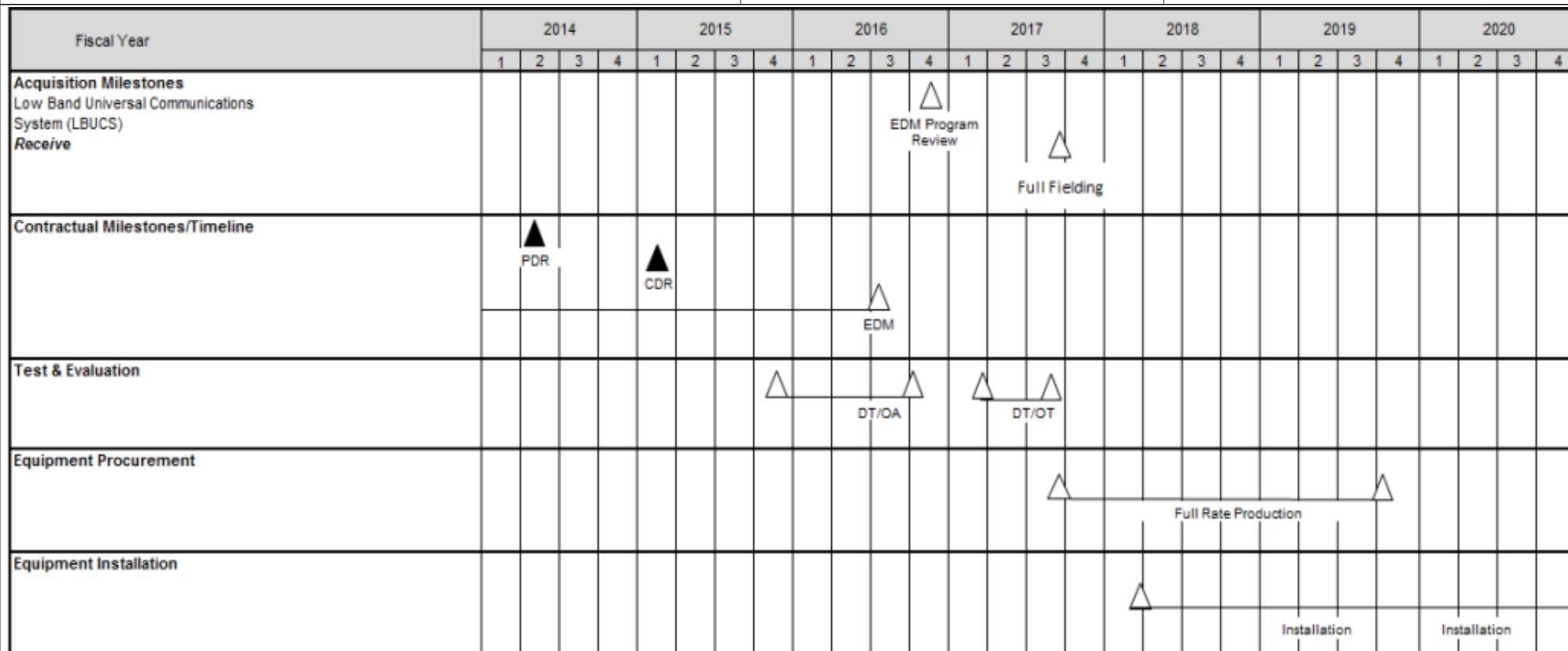
1319 / 7

R-1 Program Element (Number/Name)

PE 0101402N / Navy Strategic Comms

Project (Number/Name)

1083 / Shore To Ship Com System



Note 1: EDM supports DT/OT

Acronym Legend:

CDR: Critical Design Review

DT: Developmental Testing

EDM: Engineering Development Model

OA: Operational Assessment

OT: Operational Testing

PDR: Preliminary Design Review

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Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy

Date: February 2015

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PE 0101402N / Navy Strategic Comms

Project (Number/Name)	Start Date	End Date	Duration (Days)	Actual Cost	Budgeted Cost	Variance	Cost Index	Performance Index	Cost Variance	Cost Performance Index	Cost Variance at Completion	Cost Performance Index at Completion
101	10/1/2010	10/1/2010	1	1000	1000	0	1.00	1.00	0	1.00	0	1.00
102	10/1/2010	10/1/2010	1	1000	1000	0	1.00	1.00	0	1.00	0	1.00
103	10/1/2010	10/1/2010	1	1000	1000	0	1.00	1.00	0	1.00	0	1.00
104	10/1/2010	10/1/2010	1	1000	1000	0	1.00	1.00	0	1.00	0	1.00
105	10/1/2010	10/1/2010	1	1000	1000	0	1.00	1.00	0	1.00	0	1.00
106	10/1/2010	10/1/2010	1	1000	1000	0	1.00	1.00	0	1.00	0	1.00
107	10/1/2010	10/1/2010	1	1000	1000	0	1.00	1.00	0	1.00	0	1.00
108	10/1/2010	10/1/2010	1	1000	1000	0	1.00	1.00	0	1.00	0	1.00
109	10/1/2010	10/1/2010	1	1000	1000	0	1.00	1.00	0	1.00	0	1.00
110	10/1/2010	10/1/2010	1	1000	1000	0	1.00	1.00	0	1.00	0	1.00
111	10/1/2010	10/1/2010	1	1000	1000	0	1.00	1.00	0	1.00	0	1.00
112	10/1/2010	10/1/2010	1	1000	1000	0	1.00	1.00	0	1.00	0	1.00
113	10/1/2010	10/1/2010	1	1000	1000	0	1.00	1.00	0	1.00	0	1.00
114	10/1/2010	10/1/2010	1	1000	1000	0	1.00	1.00	0	1.00	0	1.00
115	10/1/2010	10/1/2010	1	1000	1000	0	1.00	1.00	0	1.00	0	1.00
116	10/1/2010	10/1/2010	1	1000	1000	0	1.00	1.00	0	1.00	0	1.00
117	10/1/2010	10/1/2010	1	1000	1000	0	1.00	1.00	0	1.00	0	1.00
118	10/1/2010	10/1/2010	1	1000	1000	0	1.00	1.00	0	1.00	0	1.00
119	10/1/2010	10/1/2010	1	1000	1000	0	1.00	1.00	0	1.00	0	1.00
120	10/1/2010	10/1/2010	1	1000	1000	0	1.00	1.00	0	1.00	0	1.00
121	10/1/2010	10/1/2010	1	1000	1000	0	1.00	1.00	0	1.00	0	1.00
122	10/1/2010	10/1/2010	1	1000	1000	0	1.00	1.00	0	1.00	0	1.00
123	10/1/2010	10/1/2010	1	1000	1000	0	1.00	1.00	0	1.00	0	1.00
124	10/1/2010	10/1/2010	1	1000	1000	0	1.00	1.00	0	1.00	0	1.00
125	10/1/2010	10/1/2010	1	1000	1000	0	1.00	1.00	0	1.00	0	1.00
126	10/1/2010	10/1/2010	1	1000	1000	0	1.00	1.00	0	1.00	0	1.00
127	10/1/2010	10/1/2010	1	1000	1000	0	1.00	1.00	0	1.00	0	1.00
128	10/1/2010	10/1/2010	1	1000	1000	0	1.00	1.00	0	1.00	0	1.00
129	10/1/2010	10/1/2010	1	1000	1000	0	1.00	1.00	0	1.00	0	1.00
130	10/1/2010	10/1/2010	1	1000	1000							

1083 / *Shore To Ship Com System*[illegible]

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Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0101402N / Navy Strategic Comms	Project (Number/Name) 1083 / Shore To Ship Com System	

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 1083				
LBUCS: Developmental Test/Operational Assesment (DT/OA) - Transmit	1	2014	3	2014
LBUCS: Capability Production Document (CPD) - Transmit	1	2014	1	2014
LBUCS: Milestone-C (MS-C) - Transmit	4	2014	4	2014
LBUCS: Low Rate Initial Production (LRIP) Procurement - Transmit	4	2014	1	2015
LBUCS: LRIP Installation - Transmit	3	2015	2	2016
LBUCS: Developmental Test (DT-C1)/Technical Evaluation - Transmit	3	2015	3	2015
LBUCS: Integrated Test (DT-C2) - Transmit	4	2015	1	2016
LBUCS: Operational Test Readiness Review (OTRR) - Transmit	2	2016	2	2016
LBUCS: Operational Test (OT-C1) - Transmit	3	2016	3	2016
LBUCS: Initial Operational Capability (IOC) - Transmit	3	2016	3	2016
LBUCS: Full Rate Production Milestone (FRP) - Transmit	4	2016	4	2016
LBUCS: Broadcast Control Authority (BCA) Full Rate Production (FRP) Procurement - Transmit	4	2016	1	2017
LBUCS: Broadcast Transmitter Station (BTS) Full Rate Production (FRP) Procurement - Transmit	1	2017	3	2017
LBUCS: Installation Broadcast Control Authority (BCA) - Transmit	2	2017	4	2017
LBUCS: Installation Broadcast Transmitter Station (BTS) - Transmit	1	2018	3	2018
LBUCS: Engineering Design Model (EDM) - Receive	1	2014	3	2016
LBUCS: Production Design Review (PDR) - Receive	2	2014	2	2014
LBUCS: Critical Design Review (CDR) - Receive	1	2015	1	2015
LBUCS: Developmental Test/Operational Assesment (DT/OA) - Receive	4	2015	4	2016
LBUCS: EDM Program Review - Receive	4	2016	4	2016

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Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy			Date: February 2015		
Appropriation/Budget Activity 1319 / 7		R-1 Program Element (Number/Name) PE 0101402N / Navy Strategic Comms		Project (Number/Name) 1083 / Shore To Ship Com System	
		Start		End	
Events by Sub Project		Quarter	Year	Quarter	Year
LBUCS: Developmental Testing/Operational Testing (DT/OT) - Receive		1	2017	3	2017
LBUCS: Full Fielding Program Review - Receive		4	2017	4	2017
LBUCS: Full Rate Production (FRP) Procurement - Receive		3	2017	4	2019
LBUCS: Installation - Receive		1	2018	4	2020
CEP: Studies and Analysis		1	2014	4	2020
CEP: Analysis Automation		4	2016	4	2016

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy										Date: February 2015		
Appropriation/Budget Activity 1319 / 7					R-1 Program Element (Number/Name) PE 0101402N / Navy Strategic Comms				Project (Number/Name) 3002 / Navy Strategic Comm Project			
COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
3002: Navy Strategic Comm Project	270.510	-	0.496	0.797	-	0.797	0.806	0.815	0.827	0.838	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		
A. Mission Description and Budget Item Justification												
The E-6 is a manned airborne platform that provides survivable, endurable and reliable Command, Control and Communications capability in support of the President, Secretary of Defense and United States strategic and non-strategic forces. In order to respond effectively to emerging capability requirements, continued effort is needed to perform technical evaluations, modeling and simulation, investigative ground and flight testing, enhanced software modifications and development of configuration modifications. Funding has been added starting in FY15 for advanced development engineering and analysis of hardware/software required to optimize E-6 systems for interoperability in a network-centric strategic environment.												
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)							FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	
Title: Studies & Analysis Articles: FY 2014 Accomplishments: N/A FY 2015 Plans: Perform and conduct advanced simulations, integrations and demonstrations using E-6B Systems Integration Laboratory and contractor assets of newly developed commercial technology to address system obsolescence and potential upgrades to ensure survivability and reliability of the E-6B platform. FY 2016 Base Plans: Perform and conduct advanced simulations, integrations and demonstrations using E-6B Systems Integration Laboratory and contractor assets of newly developed commercial technology to address system obsolescence and potential upgrades to ensure survivability and reliability of the E-6B platform. FY 2016 OCO Plans: N/A							-	0.496	0.797	-	0.797	
							-	-	-	-	-	
Accomplishments/Planned Programs Subtotals							-	0.496	0.797	-	0.797	

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy										Date: February 2015	
Appropriation/Budget Activity 1319 / 7				R-1 Program Element (Number/Name) PE 0101402N / Navy Strategic Comms				Project (Number/Name) 3002 / Navy Strategic Comm Project			
C. Other Program Funding Summary (\$ in Millions)											
			<u>FY 2016</u>	<u>FY 2016</u>	<u>FY 2016</u>					<u>Cost To</u>	
<u>Line Item</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>Base</u>	<u>OCO</u>	<u>Total</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>FY 2019</u>	<u>FY 2020</u>	<u>Complete</u>	<u>Total Cost</u>
• APN 056400: E-6 A/B Series	157.528	202.129	185.253	-	185.253	204.195	205.694	205.845	149.319	268.442	2,349.713
Remarks											
D. Acquisition Strategy											
Advanced development engineering and analysis of hardware/software required to optimize E-6 systems for interoperability in a network-centric strategic environment.											
E. Performance Metrics											
Mission Systems Evaluation; Technical Analysis 1st Qtr FY16, Design Analysis 2nd Qtr FY16, SIL Test and Reporting 4th Qtr FY16.											

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy												Date: February 2015			
Appropriation/Budget Activity 1319 / 7						R-1 Program Element (Number/Name) PE 0101402N / Navy Strategic Comms				Project (Number/Name) 3002 / Navy Strategic Comm Project					
Product Development (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Primary Hardware Development Block I*	C/CPIF	Rockwell Collins : Cedar Rapids, IA	142.880	-		-		-		-		-	-	142.880	142.880
Award Fees	C/CPAF	Rockwell Collins : Cedar Rapids, IA	3.751	-		-		-		-		-	-	3.751	3.751
Primary Hardware Development Block IA ECP**	C/CPIF	Rockwell Collins : Cedar Rapids, IA	42.447	-		-		-		-		-	-	42.447	42.447
Ancillary Hardware Development	C/CPIF	Rockwell Collins : Cedar Rapids, IA	4.933	-		-		-		-		-	-	4.933	4.933
Training Development WST	C/CPIF	Rockwell Collins : Cedar Rapids, IA	1.213	-		-		-		-		-	-	1.213	1.213
Subtotal			195.224	-		-		-		-		-	-	195.224	195.224
Remarks															
* The Rockwell Collins Primary Hardware Development Block I contract was converted from a Competitively Awarded/Cost plus Award Fee to a Cost Plus Incentive Fee beginning in FY07.															
** The Rockwell Collins Primary Hardware Development Block IA Engineering Change Proposal (ECP) contract was definitized in July 2010.															
Support (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Studies & Analyses	Various	Various: : Not Specified	4.477	-		0.200	Jan 2015	0.349	Nov 2015	-		0.349	Continuing	Continuing	Continuing
Subtotal			4.477	-		0.200		0.349		-		0.349	-	-	-
Test and Evaluation (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WR	NAWCAD : Patuxent River, MD	0.668	-		-		-		-		-	-	0.668	-

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy												Date: February 2015			
Appropriation/Budget Activity 1319 / 7						R-1 Program Element (Number/Name) PE 0101402N / Navy Strategic Comms				Project (Number/Name) 3002 / Navy Strategic Comm Project					
Test and Evaluation (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Operational Test & Evaluation	WR	NAWCAD : Patuxent River, MD	2.148	-		-		-		-		-	-	2.148	-
Other Support	WR	NAVAIR HQ : Patuxent River, MD	3.645	-		-		-		-		-	-	3.645	-
Subtotal			6.461	-		-		-		-		-	-	6.461	-
Management Services (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Contractor Engineering Support	Various	Various : Not Specified	13.850	-		0.123	Feb 2015	0.125	Nov 2015	-		0.125	Continuing	Continuing	Continuing
Governmental Support	Various	Various : Not Specified	37.728	-		0.123	Feb 2015	0.123	Nov 2015	-		0.123	Continuing	Continuing	Continuing
Program Management Support	Various	Various : Not Specified	10.598	-		-		-		-		-	-	10.598	-
Travel	WR	NAVAIR HQ : Patuxent River, MD	2.172	-		0.050	Dec 2014	0.200	Nov 2015	-		0.200	Continuing	Continuing	Continuing
Subtotal			64.348	-		0.296		0.448		-		0.448	-	-	-
			Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			270.510	-		0.496		0.797		-		0.797	-	-	-
Remarks															

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PE 0101402N: *Navy Strategic Comms*
Navy

R-1 Line #177

R-1 Program Element (Number/Name)
PE 0101402N / Navy Strategic Comms

Project (Number/Name)
3002 / Navy Strategic Comm Project

2016DON - 0101402N - 3002

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Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy	Date: February 2015
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Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0101402N / <i>Navy Strategic Comms</i>	Project (Number/Name) 3002 / <i>Navy Strategic Comm Project</i>
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Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Proj 3002</i>				
Advanced Development: Studies & Analysis: Studies & Analysis	2	2015	4	2020