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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy DATE: February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 5: Development & Demonstration (SDD)	R-1 ITEM NOMENCLATURE PE 0604518N: Combat Information Center Conv
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Total Program Element	4.915	3.400	0.918	-	0.918	-	-	-	-	0.000	9.233
3094: USW Decision Support	4.915	3.400	0.918	-	0.918	-	-	-	-	0.000	9.233

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 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	5.044	3.400	3.301	-	3.301
Current President's Budget	4.915	3.400	0.918	-	0.918
Total Adjustments	-0.129	-	-2.383	-	-2.383
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.103	-			
• Program Adjustments	-	-	-2.383	-	-2.383
• Congressional General Reductions Adjustments	-0.026	-	-	-	-

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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 2013 Navy								DATE: February 2012			
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0604518N: Combat Information Center Conv				PROJECT 3094: USW Decision Support			
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
3094: USW Decision Support	4.915	3.400	0.918	-	0.918	-	-	-	-	0.000	9.233
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

Project 3094 will develop the USW-DSS that will provide ASW Control and Control 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 2011	FY 2012	FY 2013
Title: USW-DSS Build 2 Development / Integration	4.465	1.565	-
Articles:	0	0	
Description: Integrate and test 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 2011 Accomplishments: Provided first Fleet Active Interference Tactical Decision Aids (TDAs). Provided ASW Search and Attack templates to the Sea Combat Commander. Incorporated AN/SQQ-89 sensor tracks into USW-DSS. Reduced total bandwidth requirements for USW-DSS data transmission and provided for uni-directional interface to Tactical Digital Information Link (Link 11/16). Complete USW-DSS B2R3.			
FY 2012 Plans:			

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)											
Address software change requests from FY11/12 Developmental Tests in preparation for FY13 Operational Evaluation.							FY 2011	FY 2012	FY 2013		
Title: USW-DSS Build 2 Release 3 DT/OT FY 2011 Accomplishments: Completed USW-DSS Build 2 Release 3 Development Test (DT) and initiated assessment of the results. FY 2012 Plans: Continue analyzation of FY11 DT. Complete USW-DSS Build 2 Release 3 DTs (2) and subsequent assessments of the results. FY 2013 Plans: Complete USW-DSS Build 2 Release 3 Operational Evaluation and assessment.							Articles: 0.450 0	1.835 0	0.918 0		
Accomplishments/Planned Programs Subtotals							4.915	3.400	0.918		
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• OPN/2176: <i>USW Support Equipment (Related Portion)</i>	2.599	3.429	2.057	0.000	2.057	2.747	2.863	2.854	2.886	Continuing	Continuing
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 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604518N: <i>Combat Information Center</i> Conv	PROJECT 3094: <i>USW Decision Support</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	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	0.300	
Primary H/W & S/W Development	WR	NSWC/Dahlgren:VA	0.501	-		-		-		-	0.000	0.501	
Primary H/W & S/W Development	WR	NSWC/Carderock:MD	3.296	0.275	Nov 2011	-		-		-	0.000	3.571	
Primary H/W & S/W Development	WR	NUWC/Keyport:WA	2.962	0.175	Jan 2012	-		-		-	0.000	3.137	
Primary H/W & S/W Development	WR	NUWC/Newport:RI	9.847	0.283	Jan 2012	-		-		-	0.000	10.130	
Primary H/W & S/W Development	WR	SSC/San Diego:CA	0.850	-		-		-		-	0.000	0.850	
Primary H/W & S/W Development	WR	VAR1:VAR*	0.894	-		-		-		-	0.000	0.894	
Primary H/W & S/W Development	C/CPFF	Adaptive Methods:VA	6.263	0.275	Dec 2011	-		-		-	0.000	6.538	
Primary H/W & S/W Development	C/CPFF	JHU/APL:MD	2.725	-		-		-		-	0.000	2.725	
Primary H/W & S/W Development	C/CPFF	Progeny:VA	9.209	0.350	Jan 2012	-		-		-	0.000	9.559	
Primary H/W & S/W Development	C/CPFF	VAR2:VAR*	4.983	0.082	Jan 2012	-		-		-	0.000	5.065	
Subtotal			41.830	1.440		-		-		-	0.000	43.270	

Remarks

*Consists of multiple performing activities with funding for each not greater than \$1M per year.

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
At-Sea Test and Evaluation	WR	VAR:VAR	1.500	0.350	Nov 2012	0.375	Nov 2012	-		0.375	0.000	2.225	

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Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	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	Progeny:VA	-	0.750	Jan 2012	0.250	Dec 2012	-		0.250	0.000	1.000	
At-Sea Test and Evaluation	C/CPFF	Adaptive Methods:VA	-	0.750	Dec 2011	0.250	Dec 2012	-		0.250	0.000	1.000	
Subtotal			1.500	1.850		0.875		-		0.875	0.000	4.225	

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 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	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	0.043	Dec 2012	-		0.043	0.000	1.971	
Subtotal			1.818	0.110		0.043		-		0.043	0.000	1.971	

			Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			45.148	3.400		0.918		-		0.918	0.000	49.466	

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy		DATE: February 2012
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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>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 Build 2 Deployment with ISNS Increment 1	1	2011	4	2017
USW-DSS Build 2 (Release 3) Independent Verification/Validation	2	2011	2	2011
USW-DSS Build 2 (Release 3) Certification	3	2011	3	2011
At-Sea Development Test (1)	4	2011	4	2011
At-Sea Development Test (2)	2	2012	2	2012
At-Sea Development Test (3)	3	2012	4	2012
At-Sea Operational Operational Evaluation	1	2013	1	2013