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Exhibit R-2, RDT&E Budget Item Justification: PB 2019 Navy										Date: February 2018		
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 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
Total Program Element	468.631	16.753	18.221	39.313	-	39.313	24.334	23.971	23.369	23.740	Continuing	Continuing
1083: Shore To Ship Com System	199.493	15.801	17.125	29.211	-	29.211	20.320	20.189	19.572	19.926	Continuing	Continuing
3002: Navy Strategic Comm Project	269.138	0.952	1.096	10.102	-	10.102	4.014	3.782	3.797	3.814	Continuing	Continuing

A. Mission Description and Budget Item Justification

The Shore to Ship Communication System develops communication elements which support Navy Nuclear Command, Control, and Communications (NC3) strategic requirements, connecting the President of the United States (POTUS) to Ballistic Missile Submarines (SSBN) via the Fixed Submarine Broadcast System (FSBS). This portfolio of programs provides design and development for shore-to-ship transmit and receive communications systems. The portfolio also designs and develops shore-to-ship communications systems (i.e., Submarine Operating Authority Command, Control, and Communications (C3) Systems) in support of tactical communications with other submarine types (i.e., SSN & SSGN).

Nuclear Command, Control, and Communications (NC3) Navy Modernized Hybrid Solution (NMHS) (formerly Nuclear Command, Control and Communications Nova Technical Change (NC3 NTC)) is modernizing the system prime mission product, the NC3 messaging software application. This software technical refresh will ensure the software meets the Message Handling Subsystem requirements and undergo operational test and evaluation. The software tech refresh will enhance the cyber security posture by complying with enhanced Information Assurance (IA) standards identified by National Security Agency (NSA).

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.

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B. Program Change Summary (\$ in Millions)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Previous President's Budget	17.218	18.221	20.326	-	20.326
Current President's Budget	16.753	18.221	39.313	-	39.313
Total Adjustments	-0.465	0.000	18.987	-	18.987
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.441	0.000			
• Program Adjustments	0.000	0.000	16.844	-	16.844
• Rate/Misc Adjustments	0.000	0.000	2.143	-	2.143
• Congressional General Reductions Adjustments	-0.024	-	-	-	-
Change Summary Explanation					
Schedule Changes for Project 1083 LBUCS Receive (V1): Delays to LBUCS Receive V1 test events and acquisition milestones are associated with system of systems integration delays. LBUCS Receive (V1) realigned its procurement and installation schedule accordingly.					
Schedule Changes for Project 3002 - Upon completion of Studies & Analysis in FY16, Technical & Design Analysis and System Integration Lab Testing & Reporting will commence in FY 17 on advance technology development.					

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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			
COST (\$ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
1083: Shore To Ship Com System	199.493	15.801	17.125	29.211	-	29.211	20.320	20.189	19.572	19.926	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Nuclear Command, Control, and Communications (NC3) Navy Modernized Hybrid Solution (NMHS) formerly Nuclear Command, Control and Communications Nova Technical Change (NC3 NTC) is the shore terrestrial backbone that provides Joint assured NC3 messaging in a highly redundant and interconnected architecture for receipt, validation, storage, and forwarding of NC3 EAMs to Joint nuclear force elements. NC3 NMHS provides the Joint interface in the Navy Shore to Ship Communication System.

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 of the Very Low Frequency (VLF) architecture by providing system life extension and flexibility of submarine broadcast reception to submarines operating in a stealth posture. The flexibility includes enhanced throughput and anti-jam capability, ensuring more operational traffic is delivered to submarines without risking mast exposure. LBUCS will also deliver a simplified shore architecture, maintaining capability while maximizing use of shore infrastructure. Finally, LBUCS 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). LBUCS Receive V2 extends the Very Low Frequency (VLF) receive capability to FY45 and incorporates the Unified Minimum Essential Emergency Communications (MEECN) Mode (UMM) waveforms.

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 by evaluating and reporting results of strategic exercises to the Fleet. Expanded CEP will include data from Nova hubs and Nova Information eXchange Terminals (NIXT) using automated data collection. The Navy Nuclear Command Control and Communications (NC3-N) Cyber Assessment Program (NCAP) expands cybersecurity assessments of the Navy's NC3 architecture.

The High Voltage Improvement Program (HVIP) develops technologies to improve the high voltage insulators, bushings, antenna and transmitter components used in the high-power Very Low Frequency/Low Frequency (VLF/LF) transmit systems of the Fixed Submarine Broadcast System (FSBS). These components provide Nuclear Command, Control and Communications (NC3) and are beyond their operational life expectancy.

The Broadcast Control Authority (BCA) project researches and models future solutions to address network/system interoperability, provides enterprise lab facilities and cybersecurity challenges of the four regional Submarine Operating Authority (SUBOPAUTH) BCA communication and network operations centers.

The Take Charge and Move Out (TACAMO) primary mission is to receive and retransmit Emergency Action Messages (EAMs) to US Strategic Forces. The TACAMO Ground Communications Program will acquire and sustain necessary mobile communications to support the TACAMO mission. Without this capability, there will be an increase in potential for loss of Nuclear Command, Control, and Communication (NC3) EAM delivery to the strategic forces. These mobile communications are

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necessary deterrence multipliers that increase the probability of strategic success. The Mobile Advanced Extremely High Frequency (AEHF) Terminal (MAT) will be employed with TACAMO teams and Submarine Groups in support of TACAMO and NC3 missions.						
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Title: Low Band Universal Communication System (LBUCS) Articles:		7.481	4.510	8.075	0.000	8.075
		-	-	-	-	-
FY 2018 Plans: -Complete Low Band Universal Communication System (LBUCS) Transmit development. -Complete LBUCS Receive (V1) Developmental Test (DT). -Continue LBUCS Receive (V1) development. -Continue development of statutory and regulatory acquisition documentation in preparation for LBUCS Receive (V1) deployment. -Commence LBUCS Receive (V1) DT/Operational Test (OT). -Continue the development of LBUCS Receive V2. -Commence and complete LBUCS Receive (V1) Engineering Development Model (EDM) program review.						
FY 2019 Base Plans: -Complete LBUCS Receive (V1) DT/OT. -Complete LBUCS Receive (V1) Development, and continue development of LBUCS Receive sub-modes. -Complete development of statutory and regulatory acquisition documentation in preparation for LBUCS Receive (V1) deployment. -Continue the development of LBUCS Receive V2.						
FY 2019 OCO Plans: N/A						
FY 2018 to FY 2019 Increase/Decrease Statement: LBUCS Receive (V2) system and program development activities increase in FY19 due to planned requirements maturity in FY19 and the availability of the Unified Minimum Essential Emergency Communications (MEECN) Mode (UMM) waveform which was not previously available. This results in an increase in costs for system engineering and software development.						
Title: Strategic Communications Assessment Program (SCAP)/Continuing Evaluation Program (CEP) Articles:		4.663	4.383	6.804	0.000	6.804
		-	-	-	-	-
FY 2018 Plans: -Continue development of automated data collection and analysis tools to reduce latency time between missions and results availability.						

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
<div>-Continue reports on performance, adherence to delivery time requirements and shortfalls.</div> <div>-Continue mission analysis of Shore and Ballistic Missile Submarine (Nuclear) (SSBN) Emergency Action Messages (EAM) reception for SSBN patrols.</div> <div>-Continue mission-based analysis for cyber risk on Navy Nuclear Command, Control and Communications (NC3) systems.</div> <div>-Continue delivery of Expanded Continuing Evaluation Program (CEP) and SSBN Patrol reports.</div> <div>FY 2019 Base Plans:</div> <div>-Continue development of automated data collection and analysis tools to reduce latency time between missions and results availability.</div> <div>-Continue reports on performance, adherence to delivery time requirements and shortfalls.</div> <div>-Continue mission analysis of Shore and SSBN EAM reception for SSBN patrols.</div> <div>-Continue mission-based analysis for cyber risk on Navy Nuclear Command, Control and Communications (NC3) systems.</div> <div>-Continue delivery of Expanded CEP and SSBN Patrol reports.</div> <div>-Commence NC3-N Cyber Assessment Program (NCAP). [Details held at higher classification level]</div> <div>-Commence NCAP reports.[Details held at higher classification level]</div> <div>FY 2019 OCO Plans:</div> <div>N/A</div> <div>FY 2018 to FY 2019 Increase/Decrease Statement:</div> <div>Increase in FY19 costs to SCAP/CEP is to establish the NC3-N Cyber Assessment Program (NCAP). In accordance with DoDI 8500.01 and DoDI 8510.01, NCAP will establish continuous cyber assessments to increase the cybersecurity posture of NC3-N systems to prevent cyber penetration by the adversary.</div>						
<div>Title: High Voltage Improvement Program (HVIP)</div> <div>Articles:</div> <div>FY 2018 Plans:</div> <div>- Continue testing of operational scale tuning reactor.</div> <div>- Continue Very Low Frequency/Low Frequency (VLF/LF) environmental degradation, life span, and materials analysis.</div> <div>- Commence and complete study to determine most efficient and durable design for tower risers.</div>		1.366 -	1.625 -	1.374 -	0.000 -	1.374 -

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
<p>- Commence transmitter components analysis, testing, and specification development for the transmitter component of the Fixed Submarine Broadcast System (FSBS).</p> <p>FY 2019 Base Plans:</p> <p>- Complete testing of operational scale tuning reactor.</p> <p>- Continue Very Low Frequency/Low Frequency (VLF/LF) environmental degradation, life span, and materials analysis.</p> <p>- Continue transmitter components analysis, testing, and specification development for the transmitter component of the Fixed Submarine Broadcast System (FSBS).</p> <p>- Commence study to determine the probability of remote transmitter operation at Dixon.</p> <p>- Commence study to modernize VLF/LF propagation model.</p> <p>FY 2019 OCO Plans:</p> <p>N/A</p> <p>FY 2018 to FY 2019 Increase/Decrease Statement:</p> <p>High Voltage Improvement Program (HVIP) reduced requirements in FY19. FY18 planned study to determine most efficient and durable design for tower risers commenced and completed which resulted in a decrease in costs for studies and design between FY18 and FY19.</p>						
<p>Title: Nuclear Command, Control, and Communications (NC3) Navy Modernized Hybrid Solution (NMHS) formerly Nuclear Command, Control and Communications Nova Technical Change (NC3 NTC)</p> <p>Articles:</p> <p>FY 2018 Plans:</p> <p>-Award NC3 NMHS Software development and Modernization contract</p> <p>-Commence system software development and modernization</p> <p>-Commence lab software/hardware integration and test</p> <p>-Commence developer integration, software functional assessment, and functional integration testing.</p> <p>-Commence engineering management oversight of software development and evaluation testing.</p> <p>FY 2019 Base Plans:</p> <p>-Continue system software modernization</p> <p>-Continue lab software/hardware integration and test</p> <p>-Continue developer integration, software functional assessment, and functional integration testing.</p> <p>-Continue engineering management oversight of software development and evaluation testing.</p> <p>FY 2019 OCO Plans:</p>		1.200 -	3.407 -	4.869 -	0.000 -	4.869 -

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
N/A						
FY 2018 to FY 2019 Increase/Decrease Statement: FY19 OPN realigned to R&D to complete the software upgrade, integration, test for NMHS Build 2 and fielding of the Nova software. Realignment of appropriation deemed necessary to ensure proper categorization to secure software development contract. RDT&E appropriation became apparent during collaboration meeting with UNISYS, which best supports Agile Software Development. The NC3 Navy Modernized Hybrid Solution (NMHS) program is conducting an upgrade to eliminate obsolescence issues, reliance on proprietary software, and address cyber security vulnerabilities. NMHS Build 2 is the modernization of the Nova software application.						
Title: Broadcast Control Authority (BCA)		1.091	3.200	3.089	0.000	3.089
Articles:		-	-	-	-	-
FY 2018 Plans: -Continue systems and security engineering support for cybersecurity improvements. -Continue research and Model-Based Systems Engineering (MBSE) efforts to support the development and alignment of Computer Network Defense (CND) and Network Operations (NETOPS) monitoring initiatives within PEO C4I and other DoD organizations. -Complete establishment of Integrated Test Facility (ITF) and interconnectivity between other labs for end-to-end testing of Fixed Submarine Broadcast System (FSBS) Low Power and supporting C3 systems.						
FY 2019 Base Plans: -Continue systems and security engineering support for cybersecurity improvements. -Continue research and Model-Based Systems Engineering (MBSE) efforts to support the development and alignment of Computer Network Defense (CND) and Network Operations (NETOPS) monitoring initiatives within PEO C4I and other DoD organizations. -Commence end to end (E2E) test and evaluation of FSBS Low Power and supporting C3 systems using the ITF.						
FY 2019 OCO Plans: N/A						
FY 2018 to FY 2019 Increase/Decrease Statement: Decrease in FY19 costs to BCA is due to completion in FY18 of the establishment of Integrated Test Facility and interconnectivity between other labs for end-to-end testing of FSBS Low Power and supporting C3 systems.						
Title: Take Charge and Move Out (TACAMO)		0.000	0.000	5.000	0.000	5.000
Articles:		-	-	-	-	-

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
FY 2018 Plans: N/A FY 2019 Base Plans: -Commence the Advanced Extremely High Frequency (AEHF) Mission Planning Element (MPE) for requirements analysis and software development with the Air Force software. FY 2019 OCO Plans: N/A FY 2018 to FY 2019 Increase/Decrease Statement: Increase in FY19 costs is the result of the addition of Advanced Extremely High Frequency (AEHF) Mission Planning Element (MPE) for requirements analysis and software development with the Air Force to ensure satellite acceptance of the TACAMO transmission, enabling transfer of data to include Emergency Action Messages (EAMs).					
Accomplishments/Planned Programs Subtotals	15.801	17.125	29.211	0.000	29.211

C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
• OPN/3107: Submarine Broadcast	31.068	44.669	30.897	-	30.897	57.239	61.701	61.577	38.656	Continuing	Continuing
Remarks											
D. Acquisition Strategy Low Band Universal Communications System (LBUCS): The Full Deployment Decision for Transmit is in FY18. The testing of LBUCS Receive V1 completes in FY19. The Full Fielding Program Review for Receive V1 is in FY19. Take Charge and Move Out (TACAMO): The Mobile Advanced Extremely High Frequency (AEHF) Terminal (MAT) contract award is in FY19 and the Mission Planning Element (MPE) begins requirements analysis and software development that same year.											
E. Performance Metrics LBUCS FY19: Complete Receive (V1) Full Fielding Decision and Operational Testing. Strategic Communications Assessment Program (SCAP)/Continuing Evaluation Program (CEP) FY19: Delivery of Expanded CEP, NC3-N Cyber Assessment Program (NCAP), and SSBN Patrol reports.											

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<p>High Voltage Improvement (HVIP) Program FY19: Complete testing of operational scale tuning reactor.</p> <p>Broadcast Control Authority (BCA) FY19: Continue research and Model-Based Systems Engineering (MBSE) efforts to support the development and alignment of Computer Network Defense (CND) and Network Operations (NETOPS) monitoring initiatives within PEO C4I and other DoD organizations. Commence end to end (E2E) testing and evaluation of FSBS Low Power and supporting C3 systems using the Integrated Test Facility (ITF).</p> <p>Nuclear Command, Control, & Communications (NC3) Navy Modernized Hybrid Solution (NMHS) formerly Nuclear Command, Control and Communications Nova Technical Change (NC3 NTC) FY19: Continue system software modernization, lab software/hardware integration & test, developer integration software functional assessment and functional integration testing.</p> <p>Take Charge and Move Out (TACAMO) FY19: Complete the Mission Planning Element (MPE) requirements analysis and software development with the Air Force.</p>		

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 Navy **Date:** February 2018

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
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Product Development (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 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: Systems Engineering	WR	SSC LANT : Charleston, SC	9.977	0.250	Nov 2016	0.000		0.000		-		0.000	0.000	10.227	-
LBUCS: Primary Hardware Development	WR	SSC LANT : Charleston, SC	0.356	0.113	Nov 2016	0.000		0.000		-		0.000	0.000	0.469	-
LBUCS: Systems Engineering	WR	SSC PAC : San Diego, CA	2.699	1.646	Nov 2016	0.552	Nov 2017	1.300	Nov 2018	-		1.300	Continuing	Continuing	Continuing
LBUCS: Software Development	WR	SSC PAC : San Diego, CA	5.111	0.713	Nov 2016	0.415	Nov 2017	0.877	Nov 2018	-		0.877	Continuing	Continuing	Continuing
LBUCS: Software Development (DC)	C/IDIQ	SSC PAC : San Diego, CA	1.865	1.080	Nov 2016	0.564	Nov 2017	1.459	Nov 2018	-		1.459	Continuing	Continuing	Continuing
TACAMO: Mobile AEHF Terminal (MAT) Mission Planning	MIPR	Space and Missile Systems Center : El Segundo, CA	0.000	0.000		0.000		5.000	Jun 2019	-		5.000	0.000	5.000	-
NC3 NMHS - Software Modernization	C/FPIF	Unisys Corp : Reston, VA	0.000	0.700	Dec 2017	2.900	Dec 2017	4.067	Dec 2018	-		4.067	0.399	8.066	-
Product Development Prior Years	Various	Various : Various	88.980	0.000		0.000		0.000		-		0.000	0.000	88.980	66.297
Subtotal			108.988	4.502		4.431		12.703		-		12.703	Continuing	Continuing	N/A

Remarks

1. Nuclear Command, Control, and Communications (NC3) Navy Modernized Hybrid Solution (NMHS) is formerly known as Nuclear Command, Control and Communications Nova Technical Change (NC3 NTC)
2. LBUCS Receive (V2) system and program development activities increase in FY19 due to planned requirements maturity in FY19 and the availability of the Unified MEECN Mode (UMM) waveform. This results in an increase in costs for system engineering and software development.
3. FY19 MAT funds support classified requirements of Other Users. Details can be found at a higher classification level.

Support (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 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	3.315	0.066	Nov 2016	0.066	Nov 2017	0.698	Nov 2018	-		0.698	Continuing	Continuing	Continuing
LBUCS: Acquisition/Program Development/	C/CPFF	CSA : San Diego, CA	0.000	0.200	Feb 2017	0.211	Nov 2017	0.952	Nov 2018	-		0.952	Continuing	Continuing	Continuing

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Support (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 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
Logistics/Information Assurance															
LBUCS: Security Engineering	C/CPFF	G2 OPS : Virginia Beach, VA	0.127	0.126	Feb 2017	0.129	Nov 2017	0.207	Nov 2018	-		0.207	Continuing	Continuing	Continuing
LBUCS: Information Assurance	WR	SSC PAC : San Diego, CA	1.567	0.120	Nov 2016	0.123	Nov 2017	0.352	Nov 2018	-		0.352	0.000	2.162	-
LBUCS: Systems Engineering	C/CPFF	G2 OPS : San Diego, CA	0.000	0.130	Nov 2016	0.167	Nov 2017	0.528	Nov 2018	-		0.528	Continuing	Continuing	Continuing
Shore to Ship: High Voltage Improvement Program (HVIP) Studies and Design	WR	SSC PAC : San Diego, CA	5.007	1.366	Nov 2016	1.290	Nov 2017	1.010	Nov 2018	-		1.010	Continuing	Continuing	Continuing
Shore to Ship: High Voltage Improvement Program (HVIP) Studies and Design	WR	SSC LANT : Charleston, SC	0.000	0.000		0.335	Nov 2017	0.364	Nov 2018	-		0.364	Continuing	Continuing	Continuing
Shore to Ship: BCA: Systems Engineering	WR	SSC LANT : Charleston, SC	0.000	1.091	Nov 2016	1.554	Nov 2017	1.469	Nov 2018	-		1.469	Continuing	Continuing	Continuing
NC3 NMHS - Technical Design Documentation	WR	SSC PAC : San Diego	0.000	0.150	May 2017	0.150	Nov 2017	0.350	Nov 2018	-		0.350	0.000	0.650	-
Support Prior Years	Various	Various : Various	17.101	0.000		0.000		0.000		-		0.000	0.000	17.101	5.592
Subtotal			27.117	3.249		4.025		5.930		-		5.930	Continuing	Continuing	N/A
Remarks															
1. Nuclear Command, Control, and Communications (NC3) Navy Modernized Hybrid Solution (NMHS) is formerly known as Nuclear Command, Control and Communications Nova Technical Change (NC3 NTC)															
2. LBUCS Receive (V2) system and program development activities increase in FY19 due to planned requirements maturity in FY19 and the availability of the Unified MEECN Mode (UMM) waveform. This results in an increase in costs for information assurance, acquisition/program development, security engineering, and systems engineering.															
3. Decrease in FY19 costs to BCA is due to completion of the establishment of Integrated Test Facility and interconnectivity between other labs for end-to-end testing of Fixed Submarine Broadcast System (FSBS) Low Power and supporting Command, Control and Communications (C3) systems.															

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Test and Evaluation (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 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	41.685	4.663	Jan 2017	4.383	Jan 2018	6.804	Jan 2019	-		6.804	Continuing	Continuing	Continuing
LBUCS: System Testing	WR	COTF : Norfolk, VA	2.189	0.250	Nov 2016	0.699	Nov 2017	0.170	Nov 2018	-		0.170	Continuing	Continuing	Continuing
LBUCS: System Testing	WR	SSC PAC : San Diego, CA	4.552	1.074	Nov 2016	0.986	Nov 2017	0.287	Nov 2018	-		0.287	Continuing	Continuing	Continuing
LBUCS: System Testing	WR	JITC : Fort Huachuca, AZ	0.410	0.225	Nov 2016	0.335	Nov 2017	0.168	Nov 2018	-		0.168	Continuing	Continuing	Continuing
LBUCS: Hardware Support for Testing	WR	SSC LANT : Charleston, SC	0.112	0.929	Nov 2016	0.000		0.000		-		0.000	0.000	1.041	-
Shore to Ship: BCA Hardware Support for Testing	WR	SSC LANT : Charleston, SC	0.000	0.000		1.646	Nov 2017	1.620	Nov 2018	-		1.620	Continuing	Continuing	Continuing
NC3 NMHS - System Testing	WR	SSC PAC : San Diego	0.000	0.290	May 2017	0.290	Nov 2017	0.327	Nov 2018	-		0.327	0.000	0.907	-
Subtotal			48.948	7.431		8.339		9.376		-		9.376	Continuing	Continuing	N/A

Remarks

1. Nuclear Command, Control, and Communications (NC3) Navy Modernized Hybrid Solution (NMHS) is formerly known as Nuclear Command, Control and Communications Nova Technical Change (NC3 NTC)
2. Increase in FY19 costs to SCAP/CEP is for NC3-N Cyber Assessment Program (NCAP).
3. Increase in FY19 costs to SCAP/CEP is to establish the NC3-N Cyber Assessment Program (NCAP). In accordance with DoDI 8500.01 and DoDI 8510.01, NCAP will establish continuous cyber assessments to increase the cybersecurity posture of NC3-N systems.

Management Services (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 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	9.767	0.225	Nov 2016	0.066	Nov 2017	0.570	Nov 2018	-		0.570	Continuing	Continuing	Continuing
Contractor Engineering Support	MIPR	MITRE : San Diego, CA	4.257	0.334	Nov 2016	0.197	Nov 2017	0.507	Nov 2018	-		0.507	Continuing	Continuing	Continuing
NC3 NMHS - Program Management	WR	SSC PAC : San Diego	0.000	0.060	May 2017	0.067	Nov 2017	0.125	Nov 2018	-		0.125	0.000	0.252	-

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 Navy												Date: February 2018			
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					
Management Services (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 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
Management Services Prior Years	Various	Various : Various	0.416	0.000		0.000		0.000		-		0.000	0.000	0.416	-
Subtotal			14.440	0.619		0.330		1.202		-		1.202	Continuing	Continuing	N/A
Remarks															
1. Nuclear Command, Control, and Communications (NC3) Navy Modernized Hybrid Solution (NMHS) is formerly known as Nuclear Command, Control and Communications Nova Technical Change (NC3 NTC)															
2. LBUCS Receive (V2) system and program development activities increase in FY19 due to planned requirements maturity in FY19 and the availability of the Unified MEECN Mode (UMM) waveform. This results in an increase in costs for program management and engineering support.															
			Prior Years	FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			199.493	15.801		17.125		29.211		-		29.211	Continuing	Continuing	N/A
Remarks															

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Exhibit R-4, RDT&E Schedule Profile: PB 2019 Navy

Date: February 2018

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

Fiscal Year	2017				2018				2019				2020				2021				2022				2023			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Acquisition Milestones Low Band Universal Communications System (LBUCS) <u>Transmit</u>		▲ ADM (FY17-18 H/W Procurements)					△ FDD																					
Test & Evaluation		▲ Integrated Test (DT-C2)	▲ OTRR			▲ IOT&E (OT-C1)																						
Equipment Procurement		▲ FY16 Procurement																										
		▲ FY17 Procurement		▲																								
Equipment Installation							△					△																

Note 1: IOC is achieved following an IOT&E follow-up test by COMOPTEVFOR.

Note 2: The ADMs provided hardware acquisition authority by Milestone Decision Authority prior to the IOT&E report.

Note 3: LBUCS Transmit equipment and cables will be installed in racks and must go through acceptance and integration testing prior to installation. Timeframe varies due to complexity of each site's unique system configuration.

Acronym Legend:

ADM: Acquisition Decision Memorandum

DT: Developmental Testing

FDD: Full Deployment Decision

IOC: Initial Operational Capability

IOT&E: Initial Operational Test and Evaluation

LRIP: Low-Rate Initial Production

OT: Operational Testing

OTRR: Operational Test Readiness Review

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PE 0101402N: *Navy Strategic Comms*
Navy

R-1 Line #218

1319 / 7

PE 0101402N / Navy Strategic Comms

1083 / *Shore To Ship Com System*

Fiscal Year	2017				2018				2019				2020				2021				2022				2023			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Acquisition Milestones																												
Low Band Universal Communications System (LBUCS)																												
Receive																												

Note 2: EDM program review will result in procurement authority.

Acronym Legend:

EDM: Engineering Development Model

OT: Operational Testing

PR: Program Review

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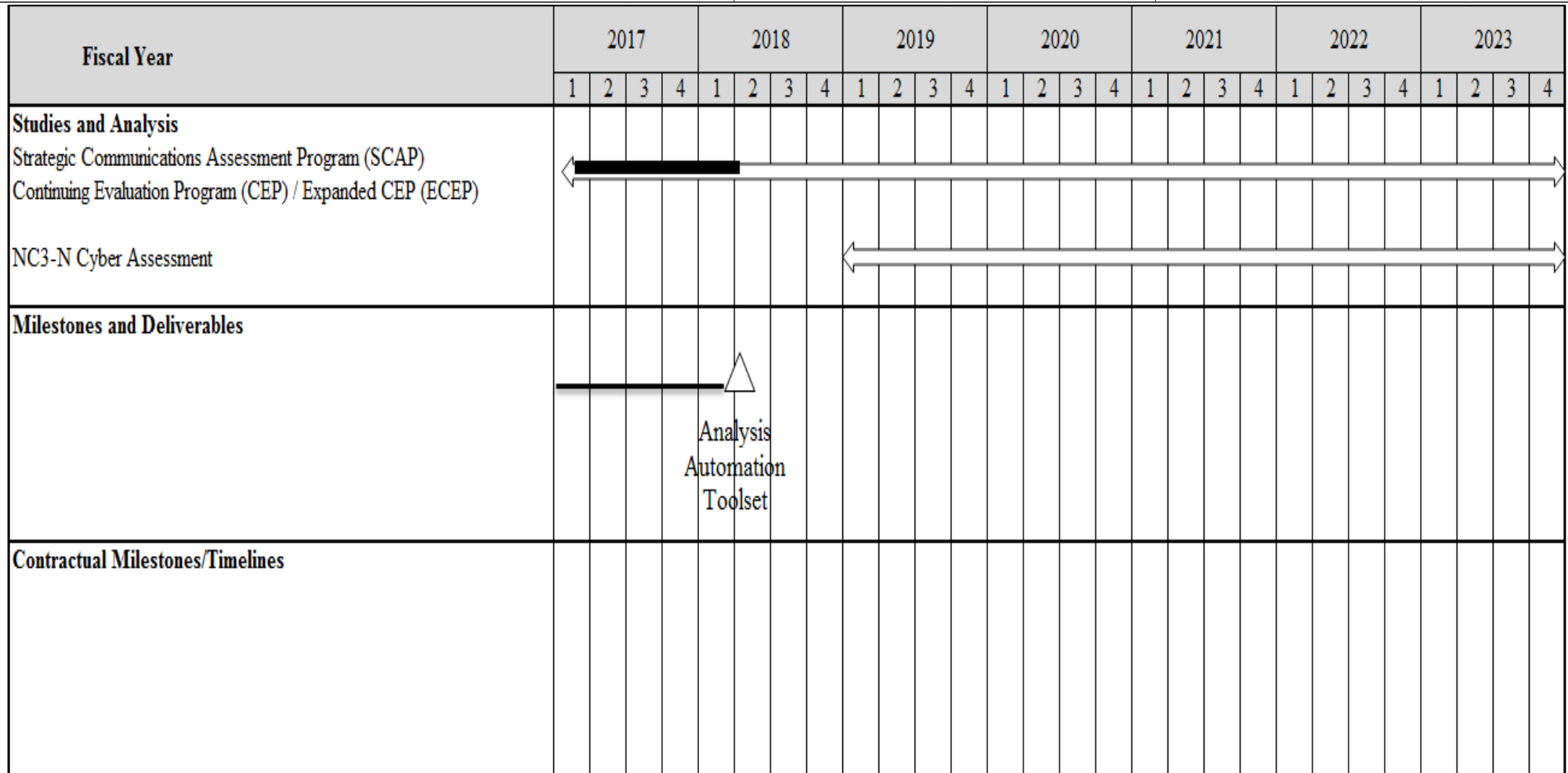
Exhibit R-4, RDT&E Schedule Profile: PB 2019 Navy

Date: February 2018

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



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Exhibit R-4, RDT&E Schedule Profile: PB 2019 Navy																				Date: February 2018								
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										
Nuclear Command, Control, and Communications (NC3) Navy Modernized Hybrid Solution (NMHS)																												
Fiscal Year	2017				2018				2019				2020				2021				2022				2023			
Quarter	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Acquisition Milestones																												
Contract Development (CD)																												
Contract Award (CA)																												
Engineering and Manufacturing Development																												
SW Development & Modernization																												
Independent Verification & Validation (IV&V)																												
Test & Evaluation Milestones																												
Developmental Test (DT)																												
Operational Assessment (OA)																												

Note: Project name change to Nuclear Command, Control, and Communications (NC3) Navy Modernized Hybrid Solution (NMHS); formerly Nuclear Command, Control and Communications Nova Technical Change (NC3 NTC). Full Operational Capability (FOC) is planned for Q3 in FY23

Note: Project name change to Nuclear Command, Control, and Communications (NC3) Navy Modernized Hybrid Solution (NMHS); formerly Nuclear Command, Control and Communications Nova Technical Change (NC3 NTC). Full Operational Capability (FOC) is planned for Q3 in FY23

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Exhibit R-4, RDT&E Schedule Profile: PB 2019 Navy **Date:** February 2018

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
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Fiscal Year	2017				2018				2019				2020				2021				2022				2023			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Acquisition Milestones																												
Test & Evaluation TACAMO/MAT																												
Contract TACAMO/MAT																												
Procurement / Delivery TACAMO																												
MAT																												

Acronym Legend:

MAT: Mobile Advanced Extremely High Frequency (AEHF) Terminal

TACAMO: Take Charge and Move Out

Note: Mission Planning Element requirements analysis and software development cannot commence until MAT antenna characteristics are identified after MAT contract award. Mission Planning Element provides efficient network and resource allocation between the AEHF satellite constellation and the Mobile AEHF Terminal.

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Exhibit R-4A, RDT&E Schedule Details: PB 2019 Navy			Date: February 2018
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: FY16 Hardware Procurement - Transmit	1	2017	2	2017
LBUCS: Integrated Test (DT-C2) - Transmit	2	2017	2	2017
LBUCS: ADM (FY17-18 H/W Procurements) - Transmit	2	2017	2	2017
LBUCS: FY17 Procurement - Transmit	2	2017	1	2018
LBUCS: Operational Test Readiness Review (OTRR) - Transmit	3	2017	3	2017
LBUCS: Operational Test (IOT&E) - Transmit	1	2018	1	2018
LBUCS: Initial Operational Capability (IOC) - Transmit	2	2018	2	2018
LBUCS: Full Deployment Decision (FDD) - Transmit	3	2018	3	2018
LBUCS: Installation - Transmit	3	2018	4	2019
LBUCS: Developmental Test (DT) - Receive (V1)	4	2017	1	2018
LBUCS: EDM Program Review - Receive (V1)	2	2018	2	2018
LBUCS: Developmental Testing/Operational Testing (DT/OT) - Receive (V1)	4	2018	3	2019
LBUCS: Full Fielding Program Review - Receive (V1)	4	2019	4	2019
LBUCS: Procurement - Receive (V1)	3	2018	4	2022
LBUCS: Installation - Receive (V1)	4	2019	4	2023
LBUCS: Technology Development and Risk Mitigation & Acquisition and Engineering Documents - Receive (V2)	1	2017	1	2020
LBUCS: Integration and Technical Reviews - Receive (V2)	2	2020	4	2022
LBUCS: EDM Procurements - Receive (V2)	3	2021	2	2022
LBUCS: Developmental Testing/Operational Assessment (DT/OA) - Receive (V2)	1	2023	4	2023
CEP: Studies and Analysis	1	2017	4	2023
CEP: NC3 Cyber Assessment	1	2019	4	2023

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Exhibit R-4A, RDT&E Schedule Details: PB 2019 Navy **Date:** February 2018

Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0101402N / <i>Navy Strategic Comms</i>	Project (Number/Name) 1083 / <i>Shore To Ship Com System</i>
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
CEP: Analysis Automation	1	2017	2	2018
NC3 NMHS: Acquisition MS - Contract Development - (CD)	2	2017	4	2017
NC3 NMHS: Acquisition MS - Contract Award (CA)	1	2018	1	2018
NC3 NMHS: Engineering & Manufacturing Development - SW Development & Modernization	1	2018	4	2020
NC3 NMHS: Engineering & Manufacturing Development - Independent Verification & Validation (IV&V)	1	2021	4	2021
NC3 NMHS: Test & Evaluation MS Development - DT	3	2021	3	2021
Take Charge and Move Out (TACAMO)/Mobile AEHF Terminal (MAT): FY19 Mission Planning Element (MPE) requirements analysis and software development.	2	2019	2	2020
Mobile AEHF Terminal (MAT) - Contract Award	2	2019	2	2019
Take Charge and Move Out (TACAMO) - Procurement	3	2019	4	2023
Mobile AEHF Terminal (MAT) - Procurement	1	2020	4	2022

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Exhibit R-2A, RDT&E Project Justification: PB 2019 Navy										Date: February 2018		
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 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
3002: Navy Strategic Comm Project	269.138	0.952	1.096	10.102	-	10.102	4.014	3.782	3.797	3.814	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, enduring 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 is for operational mission analysis and hardware/software engineering required to optimize E-6 systems for cyber security and interoperability in a strategic environment.												
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)								FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Title: Operational System Development, Studies and Demonstrations Articles: FY 2018 Plans: Perform and conduct advanced simulations, integrations and demonstrations using the E-6B Systems Integration Laboratory and contractor assets to address system obsolescence and potential upgrades to ensure interoperability of the E-6B platform. FY 2019 Base Plans: Perform operational mission analyses and conduct advanced simulations, prototyping, integrations, and demonstrations using the E-6B Systems Integration Laboratory and contractor assets to address system obsolescence and potential upgrades to ensure cyber security software improvements and interoperability of the E-6B platform. E-6 Recapitalization Analysis of Alternatives (AOA).Conduct E-6 Analysis of Alternatives (AOA) assessing systems, emergent technologies, and industry Internal Research and Development (IRAD) activities / proposals that can be used across multiple mission areas to reduce risk, development time and cost. Conduct threat assessments based on current and future scenarios and environments to inform performance requirements and relevant technology. FY 2019 OCO Plans:								0.952	1.096	10.102	0.000	10.102
								-	-	-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2019 Navy								Date: February 2018				
Appropriation/Budget Activity 1319 / 7				R-1 Program Element (Number/Name) PE 0101402N / Navy Strategic Comms				Project (Number/Name) 3002 / Navy Strategic Comm Project				
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)								FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
N/A												
<i>FY 2018 to FY 2019 Increase/Decrease Statement:</i> FY 2019 increase is due to upgrades to ensure E-6 cyber security software improvements and E-6 Recapitalization AoA.												
Accomplishments/Planned Programs Subtotals								0.952	1.096	10.102	0.000	10.102
C. Other Program Funding Summary (\$ in Millions)												
<u>Line Item</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>FY 2019 Base</u>	<u>FY 2019 OCO</u>	<u>FY 2019 Total</u>	<u>FY 2020</u>	<u>FY 2021</u>	<u>FY 2022</u>	<u>FY 2023</u>	<u>Cost To Complete</u>	<u>Total Cost</u>	
• APN 056400: E-6 Series	194.998	223.508	180.021	-	180.021	207.540	186.360	152.150	126.920	302.081	2,865.651	
Remarks												
D. Acquisition Strategy												
"Research, Development, Test & Evaluation, Navy (RDT&E,N) funds continuing efforts to perform technical evaluations, modeling & simulation and investigative ground and flight testing. Aircraft Procurement, Navy, Modification of Aircraft (APN-5) funds integration, procurement and installation of aircraft modifications."												
E. Performance Metrics												
Mission Systems Evaluation; E-6 Recapitalization Analysis of Alternatives 3rd Qtr FY19, Technical Analysis 1st Qtr FY19, Design Analysis 2nd Qtr FY19, Systems Integration Lab (SIL) Test and Reporting 3rd Qtr FY19.												

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 Navy												Date: February 2018			
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 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 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
Prior Year Production Development no longer funded in the FYDP	Various	Various : Various	195.224	0.000		0.000		0.000		-		0.000	0.000	195.224	-
Production Development Support	Various	Various : Various	0.000	0.000		0.000		0.961	Nov 2018	-		0.961	0.000	0.961	-
Subtotal			195.224	0.000		0.000		0.961		-		0.961	0.000	196.185	N/A
Support (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 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: : Various	5.444	0.808	Nov 2016	0.760	Nov 2017	2.021	Nov 2018	-		2.021	Continuing	Continuing	Continuing
E-6 Recapitalization Analysis of Alternatives	Various	Various : Various	0.000	0.000		0.000		6.100	Apr 2019	-		6.100	0.000	6.100	-
Subtotal			5.444	0.808		0.760		8.121		-		8.121	Continuing	Continuing	N/A
Test and Evaluation (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 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
Prior Year Test & Evaluation cost no longer funded in the FYDP	Various	Various : Various	6.461	0.000		0.000		0.000		-		0.000	0.000	6.461	-
Subtotal			6.461	0.000		0.000		0.000		-		0.000	0.000	6.461	N/A
Management Services (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 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 : various	13.996	0.000		0.085	Nov 2017	0.413	Nov 2018	-		0.413	Continuing	Continuing	Continuing
Governmental Support	Various	Various : various	35.003	0.000		0.076	Nov 2017	0.432	Nov 2018	-		0.432	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 Navy												Date: February 2018			
Appropriation/Budget Activity 1319 / 7						R-1 Program Element (Number/Name) PE 0101402N / Navy Strategic Comms				Project (Number/Name) 3002 / Navy Strategic Comm Project					
Management Services (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 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
Travel	WR	NAVAIR HQ : Patuxent River, MD	2.412	0.144	Oct 2016	0.175	Oct 2017	0.175	Oct 2018	-		0.175	Continuing	Continuing	Continuing
Prior Year Management cost no longer funded in the FYDP	Various	Various : Various	10.598	0.000		0.000		0.000		-		0.000	0.000	10.598	-
Subtotal			62.009	0.144		0.336		1.020		-		1.020	Continuing	Continuing	N/A
			Prior Years	FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			269.138	0.952		1.096		10.102		-		10.102	Continuing	Continuing	N/A
Remarks															

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Exhibit R-4, RDT&E Schedule Profile: PB 2019 Navy	Date: February 2018
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Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0101402N / Navy Strategic Comms	Project (Number/Name) 3002 / Navy Strategic Comm Project
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Proj 3002	FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023			
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
Advanced Development																												
Studies & Analysis																												
E-6 Recapitalization Analysis of Alternatives (AOA)																												
Technical & Design Analysis																												
Systems Integration Lab (SIL) Prototyping																												
Systems Integration Lab (SIL) Testing & Reporting																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2019 Navy			Date: February 2018
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0101402N / Navy Strategic Comms	Project (Number/Name) 3002 / Navy Strategic Comm Project	

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 3002				
Advanced Development: Studies & Analysis: Studies & Analysis	1	2017	4	2019
Advanced Development: E-6 Recapitalization Analysis of Alternatives (AOA): Analysis of Alternatives (AOA) (FY19) (This needs to be a separate Project Unit)	3	2019	4	2020
Advanced Development: Technical & Design Analysis: Technical & Design Analysis (FY17)	1	2017	2	2017
Advanced Development: Technical & Design Analysis: Technical & Design Analysis (FY18)	1	2018	2	2018
Advanced Development: Technical & Design Analysis: Technical & Design Analysis (FY19)	1	2019	2	2019
Advanced Development: Technical & Design Analysis: Technical & Design Analysis (FY20)	1	2020	2	2020
Advanced Development: Technical & Design Analysis: Technical & Design Analysis (FY21)	1	2021	2	2021
Advanced Development: Technical & Design Analysis: Technical & Design Analysis (FY22)	1	2022	2	2022
Advanced Development: Technical & Design Analysis: Technical & Design Analysis (FY23)	1	2023	2	2023
Advanced Development: Systems Integration Lab (SIL) Prototyping: Systems Integration Lab (SIL) Prototyping (FY19)	2	2019	3	2019
Advanced Development: Systems Integration Lab (SIL) Prototyping: Systems Integration Lab (SIL) Prototyping (FY 20)	2	2020	3	2020
Advanced Development: Systems Integration Lab (SIL) Prototyping: Systems Integration Lab (SIL) Prototyping (FY21)	2	2021	3	2021
Advanced Development: Systems Integration Lab (SIL) Prototyping: Systems Integration Lab (SIL) Prototyping (FY22)	2	2022	3	2022

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Exhibit R-4A, RDT&E Schedule Details: PB 2019 Navy	Date: February 2018
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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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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Advanced Development: Systems Integration Lab (SIL) Prototyping: Systems Integration Lab (SIL) Prototyping (FY23)	2	2023	3	2023
Advanced Development: Systems Integration Lab (SIL) Testing & Reporting: SIL Testing & Reporting (FY17)	3	2017	4	2017
Advanced Development: Systems Integration Lab (SIL) Testing & Reporting: SIL Testing & Reporting (FY18)	3	2018	4	2018
Advanced Development: Systems Integration Lab (SIL) Testing & Reporting: SIL Testing & Reporting (FY19)	3	2019	4	2019
Advanced Development: Systems Integration Lab (SIL) Testing & Reporting: SIL Testing & Reporting (FY20)	3	2020	4	2020
Advanced Development: Systems Integration Lab (SIL) Testing & Reporting: SIL Testing & Reporting (FY21)	3	2021	4	2021
Advanced Development: Systems Integration Lab (SIL) Testing & Reporting: SIL Testing & Reporting (FY22)	3	2022	4	2022
Advanced Development: Systems Integration Lab (SIL) Testing & Reporting: SIL Testing & Reporting (FY23)	3	2023	4	2023