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**Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Navy** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 1319: <i>Research, Development, Test &amp; Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0205604N: <i>Tactical Data Links</i>
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COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
Total Program Element	4.053	14.948	28.854	0.000	28.854	65.152	70.751	19.942	16.141	Continuing	Continuing
2126: <i>ATDLS Integration</i>	4.053	14.948	28.854	0.000	28.854	65.152	70.751	19.942	16.141	Continuing	Continuing

**A. Mission Description and Budget Item Justification**

This Program Element develops and improves the Navy's Tactical Data Link systems. It includes the Advanced Tactical Data Link Systems (ATDLS) Integration Programs.

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.

**B. Program Change Summary (\$ in Millions)**

	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011 Base</u>	<u>FY 2011 OCO</u>	<u>FY 2011 Total</u>
Previous President's Budget	4.226	25.003	0.000	0.000	0.000
Current President's Budget	4.053	14.948	28.854	0.000	28.854
Total Adjustments	-0.173	-10.055	28.854	0.000	28.854
• Congressional General Reductions		-0.045			
• Congressional Directed Reductions		-10.000			
• Congressional Rescissions	0.000	-0.010			
• Congressional Adds		0.000			
• Congressional Directed Transfers		0.000			
• Reprogrammings	-0.138	0.000			
• SBIR/STTR Transfer	-0.035	0.000			
• Program Adjustments	0.000	0.000	28.854	0.000	28.854

**Change Summary Explanation**

Schedule: Link 16 Network Increment II now includes CM and FR as well as Dynamic Network Management (DNM). DNM as part of the combined increment is a software only delivery. CM/FR, as part of the combined increment, is considered a product improvement effort post Milestone C, with significant integration and testing requirements. Link 16 Network Increment II schedule has been updated to reflect the development, integration, and testing as one managed increment.

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**APPROPRIATION/BUDGET ACTIVITY**

1319: *Research, Development, Test & Evaluation, Navy*  
BA 7: *Operational Systems Development*

**R-1 ITEM NOMENCLATURE**

PE 0205604N: *Tactical Data Links*

Technical: Link 16 Network Enhanced Throughput development has been removed from this budget.

FY11 from previous President's Budget is shown as zero because no FY11-15 data was presented in President's Budget 2010.

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Navy **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 1319: <i>Research, Development, Test &amp; Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0205604N: <i>Tactical Data Links</i>	<b>PROJECT</b> 2126: <i>ATDLS Integration</i>
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COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
<i>2126: ATDLS Integration</i>	4.053	14.948	28.854	0.000	28.854	65.152	70.751	19.942	16.141	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

**A. Mission Description and Budget Item Justification**

This project develops and improves the Navy's Tactical Data Link systems. It includes the Advanced Tactical Data Link Systems (ATDLS) Integration Programs.

ATDLS Integration Program develops new and improved capabilities for Navy Link 16 users. The Link 16 Network Increment I is in sustainment. The Navy Link 16 Network Increment II consists of Dynamic Network Management (DNM), Cryptographic Modernization (CM) and Frequency Remapping (FR).

Increment II funds the DNM capability and the implementation of Link 16 Network DNM on Navy ships, shore sites and airborne Link 16 terminals. DNM will provide automatic reconfiguration of Link 16 networks that respond instantly to emergent warfighter requirements. DNM consists of new terminal protocols that include Time Slot Reallocation (TSR) and Combined Network Participation Groups (CNPG). The DNM capabilities will be incorporated into Next Generation Command and Control Processor (NGC2P). Increment II also funds the following activities previously found in Increment III: (1) development and implementation of 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 airborne platforms; (2) development, integration, testing, and fielding of additional stacked networks and studies; (3) Developmental Test / Operational Test (DT/OT) of Navy platform modifications; and (4) implementation of new Link 16 information / data into the shipboard Command and Control Processor to support Link 16 Network new and improved capabilities.

Justification of FY11 Requirements:

Increment II - Funding will provide for the platform integration efforts of DNM (TSR and CNPG), and Link 16 Network DT/OT

Increment II - In support of National Security Agency (NSA Policy 3-9) and Joint Chiefs of Staff mandates (Chairman of the Joint Chiefs of Staff Instruction Notice 6510.02), funding will provide for modernization of the cryptographic algorithm used in Link 16 terminals by initiating development of programmable cryptographic capability to load and store multiple cryptographic algorithms. Non-compliance will result in loss of Link 16, as cryptographic keys for non-compliant systems will no longer be available. Additionally, Frequency Remapping (FR) is required by Department of Transportation to be able to continue to operate and exercise within the United States and Possessions. All Link 16 terminals are required to have this capability to support Link 16 interoperability.

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**B. Accomplishments/Planned Program (\$ in Millions)**

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p><i>FY 2011 Base Plans:</i> Conduct Dynamic Network Management (DNM) Developmental Test / Operational Test. Achieve DNM Milestone C, Initial Operating Capability, &amp; Full Deployment Decision Review. Conduct platform integration studies and Technology Demonstration for additional stacked networks, Cryptographic Modernization (CM) and Frequency Remapping (FR). Continue shore site, shipboard, and current Navy Joint Tactical Information Distribution System airborne (E-2C and EP-3) platform integrations studies and analysis. Conduct System Requirements Review for CM/FR. Develop Link 16 Network integrated logistics support products.</p>					
<p>ACQUISITION WORKFORCE FUND <i>FY 2009 Accomplishments:</i> Funded acquisition workforce fund.</p>	0.020	0.000	0.000	0.000	0.000
<b>Accomplishments/Planned Programs Subtotals</b>	4.053	14.948	28.854	0.000	28.854

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

<u>Line Item</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011 Base</u>	<u>FY 2011 OCO</u>	<u>FY 2011 Total</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• OPN/2614: <i>ATDLS</i>	13.164	4.301	2.273	0.000	2.273	0.983	0.018	33.070	37.747	Continuing	Continuing

**D. Acquisition Strategy**

The DNM Time Slot Reallocation / Combined Network Participation Groups will be incorporated into Next Generation Command and Control Processor (NGC2P) and will utilize the contract for NGC2P. Remaining DNM development efforts will utilize an existing development contract with BAE Systems, Data Link Solutions LLC and Warner Robins Consolidated Software Support Activity.

**E. Performance Metrics**

Link 16 Network Dynamic Network Management (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.

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Navy		<b>DATE:</b> February 2010
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<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) and Multifunctional Information Distribution System (MIDS) on Ship (MOS) 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 JTIDS and MOS Link 16 Terminals.</p>		

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2011 Navy</b>										<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 1319: <i>Research, Development, Test &amp; Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0205604N: <i>Tactical Data Links</i>				<b>PROJECT</b> 2126: <i>ATDLS Integration</i>					

**Product Development (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
ATDLS Product Development and Integration	Various/ Various	Various Various	363.158	0.000		0.000		0.000		0.000	0.000	363.158	363.158
Link 16 Network Development	Various/ Various	DLS (BAE/ Rockwell) Wayne, NJ	9.361	3.888	Jun 2010	13.311	Oct 2010	0.000		13.311	Continuing	Continuing	Continuing
Link 16 Network Systems Engineering	Various/ Various	SPAWARSYSCEN PAC San Diego, CA	24.627	4.445	Oct 2009	6.919	Oct 2010	0.000		6.919	Continuing	Continuing	Continuing
<b>Subtotal</b>			397.146	8.333		20.230		0.000		20.230			

**Remarks**

**Support (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Link 16 Network Software Development	Various/ Various	Various Various	0.000	1.042	Oct 2009	1.454	Oct 2010	0.000		1.454	Continuing	Continuing	Continuing
Link 16 Network Integrated Logistics Support	Various/ Various	Various San Diego, CA	0.000	0.500	Oct 2009	0.600	Oct 2010	0.000		0.600	Continuing	Continuing	Continuing
			0.000	0.126	Oct 2009	0.325	Oct 2010	0.000		0.325	Continuing	Continuing	Continuing

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Navy** **DATE:** February 2010

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**Support (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Link 16 Network Configuration Management	Various/ Various	SPAWARSYSCEN PAC San Diego, CA											
<b>Subtotal</b>			0.000	1.668		2.379		0.000		2.379			

**Remarks**

**Test and Evaluation (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
ATDLS Test and Evaluation	Various/ Various	Various Various	65.171	0.000		0.000		0.000		0.000	0.000	65.171	65.171
Link 16 Network Developmental T&E	Various/ Various	SPAWARSYSCEN PAC San Diego, CA	0.000	1.365	Oct 2009	1.673	Oct 2010	0.000		1.673	Continuing	Continuing	Continuing
Link 16 Network Operational T&E	Various/ Various	SPAWARSYSCEN PAC San Diego, CA	0.000	1.027	Oct 2009	1.137	Oct 2010	0.000		1.137	Continuing	Continuing	Continuing
<b>Subtotal</b>			65.171	2.392		2.810		0.000		2.810			

**Remarks**

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**Management Services (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
ATDLS System Engineering Support	Various/ Various	Various Various	20.177	0.000		0.000		0.000		0.000	0.000	20.177	20.177
Link 16 Network Contractor Engineering Support	Various/ Various	SAIC San Diego, CA	0.000	1.688	Oct 2009	1.972	Oct 2010	0.000		1.972	Continuing	Continuing	Continuing
Link 16 Network Government Engineering Support	Various/ Various	SPAWARSYSCEN PAC San Diego, CA	0.000	0.500	Oct 2009	1.113	Oct 2010	0.000		1.113	Continuing	Continuing	Continuing
Link 16 Network Program Management Support	Various/ Various	Various Various	0.000	0.217	Oct 2009	0.200	Oct 2010	0.000		0.200	Continuing	Continuing	Continuing
Link 16 Network Travel	Various/ Various	Various Various	0.000	0.150	Oct 2009	0.150	Oct 2010	0.000		0.150	Continuing	Continuing	Continuing
Acquisition Workforce Fund	Various/ Various	Various Various	0.020	0.000		0.000		0.000		0.000	0.000	0.020	0.020
<b>Subtotal</b>			20.197	2.555		3.435		0.000		3.435			

**Remarks**

	Total Prior Years Cost	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
<b>Project Cost Totals</b>	482.514	14.948	28.854	0.000	28.854			

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**Exhibit R-4, RDT&E Schedule Profile: PB 2011 Navy**

**DATE:** February 2010

**APPROPRIATION/BUDGET ACTIVITY**

1319: *Research, Development, Test & Evaluation, Navy*  
BA 7: *Operational Systems Development*

**R-1 ITEM NOMENCLATURE**

PE 0205604N: *Tactical Data Links*

**PROJECT**

2126: *ATDLS Integration*

Fiscal Year	2009				2010				2011				2012				2013				2014				2015							
	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				
<b>Program Milestones</b> Link 16 Network																																
<b>Engineering Milestones</b> Link 16 Network																																
<b>Test &amp; Evaluation Milestones</b> Link 16 Network																																
<b>Production Milestones</b> Link 16 Network																																

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**Exhibit R-4A, RDT&E Schedule Details: PB 2011 Navy** **DATE:** February 2010

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Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
Link 16 Network DNM System Requirements Review	2	2009	2	2009
Link 16 Network DNM Preliminary Design Review	3	2009	3	2009
Link 16 Network DNM Critical Design Review	1	2010	1	2010
Link 16 Network JTIDS DNM Developmental Test Readiness Review	4	2010	4	2010
Link 16 Network JTIDS DNM Operational Test Readiness Review	1	2011	1	2011
Link 16 Network JTIDS DNM Developmental Test	1	2011	1	2011
Link 16 Network JTIDS DNM Operational Test	2	2011	2	2011
Link 16 Network DNM Milestone C/Full Development Decision Review	3	2011	3	2011
Link 16 Network DNM Initial Operating Capability	3	2011	3	2011
Link 16 Network CM/FR Development System Requirements Review	3	2011	3	2011
Link 16 Network MOS DNM Developmental Test Readiness Review	4	2011	4	2011
Link 16 Network MOS DNM Developmental Test	4	2011	4	2011
Link 16 Network MOS CM/FR Integration (Ship) System Requirements Review	1	2012	1	2012
Link 16 Network MOS DNM Operational Test Readiness Review	1	2012	1	2012
Link 16 Network CM/FR Development Preliminary Design Review	2	2012	2	2012
Link 16 Network MOS DNM Follow On Operational Test & Evaluation	2	2012	2	2012
Link 16 Network MOS CM/FR Integration (Ship) Preliminary Design Review	4	2012	4	2012
Link 16 Network CM/FR Development Critical Design Review	1	2013	1	2013

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2011 Navy		<b>DATE:</b> February 2010
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Event	Start		End	
	Quarter	Year	Quarter	Year
Link 16 Network JTIDS CM/FR Integration (Ship/Air) System Requirements Review	1	2013	1	2013
Link 16 Network MOS CM/FR Integration (Ship) Critical Design Review	2	2013	2	2013
Link 16 Network JTIDS CM/FR Integration (Ship/Air) Preliminary Design Review	3	2013	3	2013
Link 16 Network DNM Full Operating Capability	1	2014	1	2014
Link 16 Network JTIDS CM/FR Integration (Ship/Air) Critical Design Review	1	2014	1	2014
Link 16 Network CM/FR Developmental Test	3	2015	3	2015

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