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Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Navy **Date:** March 2014

Appropriation/Budget Activity 1319: <i>Research, Development, Test & Evaluation, Navy / BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0205604N / <i>Tactical Data Links</i>
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COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
Total Program Element	588.372	79.362	169.875	151.208	-	151.208	127.546	79.078	47.596	43.592	Continuing	Continuing
2126: <i>ATDLS Integration</i>	576.071	46.242	44.925	54.350	-	54.350	48.962	34.129	37.062	32.849	Continuing	Continuing
3020: <i>MIDS/JTRS</i>	0.000	-	116.429	67.196	-	67.196	63.783	30.349	10.534	10.743	Continuing	Continuing
3341: <i>Network Tactical Common Data Link</i>	0.000	13.543	3.552	29.662	-	29.662	14.801	14.600	-	-	-	76.158
4022: <i>Other Tactical Data Link Engineering</i>	12.301	19.577	4.969	-	-	-	-	-	-	-	-	36.847

MDAP/MAIS Code: 554

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

This Program Element develops and improves the Navy's Tactical Data Link (TDL) systems. It includes the Advanced Tactical Data Link Systems (ATDLS) Integration Programs, specifically Link 16 Network, Command and Control Processor (C2P) and Link Monitoring and Management Tool (LMMT); and Network Tactical Common Data Link (NTCDL) Program which provides the ability to transmit/receive real-time Intelligence, Surveillance, and Reconnaissance (ISR) data simultaneously from multiple sources (surface, air, sub-surface, man-portable), and exchange command and control information (voice, data, imagery, and Full Motion Video (FMV)) across dissimilar Joint, Service, Coalition, and civil networks. The Program Element also develops and tests tactical data link capability to distribute other data types to new and existing platforms.

JUSTIFICATION FOR BUDGET ACTIVITY: This program is funded under Operational Systems Development because it encompasses engineering and manufacturing development for upgrade of existing operational systems.

NTCDL provides warfighters with the capability to support multiple, simultaneous, networked operations with currently fielded CDL-equipped platforms (e.g. F/A-18, P-3, and MH-60R), in addition to next generation manned and unmanned platforms (e.g., P-8, Broad Area Maritime Surveillance (BAMS), Unmanned Carrier-Launched Airborne Surveillance and Strike (UCLASS), and Fire Scout). NTCDL is a tiered capability providing a modular, scalable, multiple-link networked communications. NTCDL benefits the fleet by providing horizon extension for line-of-sight sensor systems for use in time critical strike missions. NTCDL supports Anti-Access/Area of Denial (A2AD) through its relay capability, and supports Tasking Collection Processing Exploitation Dissemination (TCPED) through its ISR networking capability. Additionally, NTCDL supports Humanitarian Assistance/Disaster Relief (HA/DR) efforts through its ability to share ISR data across dissimilar Joint, Service, Coalition, and Civil organizations.

The Multifunctional Information Distribution System (MIDS) program consists of two products, MIDS Low Volume Terminal (LVT) and MIDS Joint Tactical Radio System (JTRS). MIDS-LVT provides Link 16 capability to platforms that were unable to employ Joint Tactical Information Distribution System (JTIDS) due to space and weight

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Appropriation/Budget Activity 1319: <i>Research, Development, Test & Evaluation, Navy / BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0205604N / <i>Tactical Data Links</i>
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constraints. The MIDS-LVT effort is multinational (U.S., France, Germany, Italy, and Spain) with joint Service participation (Navy, Army, and Air Force). The Department of Defense (DoD) established the program to design, develop, and deliver low volume, lightweight tactical information system terminals for U.S. and Allied fighter aircraft, bombers, helicopters, ships, and ground sites. MIDS-LVT provides interoperability with North Atlantic Treaty Organization (NATO) users, significantly increasing force effectiveness and minimizing hostile actions and friend-on-friend engagements. The terminal design is smaller, lighter, highly reliable, interoperable with JTIDS Class 2 terminal, compatible with all the participants' designated platforms, affordable, and re-configurable to individual user needs and budgets.

MIDS JTRS, designed as a Pre-Planned Product Improvement (P3I) and executed as an Engineering Change Proposal (ECP) to the production MIDS-LVT configuration, completed qualification in the first quarter of fiscal year 2010. It facilitated the Joint Program Executive Office (JPEO) JTRS incremental approach for fielding advanced JTRS transformational networking capability and transformed the MIDS-LVT into a 4-channel, Software Communications Architecture (SCA) compliant, Joint Tactical Radio. A form-fit-function replacement to MIDS-LVT, MIDS JTRS also adds three programmable 2 Megahertz (MHz) to 2 Gigahertz (GHz) channels capable of hosting the JTRS legacy and networking waveforms. In addition to the Link 16, Tactical Air Navigation, and voice functionality found in MIDS-LVT, MIDS JTRS has four channels and adds capabilities such as Link 16 Enhanced Throughput, four nets Concurrent Multi-Netting (CMN) with Concurrent Contention Receive (CCR) (CMN-4), Link 16 Frequency Re-mapping (FR), software programmability, and Cryptographic Modernization (CM). With CMN-4, MIDS JTRS also utilizes Tactical Targeting Network Technology for MIDS JTRS Naval Integrated Fire Control Counter Air and From the Air Advanced Tactical Data Links. These capabilities provide Joint Airborne Network-Tactical Edge functionality to run advanced mission applications in a cross-platform/cross-domain tactical network enterprise and the ability to simultaneously participate in four Link 16 Nets.

B. Program Change Summary (\$ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	118.818	197.538	147.272	-	147.272
Current President's Budget	79.362	169.875	151.208	-	151.208
Total Adjustments	-39.456	-27.663	3.936	-	3.936
• Congressional General Reductions	-	-0.011			
• Congressional Directed Reductions	-	-27.652			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-2.212	-			
• SBIR/STTR Transfer	-1.499	-			
• Program Adjustments	-	-	29.299	-	29.299
• Rate/Misc Adjustments	-0.001	-	-25.363	-	-25.363
• Congressional General Reductions Adjustments	-7.544	-	-	-	-
• Congressional Directed Reductions Adjustments	-28.200	-	-	-	-

Change Summary Explanation

Schedule:

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Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319: <i>Research, Development, Test & Evaluation, Navy / BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0205604N / <i>Tactical Data Links</i>	
<p>ATDLS Integration: Link 16 Network Increment II Dynamic Network Management (DNM) (2126): Additional testing of DNM Time Slot Reallocation (TSR) caused various DNM milestones to slip.</p> <p>Link 16 Network Increment II Cryptographic Modernization (CM)/Frequency Remapping (FR) (2126): Delays in Multifunctional Information Distribution System (MIDS) Low Volume Terminal (LVT) and Joint Tactical Information Distribution System (JTIDS) contracting actions caused various CM/FR milestone slips.</p> <p>MIDS (3020): R2A: Updated verbiage to include Production Representative Terminals delivery and Lot 3 and Lot 4 awards for MIDS JTRS. Clarified Block Upgrade 2 description by including Frequency ReMapping (FR) and Enhanced Throughput (ET) for MIDS-LVT. R-3: Updated amounts and Contract award dates R-4: MIDS-LVT LCM Development extended into 1Q15; Renamed DT/OT for BU2 to Service Platform Testing as the services will be performing their own testing and will begin in 1Q17 vice 4Q16. MIDS JTRS Block Cycle 1 extended into 2Q14 and Block Cycle 2 extended into 4Q14.</p>		

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
Appropriation/Budget Activity 1319 / 7					R-1 Program Element (Number/Name) PE 0205604N / <i>Tactical Data Links</i>				Project (Number/Name) 2126 / <i>ATDLS Integration</i>			
COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
2126: <i>ATDLS Integration</i>	576.071	46.242	44.925	54.350	-	54.350	48.962	34.129	37.062	32.849	Continuing	Continuing
Quantity of RDT&E Articles	0.000	5.000	-	2.000	-	2.000	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

This project develops and improves the Navy's Tactical Data Link (TDL) systems. It includes the Advanced Tactical Data Link Systems (ATDLS) Integration Programs, specifically Link 16 Network, Command and Control Processor (C2P) and Link Monitoring and Management Tool (LMMT).

ATDLS Integration Program develops new and improved capabilities for Navy TDL users. The Navy Link 16 Network Increment II consists of Dynamic Network Management (DNM), Cryptographic Modernization (CM) and Frequency Remapping (FR). C2P Technology Refresh (TR) and C2P Interoperability will modernize legacy C2P processing components to address C2P component obsolescence and fleet interoperability issues. C2P is a critical component in the Aegis Ballistic Missile Defense (BMD) architecture. Modernization is a service life extension program required to sustain C2P support of Naval Integrated Air and Missile Defense (IAMD) and BMD capabilities. Link 22 development and integration into the C2P allows for standard data link communication with Coalition forces. LMMT will upgrade commercial off-the-shelf hardware and modernize software operating systems. LMMT will improve TDL performance monitoring and management in support of the Integrated Air & Missile Defense (IAMD) and Ballistic Missile Defense (BMD) missions.

Link 16 Network Increment II funds the following activities: (1) conduct DNM Developmental Test (DT)/Operational Test (OT) and correct DNM deficiencies (2) develop and implement CM and FR mandates as a product improvement into Link 16 terminals and integration into shore sites, ship (NGC2P), and current Navy Joint Tactical Information Distribution System (JTIDS) airborne platforms; (3) DT/OT of Navy platform CM/FR modifications; (4) provide product improvement for continued production capability MIDS-on-ship (MOS) Modernization (MOS Mod) and extensibility to new Tactical Data Link capabilities of shipboard Link 16 terminals.

FY 2015 Justification: Funding will provide for Link 16 DNM software modification to address TSR issues and Developmental Test/ Follow on Test & Evaluation (DT/ FOT&E) for MOS terminals. JTIDS CM/FR to completion of Test Readiness Review (TRR) and conduct of acceptance testing of five Engineering and Manufacturing Development units to be used for National Security Agency (NSA) Cryptographic Certification and acceptance testing. Software modifications to the shipboard Command and Control Processor (C2P) will continue to support shipboard integration of the CM/FR capability. Similar software modifications to the E-2C host processing will be continued through the E-2C Program Office (PMA-231) for the CM/FR capability. Funding will also provide for MOS CM/FR Preliminary Design Review (PDR) and Critical Design Review (CDR). JTIDS and MOS CM/FR efforts are in support of NSA (NSA Policy 3-9) and Joint Chiefs of Staff mandates (Chairman of the Joint Chiefs of Staff Instruction Notice 6510.02), for the modernization of the cryptographic algorithm used in Link 16 terminals and the Department of Defense and the Department of Transportation Memorandum of Agreement (Regarding the 960-1215 MHz. Frequency Band, 31 December 2002) for the implementation of a capability to remap any 14 of the existing 51 frequencies in order to remain operable within the United States and its possessions. All Link 16 terminals are required to have this capability to support Link 16 Interoperability. To address continued production capability and extensibility to new Tactical Data Link capabilities, funding will provide for continued MOS Mod development leading to a Test Readiness Review (TRR).

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Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0205604N / <i>Tactical Data Links</i>	Project (Number/Name) 2126 / <i>ATDLS Integration</i>
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Command and Control Processor (C2P) Technology Refresh (TR) funds a product improvement effort to the legacy C2P hardware components and allows C2P software to execute on modern processors, thereby extending its effective service life. Product improvement efforts will include C2P software development, hardware integration, update of the C2P development environment to promote sustainability and testing to include Developmental Test (DT)/Operational Test (OT) of the C2P TR baseline.

C2P, Phase 3, Increment 3 is planned to include Link 22, which is a modernized replacement for Link 11, providing Beyond Line of Sight (BloS) tactical data communication system utilizing fixed frequency or frequency hopping techniques in the High Frequency (HF) (3-30 Megahertz (MHz)) and/or the Ultra High Frequency (UHF) (225-400 MHz) bands.

FY 2015 Justification: Continue C2P Technology Refresh development and accomplish Inc 3 Link-22 Preliminary Design Review (PDR), Milestone B and Critical Design Review (CDR).

Link Monitoring and Management Tool (LMMT) is a near real-time tactical command and control system delivered on commercial off-the-shelf hardware providing for multiple Tactical Data Link (TDL) interfaces, routing and display of TDL data including Link 16 and Joint Range Extension. LMMT is also capable of performing TDL network planning, monitoring, management, data forwarding between the TDLs and providing tactical data to the Global Command and Control System for establishing the Common Operational Picture. LMMT requirements will be incrementally developed and delivered in capability drops.

FY 2015 Justification: Funding will provide for Capability Drop 1 (CD) DT/OT leading to a Fielding Decision in FY 2016. Funding will also provide for commencement of CD 2 design.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

	FY 2013	FY 2014	FY 2015
<p>Title: Link 16 Network Increment II (Formerly ATDLS Integration) - Dynamic Network Management (DNM)</p> <p align="right">Articles:</p> <p>FY 2013 Accomplishments: Conducted JTIDS DNM Developmental Test Readiness Review (DTRR), Operational Test Readiness Review (OTRR), MOS DNM DTRR, JTIDS DNM DT and Initial Operational Test & Evaluation (IOT&E) leading up to DNM Milestone C. Corrected critical DNM test deficiencies and continued Link 16 Network integrated logistics support.</p> <p>FY 2014 Plans: Completed JTIDS DNM MS C Decision. Correct critical DNM deficiencies.</p> <p>FY 2015 Plans: Conduct Multifunctional Information Distribution System (MIDS) On Ship (MOS) DNM Developmental Test Readiness Review (DTRR), MOS DNM Operational Test Readiness Review (OTRR), and MOS DNM Follow On Test and Evaluation (FOT&E) leading up to Full Development Decision Review (FDDR) for both JTIDS and MOS. Achieve DNM Initial Operational Capability (IOC). Correct critical DNM test deficiencies.</p>	<p>0.750</p> <p>-</p>	<p>0.500</p> <p>-</p>	<p>1.102</p> <p>-</p>
<p>Title: Link 16 Network Increment II (Formerly ATDLS Integration) - Cryptographic Modernization (CM) / Frequency Remapping (FR)</p>	<p>25.353</p> <p>5.000</p>	<p>19.163</p> <p>-</p>	<p>21.393</p> <p>2.000</p>

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Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0205604N / <i>Tactical Data Links</i>	Project (Number/Name) 2126 / <i>ATDLS Integration</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2013	FY 2014	FY 2015
<p align="right">Articles:</p> <p>FY 2013 Accomplishments: Conducted JTIDS CM/FR Critical Design Review (CDR) and initiated development of JTIDS CM/FR Engineering Manufacturing Development (EMD) units. Initiated development of MOS Modernization (MOS Mod) requirement analysis and design for continued product availability and JTIDS/MOS CM/FR shipboard integration. Continued Link 16 Network integrated logistics support.</p> <p>FY 2014 Plans: Initiate contractor qualification and certification testing of JTIDS CM/FR on Engineering Manufacturing Development (EMD) unit. Conduct JTIDS/MOS CM/FR shipboard integration effort leading to Preliminary Design Review (PDR) and CDR. Complete design and conduct MOS Mod System Functional Review (SFR). Begin JTIDS CM/FR air integration effort with E-2C Program Office (PMA 231) leading to SRR and PDR. Provide Link 16 Network integration logistics support.</p> <p>FY 2015 Plans: Conduct JTIDS CM/FR Test Readiness Review (TRR) and complete contractor qualification and certification of JTIDS CM/FR on Engineering Manufacturing Development (EMD) unit. Conduct MOS CM/FR shipboard System Requirements Review (SRR)/PDR and CDR. Conduct JTIDS Air Integration CM/FR CDR. Conduct MOS Mod Test Readiness Review (TRR) for LRIP units. Continue Link 16 Network integration logistics support.</p>				
<p>Title: Command and Control Processor (C2P)</p> <p align="right">Articles:</p> <p>FY 2013 Accomplishments: Supported C2P Interoperability combat system certification. C2P Technology Refresh funding provided for requirements, design, initial development, and integration of C2P TR baseline product improvements in support of SRR; leading to Preliminary Design Review (PDR) and Critical Design Review (CDR), which will occur in FY 2014. Link 22 efforts commenced in support of SRR in FY 2014.</p> <p>FY 2014 Plans: Accomplish C2P TR PDR and CDR, and commence C2P TR development. Complete Inc 3 Link 22 SRR, and continue efforts leading to Milestone B, PDR and CDR in FY 2015.</p> <p>FY 2015 Plans: Continue C2P TR development in preparation of DTRR/OTRR and DT/OT. Conduct C2P Inc 3 Link 22 PDR, Milestone B, and CDR.</p>		17.843 -	19.662 -	22.032 -
<p>Title: Link Monitoring and Management Tool (LMMT)</p> <p align="right">Articles:</p>		0.096 -	3.400 -	7.623 -

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
<p><i>FY 2013 Accomplishments:</i> Conducted pre-acquisition efforts leading to commencement of formal design activities in FY 2014.</p> <p><i>FY 2014 Plans:</i> Accomplish Capability Drop 1 (CD 1) Building Technical Review (BTR) and Build Design (BD). Commence LMMT software development.</p> <p><i>FY 2015 Plans:</i> Conduct LMMT CD 1 Fielding Technical Review (FTR) and CD 1 DT/OT leading to a CD 1 Initial Operating Capability (IOC)/ Fielding Decision Review (FDR) in FY 2016. Commence LMMT CD 2 design and development efforts.</p>			
<p><i>Title:</i> Joint Aerial Layer Network (JALN)</p> <p align="right"><i>Articles:</i></p>	2.200 -	2.200 -	2.200 -
<p><i>FY 2013 Accomplishments:</i> Commenced Joint Aerial Layer Network (JALN), which is a prototype development of a communications relay capability intended to improve and ensure adequate tactical network communications in a jammed environment.</p> <p><i>FY 2014 Plans:</i> Continue development of a communications relay capability intended to improve and ensure adequate tactical network communications in a jammed environment.</p> <p><i>FY 2015 Plans:</i> Continue development of a communications relay capability intended to improve and ensure adequate tactical network communications in a jammed environment.</p>			
Accomplishments/Planned Programs Subtotals	46.242	44.925	54.350

C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u> <u>Base</u>	<u>FY 2015</u> <u>OCO</u>	<u>FY 2015</u> <u>Total</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>FY 2019</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• OPN/2614: <i>ATDLS</i>	-	3.836	16.768	-	16.768	28.113	44.276	47.372	46.407	Continuing	Continuing

Remarks

D. Acquisition Strategy

The JTIDS Crypto Modernization (CM)/Frequency Remapping (FR) development and Low Rate Initial Production (LRIP) contract was awarded to Data Link Solutions (DLS). The associated production contract for JTIDS CM/FR will be competitively awarded after Operational Test. MOS CM/FR will be accomplished through integration of the MIDS LVT Block Upgrade 2 (BU) into the existing MOS cabinet. Will contract in FY 2015 for MOS CM/FR integration effort. MOS Modernization (MOS MOD)

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<p>contract will be awarded in FY14. MOS MOD contract will provide three EMD units for developmental and operational testing. The MOS MOD contract will also provide full rate production units.</p> <p>The C2P Technology Refresh and Link 22 development contract was awarded to Northrop Grumman. The C2P Technology Refresh and Link 22 production contract will be competitively awarded in FY 16 and will support LRIP and Full Rate production units.</p> <p>The Link Monitoring and Management Tool (LMMT) capability will replace previously-fielded ADSI systems. LMMT will leverage existing Government-off-the-Shelf (GOTS) software and Commercial-off-the-Shelf (COTS) hardware. LMMT capabilities are implemented primarily in software and will be developed in capability drops (CDs). Existing GOTS software will be updated to incorporate network performance monitoring and management capabilities by SPAWAR System Center (SSC). Fielding decisions will be accomplished after CD DT/OT.</p> <p>E. Performance Metrics</p> <p>Link 16 Network DNM: Successfully achieve Milestone C. Successfully achieve Initial Operational Capability. Successfully conduct Full Deployment Decision Review. Successfully complete Operation Test Readiness Review. Successfully complete Developmental Test / Operational Test.</p> <p>Link 16 Network Cryptographic Modernization: Successful implementation of updated cryptographic algorithm as specified by National Security Agency (NSA Policy 3-9) Certification in Joint Tactical Information Distribution System (JTIDS), Multifunctional Information Distribution System (MIDS) on Ship (MOS), and MOS Modernization (MOS Mod) Link 16 terminals.</p> <p>Link 16 Network Frequency Remapping: Successful implementation of a Frequency Remapping capability as specified in Department of Defense/Department of Transportation Memorandum of Agreement regarding the 960-1215 MHz Frequency Band of 31 Dec 02 in Joint Tactical Information Distribution System (JTIDS), Multifunctional Information Distribution System (MIDS) on Ship (MOS) and MOS Modernization (MOS Mod) Link 16 Terminals.</p> <p>Link 16 Network Production Capability: Production Shipboard Link 16 Terminals available to meet new construction shipboard requirements.</p> <p>Command and Control Processor (C2P): Successfully achieve C2P Technology Refresh Fielding and thereby maintain operational availability.</p> <p>Link 22: Successfully achieve Link 22 implementation fielding, meeting operational requirement.</p> <p>LMMT: Successfully meet operational requirements and achieve Fielding Decision Reviews (FDR) for Capability Drops 1 and 2.</p>		

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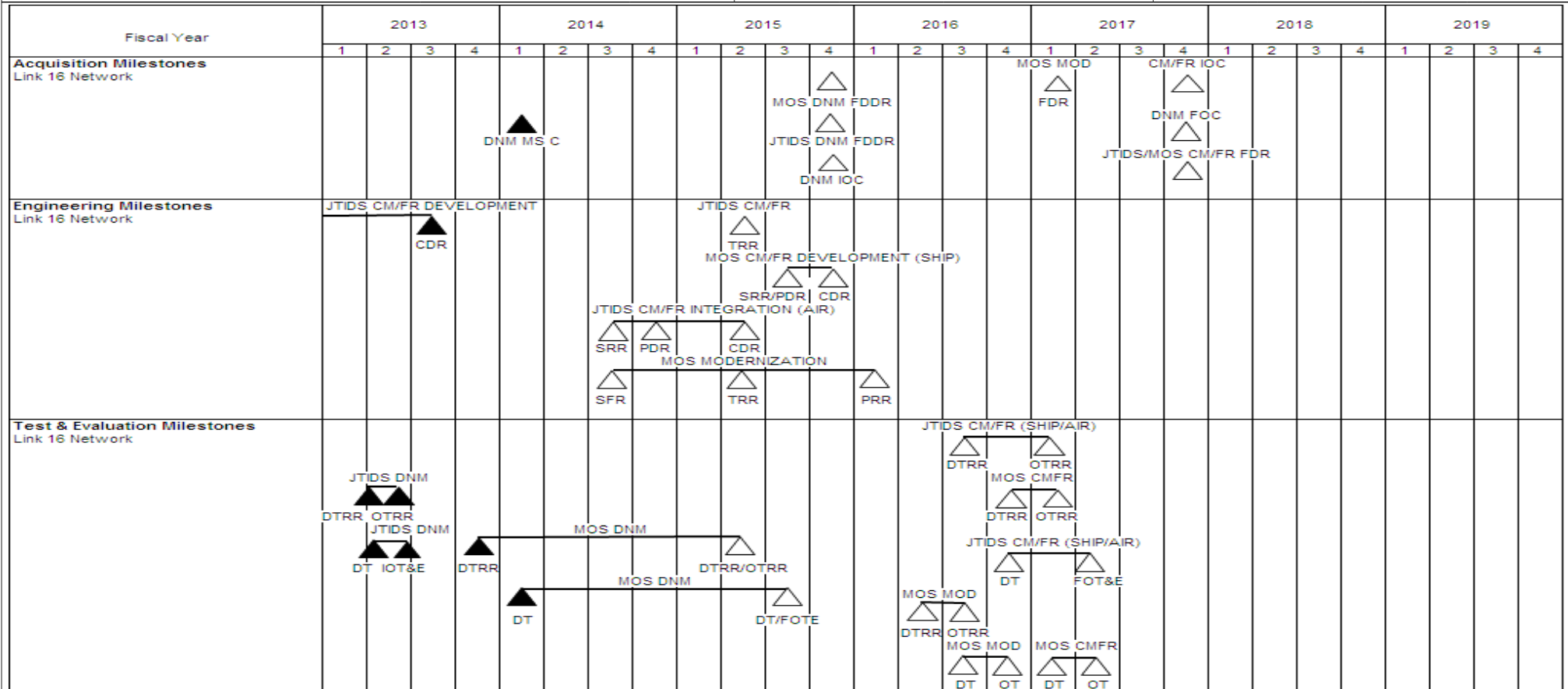
Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy

Date: March 2014

Appropriation/Budget Activity
1319 / 7

R-1 Program Element (Number/Name)
PE 0205604N / *Tactical Data Links*

Project (Number/Name)
2126 / *ATDLS Integration*



Legend:

CDR - Critical Design Review CM - Cryptographic Modernization DT - Developmental Test DNM - Dynamic Network Management DTRR - Developmental Test Readiness Review FDR - Fielding Decision Review	FOT&E - Follow-on Operational Test & Evaluation FR - Frequency Remapping FDDR - Full Dev. Decision Review FOC - Full Operating Capability IOC - Initial Operating Capability IOT&E - Initial Operational Test & Evaluation	JTIDS - Joint Tactical Information Distribution System MS - Milestone MOS MOD - MOS Modernization OT - Operational Test OTRR - Operational Test Readiness Review MOS - Multifunctional Info. Distribution Sys. (MIDS) On Ship (MOS)	PDR - Preliminary Design Review PRR - Production Readiness Review SFR - System Functional Review SRR - System Requirements Review TRR - Test Readiness Review
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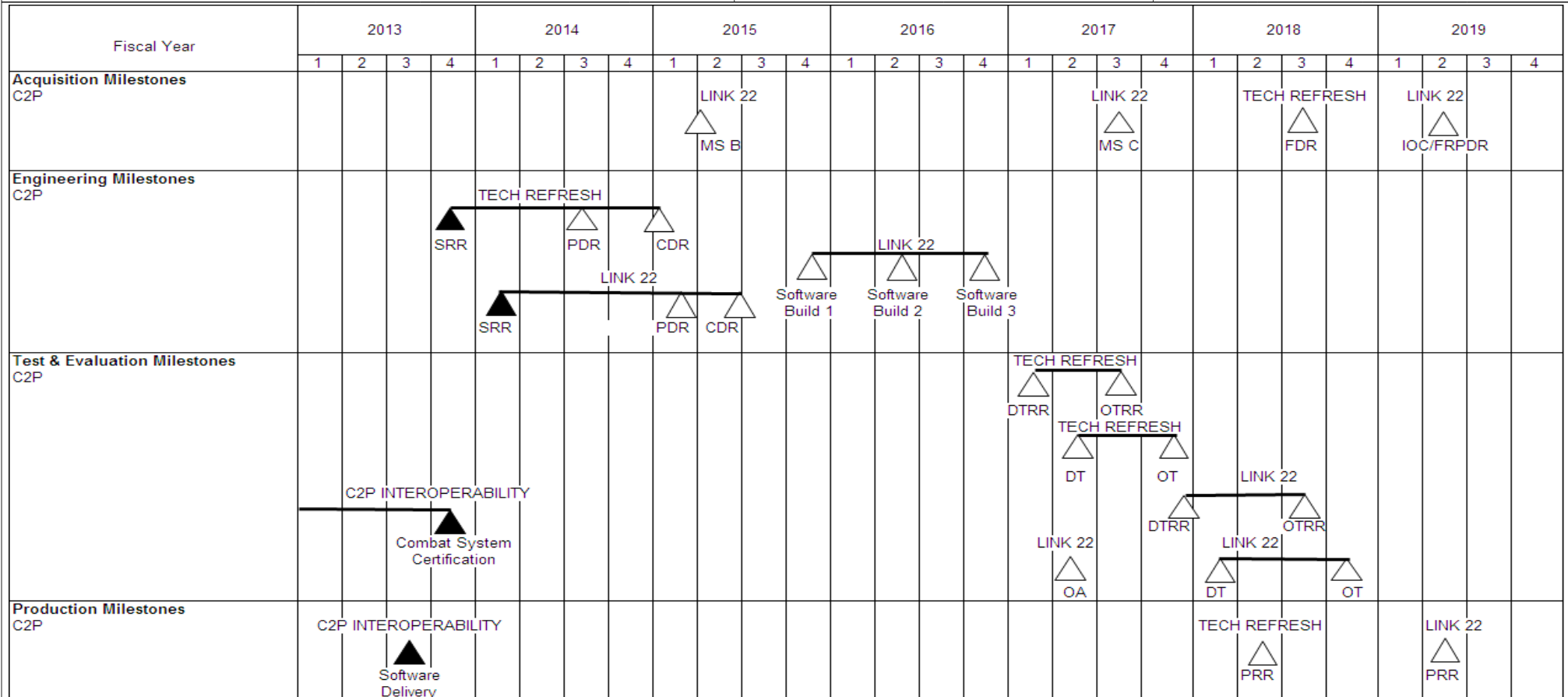
Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy

Date: March 2014

Appropriation/Budget Activity
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R-1 Program Element (Number/Name)
PE 0205604N / *Tactical Data Links*

Project (Number/Name)
2126 / *ATDLS Integration*



Legend:

C2P - Command and Control Processor	FDR - Fielding Decision Review	MS C - Milestone C	PDR - Preliminary Design Review
CDR - Critical Design Review	FRPDR - Full Rate Production Decision Review	OA - Operational Assessment	PRR - Production Readiness Review
DT - Developmental Test	IOC - Initial Operating Capability	OT - Operational Test	SRR - System Requirements Review
DTRR - Developmental Test Readiness Review	MS B - Milestone B	OT - Operational Test Readiness Review	

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Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy **Date:** March 2014

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Fiscal Year	2013				2014				2015				2016				2017				2018				2019																			
	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 LMMT																△ CD1 IOC/FDR								△ CD2 FDR																				
Engineering Milestones LMMT																																												
Test & Evaluation Milestones LMMT																																												

Legend:
 BD - Building Decision CD - Capability Drop FDR - Fielding Decision Review FTR - Fielding Technical Review OT - Operational Test
 BTR - Building Technical Review DT - Developmental Test FOC - Full Operational Capability IOC - Initial Operating Capability

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
Appropriation/Budget Activity 1319 / 7					R-1 Program Element (Number/Name) PE 0205604N / <i>Tactical Data Links</i>				Project (Number/Name) 3020 / <i>MIDS/JTRS</i>			
COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
3020: <i>MIDS/JTRS</i>	-	-	116.429	67.196	-	67.196	63.783	30.349	10.534	10.743	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

Note

In accordance with the Acquisition Decision Memorandum dated 11 July 2012, the Joint Tactical Radio Systems Programs of Record (JTRS PORs) transitioned to a Military Department-managed program. MIDS transitioned to the Navy under PE 0205604N but was formerly in PE 0604280N. MDAP code 554.

A. Mission Description and Budget Item Justification

The Multifunctional Information Distribution System (MIDS) program consists of two products, MIDS Low Volume Terminal (LVT) and MIDS Joint Tactical Radio System (JTRS). MIDS-LVT provides Link 16 capability to platforms that were unable to employ Joint Tactical Information Distribution System due to space and weight constraints. The MIDS-LVT effort is multinational (U.S., France, Germany, Italy, and Spain) with joint Service participation (Navy, Army, and Air Force). The Department of Defense (DoD) established the program to design, develop, and deliver low volume, lightweight tactical information system terminals for U.S. and Allied fighter aircraft, bombers, helicopters, ships, and ground sites. MIDS-LVT provides interoperability with North Atlantic Treaty Organization (NATO) users, significantly increasing force effectiveness and minimizing hostile actions and friend-on-friend engagements. The terminal design is smaller, lighter, highly reliable, interoperable with JTIDS Class 2 terminal, compatible with all the participants' designated platforms, affordable, and re-configurable to individual user needs and budgets.

MIDS JTRS, designed as a Pre-Planned Product Improvement (P3I) and executed as an Engineering Change Proposal (ECP) to the production MIDS-LVT configuration, completed qualification in the first quarter of fiscal year 2010. It facilitated the Joint Program Executive Office (JPEO) JTRS incremental approach for fielding advanced JTRS transformational networking capability and transformed the MIDS-LVT into a 4-channel, Software Communications Architecture (SCA) compliant, Joint Tactical Radio. A form-fit-function replacement to MIDS-LVT, MIDS JTRS also adds three programmable 2 Megahertz (MHz) to 2 Gigahertz (GHz) channels capable of hosting the JTRS legacy and networking waveforms. In addition to the Link 16, Tactical Air Navigation, and voice functionality found in MIDS-LVT, MIDS JTRS has four channels and adds capabilities such as Link 16 Enhanced Throughput, Four Net Concurrent Multi-Netting (CMN) with Concurrent Contention Receive (CCR) (CMN-4), Link 16 Frequency Re-mapping, software programmability, and Cryptographic Modernization. With CMN-4, MIDS JTRS also utilizes Tactical Targeting Network Technology for MIDS JTRS Naval Integrated Fire Control Counter Air and From the Air Advanced Tactical Data Links. These capabilities provide Joint Airborne Network-Tactical Edge functionality to run advanced mission applications in a cross-platform/cross-domain tactical network enterprise and the ability to simultaneously participate in four Link 16 Nets.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

	FY 2013	FY 2014	FY 2015
Title: MIDS	-	116.429	67.196
Articles:	-	-	-
FY 2013 Accomplishments: See PE 0604280N			
FY 2014 Plans:			

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy	Date: March 2014
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Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0205604N / <i>Tactical Data Links</i>	Project (Number/Name) 3020 / <i>MIDS/JTRS</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
<p>Continue the development and implementation of Four Net Concurrent Multi-Netting (CMN) with Concurrent Contention receive (CCR) (CMN-4) for MIDS JTRS. Conduct Critical Design Review (CDR) and Technical Readiness Review. Begin hardware and software terminal integration. Begin Contractor First Article Qualification Test and Information Assurance (IA) Certification for the CMN-4 MIDS JTRS Terminal. Award Production Representative Terminal (PRT) contract. Award Lot 3 for MIDS JTRS Production.</p> <p>Award full development effort for Tactical Targeting Network Technology (TTNT) for MIDS JTRS Naval Integrated Fire Control Counter Air and From the Air Advanced Tactical Data Links. Conduct Preliminary Design Review (PDR) and begin TTNT hardware and software development. Continue TTNT waveform development to incorporate version 7.0.4 into the detailed hardware design at PDR.</p> <p>Continue the Crypto Modernization (CM)/Frequency ReMapping(FR)/Enhanced Throughput (ET) for Block Upgrade 2 capability and enhancement efforts for MIDS-LVT to include finalizing the detailed technical and interface information in the Item Performance Specification and the Interface Control Document. Define the performance and interface requirements and provide engineering analysis to finalize interface with the Signal Message Processor (SMP) design. Continue Link 16 CM efforts to replace the current Communications Security/Transmission Security on the SMP to extend the operational lifetime of currently fielded MIDS-LVT terminals.</p> <p>Continue MIDS Modernization efforts to include Small Business Innovation Research transition opportunities including a Small Form Factor terminal. Incorporate new waveforms such as Mutli-Function Advanced Data Link (MADL), Common Data Link (CDL), and others into the MIDS JTRS terminal. Continue MIDS systems engineering, communication security, IA and program management support.</p> <p>FY 2015 Plans: Complete the development and implementation of CMN-4 for MIDS JTRS. Begin test and evaluation and collecting Operational Assessment data. Deliver MIDS JTRS CMN-4 PRTs. Award Lot 4 for MIDS JTRS Production.</p> <p>Continue full development effort for Tactical Targeting Network Technology (TTNT) for MIDS JTRS Naval Integrated Fire Control Counter Air and From the Air Advanced Tactical Data Links. Continue the hardware and software development. Conduct CDR for TTNT. Begin integration and certification efforts.</p> <p>Continue the Crypto Modernization (CM)/Frequency ReMapping(FR)/Enhanced Throughput (ET) for Block Upgrade 2 capability and enhancement efforts for MIDS-LVT to include completing the hardware design and development. Complete the software design and development. Begin qualification and certification efforts and first article qualification testing. Begin software bind to incorporate Block Cycle 9 as the baseline for BU2 terminals.</p>			

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy	Date: March 2014
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Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0205604N / <i>Tactical Data Links</i>	Project (Number/Name) 3020 / <i>MIDS/JTRS</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Continue MIDS Modernization efforts to include Small Business Innovation Research transition opportunities including a Small Form Factor terminal. Continue to incorporate new waveforms such as Mutli-Function Advanced Data Link (MADL), Common Data Link (CDL), and others into the MIDS JTRS terminal. Continue MIDS systems engineering, communication security, IA and program management support.			
Accomplishments/Planned Programs Subtotals	-	116.429	67.196

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

D. Acquisition Strategy

MIDS JTRS development was initiated as a major modification to the MIDS-LVT using an Engineering Change Proposal to the existing production contracts. Development efforts included the Phase 2B Core terminal. The U.S. prime contractors from the MIDS-LVT program, Data Link Solutions (DLS) and ViaSat Inc., cooperatively designed and developed the Core terminal. Each prime contractor built and qualified Production Verification Terminals. The U.S. implemented a continuous competition strategy between DLS and ViaSat that will be maintained throughout the MIDS JTRS production phase. This strategy was successfully used on MIDS-LVT production. The FY15 budget supports the development and implementation of Crypto Modernization, Frequency Remapping, and Enhanced Throughput capabilities for the MIDS-LVT terminal. It also supports the development to incorporate Four Net Concurrent Multi-Netting (CMN) with Concurrent Contention Receive (CCR) (CMN-4), Tactical Targeting Network Technology (TTNT) and the TTNT waveform into MIDS JTRS.

E. Performance Metrics

The MIDS-LVT and MIDS JTRS programs are employing mature, software-defined radio technologies and developing hundreds of thousands of lines of code. These software metrics are used to quantify the quality and progress of each software product's development over time. MIDS employs earned value metrics to monitor contract performance on its prime development contracts, as required.

MIDS-LVT: The 11 performance measures are: L16 Waveform Compatibility, L16 Message Standards, L16 IER; Interoperability, L16 Coded Error Message Probability, Weight/Volume, L16 JAM Resistance, L16 Voice Channels, L16 Communication Range Data, L16 Communications Range Voice, L16 Relay.

MIDS JTRS: The 15 performance measures are: L16 Waveform Compatibility, L16 Waveform Standards, L16 Coded Error Message Probability, L16 Jamming Resistance, L16 Communication Range-Data, L16 Communications Range-Voice, L16 Relay, Start-up (Terminal Single Channel), Operational Communications - Passive Synchronization, Operational Communications - Automatic Message Acknowledgement, Operational Communications - Multi-Net, Operational Communications, Crypto Control, Navigation.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy **Date:** March 2014

Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0205604N / <i>Tactical Data Links</i>	Project (Number/Name) 3020 / MIDS/JTRS
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Product Development (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
MIDS JTRS NIFCA TTNT Full Development	C/CPFF	DLS : Cedar Rapids, IA	0.000	-		16.111	Jun 2014	19.754	Mar 2015	-		19.754	Continuing	Continuing	Continuing
MIDS JTRS NIFCA TTNT Full Development	C/CPFF	ViaSat : San Diego, CA	0.000	-		16.110	Jun 2014	19.755	Mar 2015	-		19.755	Continuing	Continuing	Continuing
MIDS JTRS NIFCA TTNT Waveform Development	C/CPFF	Rockwell Collins : Wayne, NJ	0.000	-		7.655	Mar 2014	-		-		-	Continuing	Continuing	Continuing
MIDS-LVT BU2 Full Development	C/CPFF	DLS : Cedar Rapids, IA	0.000	-		17.000	Nov 2013	5.897	Jan 2015	-		5.897	Continuing	Continuing	Continuing
MIDS-LVT BU2 Full Development	C/CPFF	ViaSat : San Diego, CA	0.000	-		23.000	Nov 2013	5.576	Jan 2015	-		5.576	Continuing	Continuing	Continuing
MIDS-LVT BU2 Software Full Development	C/CPFF	BAE : Wayne, NJ	0.000	-		10.000	Nov 2013	9.000	Jan 2015	-		9.000	Continuing	Continuing	Continuing
MIDS-LVT LCM	C/FFP	ViaSat : San Diego, CA	0.000	-		0.095	Jan 2014	-		-		-	-	0.095	-
MIDS JTRS CMN-4 Production Representative Terminals (PRT)	C/FFP	DLS : Cedar Rapids, IA	0.000	-		2.010	Dec 2013	-		-		-	-	2.010	-
MIDS JTRS CMN-4 Production Representative Terminals (PRT)	C/FFP	ViaSat : San Diego, CA	0.000	-		2.020	Dec 2013	-		-		-	-	2.020	-
MIDS JTRS CSS ECP	C/CPFF	DLS : Cedar Rapids, IA	0.000	-		1.750	Mar 2014	-		-		-	-	1.750	-
MIDS JTRS CSS ECP	C/CPFF	ViaSat : San Diego, CA	0.000	-		1.750	Mar 2014	-		-		-	-	1.750	-
TTNT Risk Red/Tech Dev	C/CPFF	DLS : Cedar Rapids, IA	0.000	-		2.420	Jan 2014	-		-		-	-	2.420	-
TTNT Risk Red/Tech Dev	C/CPFF	ViaSat : San Diego, CA	0.000	-		2.599	Jan 2014	-		-		-	-	2.599	-
TTNT Res Modum	C/CPFF	DLS : Cedar Rapids, IA	0.000	-		0.435	Dec 2014	-		-		-	-	0.435	-
TTNT Res Modum	C/CPFF	ViaSat : San Diego, CA	0.000	-		0.407	Feb 2014	-		-		-	-	0.407	-
MIDS JTRS Block Cycle 1	C/CPFF	ViaSat : San Diego, CA	0.000	-		0.502	Nov 2013	-		-		-	-	0.502	-

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy **Date:** March 2014

Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0205604N / <i>Tactical Data Links</i>	Project (Number/Name) 3020 / MIDS/JTRS
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Product Development (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
MIDS JTRS Block Cycle 1	C/CPFF	DLS : Cedar Rapids, IA	0.000	-		0.548	Nov 2013	-		-		-	-	0.548	-
Subtotal			0.000	-		104.412		59.982		-		59.982	-	-	-

Test and Evaluation (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
MIDS-LVT BU2 Test Terminals	C/FFP	DLS : Cedar Rapids, IA	0.000	-		1.383	Feb 2014	-		-		-	-	1.383	-
MIDS-LVT BU2 Test Terminals	C/FFP	ViaSat : San Diego, CA	0.000	-		0.669	Feb 2014	-		-		-	-	0.669	-
Modeling and Simulation	WR	NAVAIR : China Lake, CA	0.000	-		1.175	Nov 2013	1.175	Dec 2014	-		1.175	-	2.350	-
Link16 TTNT Lab and VV&A	WR	SSC : San Diego, CA	0.000	-		0.587	Mar 2014	-		-		-	-	0.587	-
MIDS JTRS CMN-4 GFAQT and LAB	WR	SSC : San Diego, CA	0.000	-		0.984	Jan 2014	-		-		-	-	0.984	-
TTNT Link 16 Mod/ Simulation	MIPR	Lincoln Labs : Hanscom AFB, MA	0.000	-		0.350	Jan 2014	0.350	Dec 2014	-		0.350	-	0.700	-
Subtotal			0.000	-		5.148		1.525		-		1.525	-	6.673	-

Management Services (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Systems Engineering Support	MIPR	MITRE : Bedford, MA	0.000	-		2.227	Nov 2013	1.673	Oct 2014	-		1.673	-	3.900	-
Government Engineering Support TTNT	WR	SSC : San Diego, CA	0.000	-		2.463	Nov 2013	2.266	Oct 2014	-		2.266	-	4.729	-
Govt Engineering Support BU2	WR	SSC : San Diego, CA	0.000	-		0.610	Nov 2013	0.500	Oct 2014	-		0.500	-	1.110	-

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy **Date:** March 2014

Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0205604N / <i>Tactical Data Links</i>	Project (Number/Name) 3020 / <i>MIDS/JTRS</i>
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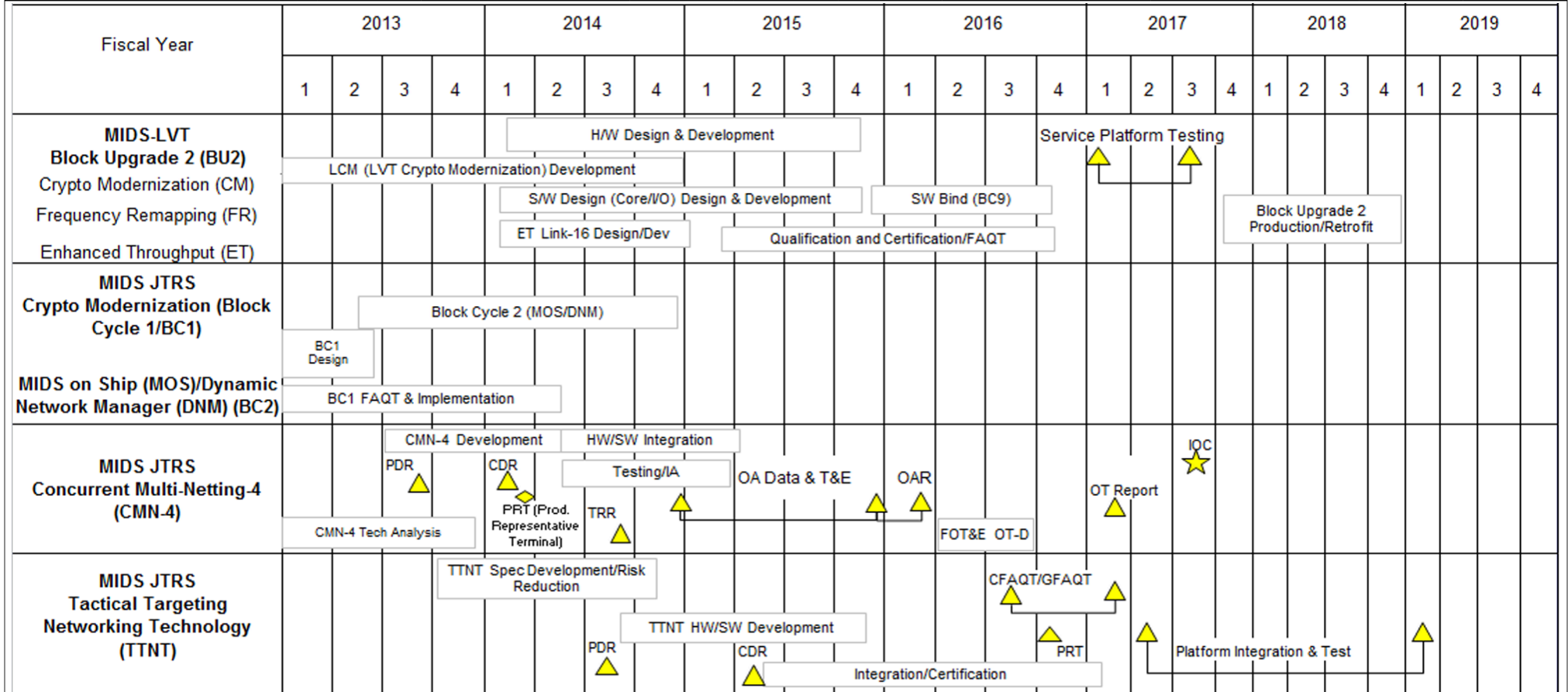
Management Services (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
IA Cert Support	MIPR	NSA : Fort George Meade, MD	0.000	-		0.200	Nov 2013	0.200	Oct 2014	-		0.200	-	0.400	-
Travel	WR	Travel : Pax River, MD /DC	0.000	-		0.050	Oct 2013	0.050	Oct 2014	-		0.050	-	0.100	-
Govt Program Support NIFC-CA	WR	NAVAIR : Pax River, MD	0.000	-		0.185	Dec 2013	0.370	Oct 2014	-		0.370	-	0.555	-
Govt Eng, Logistics and COR Support	WR	SSC : Charleston, SC	0.000	-		0.398	Nov 2013	0.200	Nov 2014	-		0.200	-	0.598	-
Contract Fees TTNT Waveform	MIPR	AFRL : Rome, NY	0.000	-		0.242	Mar 2014	-		-		-	-	0.242	-
Support TTNT Waveform	MIPR	DTIC : Ft Belvoir, VA	0.000	-		0.064	Mar 2014	-		-		-	-	0.064	-
Systems/Software Engineering Suppt	C/CPFF	G2 : San Diego, CA	0.000	-		0.430	Mar 2014	0.430	Oct 2014	-		0.430	-	0.860	-
Subtotal			0.000	-		6.869		5.689		-		5.689	-	12.558	-
Project Cost Totals			0.000	-		116.429		67.196		-		67.196	-	-	-

Remarks
 In accordance with the ADM dated 11 July 2012, the Joint Tactical Radio Systems Programs of Record (JTRS PORs) transitioned to a Military Department-managed program. MIDS transitioned to the Navy under PE 0205604N but was formerly in PE 0604280N.

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Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy **Date:** March 2014

Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0205604N / <i>Tactical Data Links</i>	Project (Number/Name) 3020 / <i>MIDS/JTRS</i>
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Notes:
 In accordance with the ADM dated 11 July 2012, Joint Tactical Radio Systems Programs of Record (JTRS PORs) transitioned to a Military Department-managed program. MIDS transitioned to the Navy under PE 0205604N for FY14-out but was formerly in PE 0604280N.

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Exhibit R-4A, RDT&E Schedule Details: PB 2015 Navy **Date:** March 2014

Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0205604N / <i>Tactical Data Links</i>	Project (Number/Name) 3020 / <i>MIDS/JTRS</i>
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Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
MIDS				
MIDS-LVT Block Upgrade 2 (BU2/CM/FR/ET): LCM (LVT Crypto Modernizatoin) Development	1	2013	4	2014
MIDS-LVT Block Upgrade 2 (BU2/CM/FR/ET): Hardware (HW) Design and Development	1	2014	4	2015
MIDS-LVT Block Upgrade 2 (BU2/CM/FR/ET): Software (SW) Design and Development	1	2014	4	2015
MIDS-LVT Block Upgrade 2 (BU2/CM/FR/ET): Enhanced Throughput (ET) Link-16 Design and Development	1	2014	1	2015
MIDS-LVT Block Upgrade 2 (BU2/CM/FR/ET): Qualification and Certification/FAQT	1	2015	4	2016
MIDS-LVT Block Upgrade 2 (BU2/CM/FR/ET): Software Bind (SW)	4	2015	4	2016
MIDS-LVT Block Upgrade 2 (BU2/CM/FR/ET): Service Platform Testing	1	2017	3	2017
MIDS-LVT Block Upgrade 2 (BU2/CM/FR/ET): Block Upgrade 2 Production/Retrofit	4	2017	4	2018
MIDS JTRS Crypto Modernization (Block Cycle 1/BC1): BC1 Software Design (Core I/ O)	1	2013	2	2013
MIDS JTRS Crypto Modernization (Block Cycle 1/BC1): BC1 FAQT & Implementation	1	2013	2	2014
MIDS JTRS MIDS on Ship (MOS)/Dynamic Network Manager (DNM) (BC2): Block Cycle 2	2	2013	4	2014
MIDS JTRS Concurrent Multi-Netting-4 (CMN-4): CMN-4 Tech Analysis	1	2013	4	2013
MIDS JTRS Concurrent Multi-Netting-4 (CMN-4): CMN-4 Development	3	2013	2	2014
MIDS JTRS Concurrent Multi-Netting-4 (CMN-4): Preliminary Design Review	3	2013	3	2013
MIDS JTRS Concurrent Multi-Netting-4 (CMN-4): Critical Design Review	1	2014	1	2014
MIDS JTRS Concurrent Multi-Netting-4 (CMN-4): Hardware/Software Integration	2	2014	2	2015
MIDS JTRS Concurrent Multi-Netting-4 (CMN-4): Testing/IA Certification	2	2014	1	2015

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Exhibit R-4A, RDT&E Schedule Details: PB 2015 Navy **Date:** March 2014

Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0205604N / <i>Tactical Data Links</i>	Project (Number/Name) 3020 / <i>MIDS/JTRS</i>
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
MIDS JTRS Concurrent Multi-Netting-4 (CMN-4): Technical Readiness Review	3	2014	3	2014
MIDS JTRS Concurrent Multi-Netting-4 (CMN-4): Production Representative Terminal	1	2014	1	2014
MIDS JTRS Concurrent Multi-Netting-4 (CMN-4): Integration and DT/T&E	4	2014	4	2015
MIDS JTRS Concurrent Multi-Netting-4 (CMN-4): OA Data and T&E/OAR	4	2014	1	2016
MIDS JTRS Concurrent Multi-Netting-4 (CMN-4): Full Operational Test and Eval OT-D	2	2016	3	2016
MIDS JTRS Concurrent Multi-Netting-4 (CMN-4): OT Report	1	2017	1	2017
MIDS JTRS Concurrent Multi-Netting-4 (CMN-4): IOC (Initial Operational Capability)	3	2017	3	2017
MIDS JTRS Tactical Targeting Networking Technology (TTNT): TTNT Spec Development/Risk Reduction	4	2013	4	2014
MIDS JTRS Tactical Targeting Networking Technology (TTNT): TTNT Hardware/ Software Development	3	2014	4	2015
MIDS JTRS Tactical Targeting Networking Technology (TTNT): Preliminary Design Review	3	2014	3	2014
MIDS JTRS Tactical Targeting Networking Technology (TTNT): Critical Design Review	2	2015	2	2015
MIDS JTRS Tactical Targeting Networking Technology (TTNT): Integration/ Certification	2	2015	1	2017
MIDS JTRS Tactical Targeting Networking Technology (TTNT): CFAQT/GFAQT	3	2016	1	2017
MIDS JTRS Tactical Targeting Networking Technology (TTNT): Production Representative Terminal	4	2016	4	2016
MIDS JTRS Tactical Targeting Networking Technology (TTNT): Platform Integration and Test	2	2017	1	2019

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy **Date:** March 2014

Appropriation/Budget Activity 1319 / 7					R-1 Program Element (Number/Name) PE 0205604N / <i>Tactical Data Links</i>				Project (Number/Name) 3341 / <i>Network Tactical Common Data Link</i>			
COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
3341: <i>Network Tactical Common Data Link</i>	-	13.543	3.552	29.662	-	29.662	14.801	14.600	-	-	-	76.158
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

Network Tactical Common Data Link (NTCDL) provides the ability to transmit/receive real-time Intelligence, Surveillance, and Reconnaissance (ISR) data simultaneously from multiple sources (surface, air, sub-surface, portable), and exchange command and control information (voice, data, imagery, and Full Motion Video) across dissimilar Joint, Service, Coalition, and civil networks. NTCDL provides warfighters with the capability to support multiple, simultaneous, networked operations with currently fielded CDL-equipped platforms (e.g. F/A-18, P-3, and MH-60R), in addition to next generation manned and unmanned platforms (e.g., P-8, Broad Area Maritime Surveillance (BAMS), UCLASS, and Fire Scout). NTCDL is a tiered capability (surface, air, sub-surface, man-portable) providing a modular, scalable, multiple-link networked communications. NTCDL benefits the fleet by providing horizon extension for line-of-sight sensor systems for use in time critical strike missions. NTCDL supports Anti-Access/Area of Denial (A2AD) through its relay capability, and supports Tasking Collection Processing Exploitation Dissemination (TCPED) through its ISR networking capability. Additionally, NTCDL supports Humanitarian Assistance/Disaster Relief (HA/DR) efforts through its ability to share ISR data across dissimilar Joint, Service, Coalition, and Civil organizations.

FY15 will focus on pre-EMD and pre-MS B efforts leading to Contract Award, development of NTCDL system Engineering Development Models (EDMs), and support efforts for airborne terminal research and development activities of High Capacity Backbone (HCB) and air-to-air relay activities in an Anti-Access/Area Denial (A2AD) environment.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

	FY 2013	FY 2014	FY 2015
Title: Network Tactical Common Data Link (NTCDL)	13.543	3.552	29.662
Articles:	-	-	-
Description: Overall program efforts include investigation of emerging technologies through study, development and associated testing for feasibility of program insertion.			
FY 2013 Accomplishments: Initiated development of contract and acquisition documentation including (Capability Development Document (CDD), System Performance Specification (SPS), Test and Evaluation Master Plan (TEMP), and Integrated Master Schedule (IMS).			
FY 2014 Plans:			

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0205604N / <i>Tactical Data Links</i>	Project (Number/Name) 3341 / <i>Network Tactical Common Data Link</i>

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Continue preparation of contract and acquisition documentation, systems engineering and development activities in preparation for Milestone B.			
<i>FY 2015 Plans:</i> Complete acquisition documentation (to include TEMP, Acquisition Plan, System Engineering Plan, etc.) and contract documentation and technical reviews (to include Preliminary Design Review (PDR)), in support of Pre-EMD, Milestone B, Request for Proposal (RFP) and Contract Award. Initiate system design and the development of all technical documentation and drawings. Develop NTCDL system Engineering Development Models (EDMs). Provide support efforts for airborne terminal research and development activities of High Capacity Backbone (HCB) and air-to-air relay activities in an Anti-Access/Area Denial (A2AD) environment.			
Accomplishments/Planned Programs Subtotals	13.543	3.552	29.662

C. Other Program Funding Summary (\$ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• OPN/2950: <i>Network Tactical Common Data Link (NTCDL)</i>	-	-	-	-	-	19.012	6.859	16.782	14.955	-	57.608

Remarks

D. Acquisition Strategy

NTCDL will utilize the evolutionary acquisition approach for: surface, air, sub-surface, man-portable.

E. Performance Metrics

Joint Interoperability Test Command (JITC) certification of CDL waveforms number of simultaneous links: Threshold (T) = 5, Objective (O) = 12. Data rate: minimum one 274 Megabit per second (Mbps) link (T), additional links must be 45Mbps or greater

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Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy

Date: March 2014

Appropriation/Budget Activity
1319 / 7

R-1 Program Element (Number/Name)
PE 0205604N / *Tactical Data Links*

Project (Number/Name)
3341 / *Network Tactical Common Data Link*



NTCDL Planning Schedule

Fiscal Year	2013				2014				2015				2016				2017				2018				2019							
	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				
Major Reviews and Milestones								Pre-EMD	◆	◆	MS B	PDR	◆	CDR							◆	MSC							FRP DR	◆	◆	IOC
Documents					CDD	◆			◆	Acq Doc							CPD	◆	◆	Acq Doc									◆	Acq Doc		
Contract									RFP	◆	Contract Award		Development					◆	EDM	◆	LRIP Order							◆	LRIP Delivery	◆	FRP orders/delivery	
Testing															1 st Article Test		◆	DT	◆	OA									◆	IOTE		
Installation																		◆	DT/OA Install									◆	LRIP Install			

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy **Date:** March 2014

Appropriation/Budget Activity 1319 / 7					R-1 Program Element (Number/Name) PE 0205604N / <i>Tactical Data Links</i>				Project (Number/Name) 4022 / <i>Other Tactical Data Link Engineering</i>			
COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
4022: <i>Other Tactical Data Link Engineering</i>	12.301	19.577	4.969	-	-	-	-	-	-	-	-	36.847
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

The Adjunct Capability Demo (ACD) is a proof-of-concept that will demonstrate the capability to distribute real-time ballistic missile track data over tactical data links. The effort requires the procurement, installation, integration, and test of software onto an existing platform. Radar software will be developed and tested to provide real-time ballistic missile track updates to the tactical data link management system.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

	FY 2013	FY 2014	FY 2015
<p>Title: Adjunct Capability Demo Product Development</p> <p align="right">Articles:</p> <p>FY 2013 Accomplishments: - Completed software updates. - Completed Baseline Scenario DIGISIM to test the improved tactical software.</p> <p>FY 2014 Plans: - Completed software testing and hardware installation.</p> <p>FY 2015 Plans: N/A</p>	15.318 -	1.372 -	- -
<p>Title: Adjunct Capability Demo Support</p> <p align="right">Articles:</p> <p>FY 2013 Accomplishments: - Validated the approach with Land-Based Demo and validated discrimination algorithms.</p> <p>FY 2014 Plans: - Supported target scenario DIGISIM development and data analysis.</p> <p>FY 2015 Plans: N/A</p>	1.930 -	0.547 -	- -
<p>Title: Adjunct Capability Demo Test and Evaluation</p> <p align="right">Articles:</p>	2.284 -	3.050 -	- -

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy	Date: March 2014
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Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0205604N / <i>Tactical Data Links</i>	Project (Number/Name) 4022 / <i>Other Tactical Data Link Engineering</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
<p><i>FY 2013 Accomplishments:</i> - Completed Land-Based Link Test and planning for a Land-Based Link Test regression.</p> <p><i>FY 2014 Plans:</i> - Completed Target Scenario DIGISIM. - Completed Land-Based Link Test regression. - Completed At-Sea testing with live target.</p> <p><i>FY 2015 Plans:</i> N/A</p>			
<p><i>Title:</i> Adjunct Capability Demo Management Services</p> <p align="right"><i>Articles:</i></p>	0.045 -	- -	- -
<p><i>FY 2013 Accomplishments:</i> - Continued program planning, assessment of technical alternatives, risk identification and mitigation. - Continued cost and schedule development and execution.</p> <p><i>FY 2014 Plans:</i> - Completed program planning, assessment of technical alternatives, risk identification and mitigation. - Completed cost and schedule development and execution.</p> <p><i>FY 2015 Plans:</i> N/A</p>			
Accomplishments/Planned Programs Subtotals	19.577	4.969	-

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

D. Acquisition Strategy

Execute software development, integration, and testing under existing contracts.

E. Performance Metrics

Successfully develop and test system to prove concept to distribute real-time ballistic missile data in real-time over tactical data links on a Fleet platform. System performance metrics under development.

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Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy **Date:** March 2014

Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0205604N / <i>Tactical Data Links</i>	Project (Number/Name) 4022 / <i>Other Tactical Data Link Engineering</i>
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Fiscal Year	2013				2014				2015				2016				2017				2018				2019			
	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
Program Milestones							▲	At-Sea Demo																				
Engineering Milestones							▲	Test Readiness Review																				
Test & Evaluation Milestones	▲	▲	Land-Based Link Test				▲	Algorithm Demo																				
								DIGISIM																				

Legend:
DIGISIM - Digital Simulation