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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604518N: <i>Combat Information Center Conv</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	45.148	3.315	0.918	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	49.381
3094: <i>USW Decision Support</i>	45.148	3.315	0.918	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	49.381

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

A. Mission Description and Budget Item Justification

The objective of this Program Element (PE), under Project 3094, is to provide capabilities to shorten command and control (C2) decision processes for detection-to-engagement across multiple platforms, including those with low-bandwidth communications or intermittent connectivity. The Undersea Warfare Decision Support System (USW-DSS) decision support tool uses a Service Orientated Architecture (SOA) encompassing existing communication links, networks, and contact pictures comprised of sensor data from air, surface, submarine, theater, and surveillance platforms to connect sensors and weapons. The capabilities delivered by USW-DSS are critical not only for the Sea Combat Commander (SCC) but also for the Theater USW Commander (TUSWC) and Anti Submarine Warfare Commander (ASWC) to fulfill the requirement for an integrated capability to plan, conduct, and coordinate USW operations across multiple ASW platforms. USW-DSS will provide common and improved visualization, integrated USW platform sensor data sharing, reduced data entry, improved sensor performance predictions, data fusion, and reduced redundancy across USW Tactical Decision Aids (TDA). The program will provide a greater understanding of the undersea battle space by allowing the entire force (carrier/expeditionary strike group, theater, or other) to have a common and thorough understanding of the battle space with characterized uncertainties.

USW-DSS Build 2 will be hosted on the Integrated Shipboard Network System (ISNS) as one of the first Early Adopters, leveraging initial Service Oriented Architecture (SOA) Reference Implementation. USW-DSS will be hosted on the Consolidated Afloat Networks and Enterprise Services (CANES) architecture, which will be fully SOA enabled. Build 2 Release 3 (B2R3), in response to Fleet requests, will provide improved and additional functionality and increased stability/reliability.

B. Program Change Summary (\$ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	3.400	0.918	0.000	-	0.000
Current President's Budget	3.315	0.918	0.000	-	0.000
Total Adjustments	-0.085	0.000	0.000	-	0.000
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.085	0.000			

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<u>Change Summary Explanation</u> Technical: Not applicable. Schedule: Due to a reprioritization of requirements based on results of the Resources, Requirements Review Board (R3B) and the Sponsor's Program Proposal (SPP), USW-DSS will enter the sustainment phase after operational test and evaluation events in early FY13. USW-DSS B2R3 will provide an incremental update of Build 2 to field as much capability to the Fleet as possible.		

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy									DATE: April 2013			
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 5: System Development & Demonstration (SDD)					R-1 ITEM NOMENCLATURE PE 0604518N: Combat Information Center Conv				PROJECT 3094: USW Decision Support			
COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
3094: USW Decision Support	45.148	3.315	0.918	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	49.381
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		
# FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012												
## The FY 2014 OCO Request will be submitted at a later date												
A. Mission Description and Budget Item Justification												
Project 3094 will develop the USW-DSS that will provide ASW C2 capabilities which enable the CNO vision for ASW Superiority using a "coordinated, networked force of submarines, surface ships, aircraft, and Integrated Undersea Surveillance System (IUSS) assets" with "common and unambiguous views that yield operational and tactical situational awareness in the undersea environment."												
USW-DSS provides capabilities to shorten C2 decision processes for detection-to-engagement across multiple platforms, including those with low-bandwidth communications or intermittent connectivity. The USW-DSS decision support tool uses a SOA encompassing existing communication links, networks, and contact pictures comprised of sensor data from air, surface, submarine, theater, and surveillance platforms to connect sensors and weapons. The capabilities delivered by USW-DSS are critical not only for the SCC but also for the TUSWC and ASWC to fulfill the requirement for an integrated capability to plan, conduct, and coordinate USW operations across multiple ASW platforms. USW-DSS will provide common and improved visualization, integrated USW platform sensor data sharing, reduced data entry, improved sensor performance predictions, data fusion, and reduced redundancy across USW TDAs. The program will provide a greater understanding of the undersea battle space by allowing the entire force (carrier/expeditionary strike group, theater, or other) to have a common and thorough understanding of the battle space with characterized uncertainties.												
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)									FY 2012	FY 2013	FY 2014	
Title: USW-DSS Build 2 Development / Integration Articles: Description: Integrated and tested additional USW-DSS tools/capabilities including Common Tactical Picture, Platform Data Fusion Integration, Cross-Platform Data Fusion, Automated Asset Allocation, Asset/Threat State Information, Vulnerability Analysis enhancement, ASW Track Management, Automated Re-planning, Engagement Target Pairing and improved Theater USW capabilities and incorporate visualization/display service. FY 2012 Accomplishments: Addressed software change requests from FY11 and FY12 Development Tests in preparation for FY13 Operational Evaluation.									1.480	0.000	0.000	
									0			
Title: USW-DSS Build 2 Release 3 DT / OT Articles:									1.835	0.918	0.000	
									0	0		

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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>System Development & Demonstration (SDD)</i>		R-1 ITEM NOMENCLATURE PE 0604518N: <i>Combat Information Center</i> Conv	PROJECT 3094: <i>USW Decision Support</i>

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
<i>FY 2012 Accomplishments:</i> Analyzed results of FY11 Development Test. Completed USW-DSS Build 2 Release 3 Development Tests (2) and subsequent assessments of the results.			
<i>FY 2013 Plans:</i> Complete USW-DSS Build 2 Release 3 Operational Evaluation and assessment.			
Accomplishments/Planned Programs Subtotals	3.315	0.918	0.000

C. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u> <u>Base</u>	<u>FY 2014</u> <u>OCO</u>	<u>FY 2014</u> <u>Total</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• OPN/2176: <i>USW Support Equipment (Related Portion)</i>	3.429	2.057	2.690		2.690	2.881	2.865	2.899	2.936	Continuing	Continuing
Remarks											
D. Acquisition Strategy											
- Hardware/Software integration contractor funded through SBIR Phase III contract.											
E. Performance Metrics											
- Reduce the Detect-to-Engage timeline, false contact rate, and false alarm rate by employing a service-orientated architecture between the sensors and weapons. - ASW Search Plan/Mission Planning reduced from 6 hours to 1 hour between USW-DSS Build 1 and Build 2.											

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy												DATE: April 2013			
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 5: System Development & Demonstration (SDD)						R-1 ITEM NOMENCLATURE PE 0604518N: Combat Information Center Conv				PROJECT 3094: USW Decision Support					
Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Primary H/W & S/W Development	WR	NAWC/Pax River:MD	0.300	0.000		0.000		0.000		-		0.000	0.000	0.300	
Primary H/W & S/W Development	WR	NSWC/Dahlgren:VA	0.501	0.000		0.000		0.000		-		0.000	0.000	0.501	
Primary H/W & S/W Development	WR	NSWC/ Carderock:MD	3.296	0.275	Nov 2011	0.000		0.000		-		0.000	0.000	3.571	
Primary H/W & S/W Development	WR	NUWC/Keyport:WA	2.962	0.175	Jan 2012	0.085	Apr 2013	0.000		-		0.000	0.000	3.222	
Primary H/W & S/W Development	WR	NUWC/Newport:RI	9.847	0.283	Jan 2012	0.000		0.000		-		0.000	0.000	10.130	
Primary H/W & S/W Development	WR	SSC/San Diego:CA	0.850	0.000		0.000		0.000		-		0.000	0.000	0.850	
Primary H/W & S/W Development	WR	VAR1:VAR*	0.894	0.000		0.000		0.000		-		0.000	0.000	0.894	
Primary H/W & S/W Development	C/CPFF	Adaptive Methods:VA	6.263	0.275	Dec 2011	0.000		0.000		-		0.000	0.000	6.538	
Primary H/W & S/W Development	C/CPFF	JHU/APL:MD	2.725	0.000		0.000		0.000		-		0.000	0.000	2.725	
Primary H/W & S/W Development	C/CPFF	Progeny:VA	9.209	0.350	Jan 2012	0.000		0.000		-		0.000	0.000	9.559	
Primary H/W & S/W Development	C/CPFF	VAR2:VAR*	4.983	0.082	Jan 2012	0.000		0.000		-		0.000	0.000	5.065	
Subtotal			41.830	1.440		0.085		0.000		0.000		0.000	0.000	43.355	
Remarks															
*Consists of multiple performing activities with funding for each not greater than \$1M per year.															

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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>System Development & Demonstration (SDD)</i>						R-1 ITEM NOMENCLATURE PE 0604518N: <i>Combat Information Center</i> Conv						PROJECT 3094: <i>USW Decision Support</i>			
Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
At-Sea Test and Evaluation	C/CPFF	Adaptive Methods:VA	0.000	0.750	Dec 2011	0.290	Jan 2013	0.000		-		0.000	0.000	1.040	
At-Sea Test and Evaluation	C/CPFF	Progeny:VA	0.000	0.665	Jan 2012	0.153	Dec 2012	0.000		-		0.000	0.000	0.818	
At-Sea Test and Evaluation	WR	VAR:VAR	1.500	0.350	Jan 2012	0.365	Nov 2012	0.000		-		0.000	0.000	2.215	
Subtotal			1.500	1.765		0.808		0.000		0.000		0.000	0.000	4.073	
Remarks *Consists of multiple performing activities with funding for each not greater than \$1 million per year.															
Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Support	C/CPAF	BAE Systems:MD	1.818	0.110	Feb 2012	0.025	Apr 2013	0.000		-		0.000	0.000	1.953	
Subtotal			1.818	0.110		0.025		0.000		0.000		0.000	0.000	1.953	
			All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			45.148	3.315		0.918		0.000		0.000		0.000	0.000	49.381	
Remarks															

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PE 0604518N: *Combat Information Center Conv*
Navy

R-1 Line #111

[illegible]

1319: Research, Development, Test & Evaluation, Navy
BA 5: System Development & Demonstration (SDD)

R-1 ITEM NOMENCLATURE

PE 0604518N: *Combat Information Center*
Conv

PROJECT

3094: *USW Decision Support*[illegible]

2014PB - 0604518N - 3094

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604518N: <i>Combat Information Center</i> Conv	PROJECT 3094: <i>USW Decision Support</i>	

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 3094				
USW-DSS Acquisition/Contract Milestones: USW-DSS Development Contracts	1	2012	4	2012
USW-DSS Acquisition/Contract Milestones: Software/Hardware Contract via SBIR Phase III	1	2012	4	2012
USW-DSS Test & Evaluation Events: At-Sea Development Tests: At-Sea Development Test (2)	2	2012	2	2012
USW-DSS Test & Evaluation Events: At-Sea Development Tests: At-Sea Development Test (3)	3	2012	3	2012
USW-DSS Test & Evaluation Events: At-Sea Operational Evaluation: At-Sea Operational Evaluation	3	2013	3	2013
USW-DSS Deployment (funded via OPN BLI 2176): USW-DSS Deployment/ Installation with ISNS/CANES (funded via OPN BLI 2176)	1	2012	4	2018