Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy

APPROPRIATION/BUDGET ACTIVITY

R-1 ITEM NOMENCLATURE

1319: Research, Development, Test & Evaluation, Navy

PE 0204202N: *DDG-1000* 

BA 5: System Development & Demonstration (SDD)

COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 <sup>#</sup>	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	886.555	249.780	124.655	187.910	-	187.910	185.793	117.850	66.506	38.255	Continuing	Continuing
2464: DD(X) Sys Design, Dev & Integration	672.277	196.357	89.778	187.910	-	187.910	185.793	117.850	66.506	38.255	Continuing	Continuing
4009: Advanced Gun System (AGS) on DD(X)	214.278	53.423	34.877	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	302.578

MDAP/MAIS Code(s): 197

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

This Program Element (PE) provides funds for development of the DDG 1000 Class of U.S. Navy surface combatants. The mission of the DDG 1000 class is to provide credible independent forward presence/deterrence and operate as an integral part of Naval, Joint or Combined Maritime Forces. DDG 1000 will provide advanced land attack capability in support of the ground campaign and contribute to Naval, Joint or Combined battlespace dominance in littoral operations. DDG 1000 will establish and maintain surface and sub-surface superiority, provide local air defense, and incorporate signature reduction to operate in all threat environments. DDG 1000 will have seamless Joint Interoperability to integrate all source information for battlespace awareness and weapons direction.

B. Program Change Summary (\$ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	257.580	124.655	168.047	-	168.047
Current President's Budget	249.780	124.655	187.910	-	187.910
Total Adjustments	-7.800	0.000	19.863	-	19.863
<ul> <li>Congressional General Reductions</li> </ul>	-	-			
<ul> <li>Congressional Directed Reductions</li> </ul>	-	-			
<ul> <li>Congressional Rescissions</li> </ul>	-	-			
<ul> <li>Congressional Adds</li> </ul>	_	-			
<ul> <li>Congressional Directed Transfers</li> </ul>	_	-			
<ul> <li>Reprogrammings</li> </ul>	-0.346	0.000			
SBIR/STTR Transfer	-7.454	0.000			
<ul> <li>Program Adjustments</li> </ul>	0.000	0.000	21.039	-	21.039
Rate/Misc Adjustments	0.000	0.000	-1.176	-	-1.176

## **Change Summary Explanation**

Increase in FY14 due to additional funds for missile and weapon system integration and testing.

PE 0204202N: DDG-1000

Page 1 of 15 R-1 Line #135

<sup>\*</sup> FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

<sup>##</sup> The FY 2014 OCO Request will be submitted at a later date

APPROPRIATION/BUDGET ACTIVITY

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

COST (fill Millions)

R-1 ITEM NOMENCLATURE
PE 0204202N: DDG-1000
2464: DD(X) Sys Design, Dev & Integration
FY 2014
FY 2014
FY 2014
FY 2014

COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 <sup>#</sup>	FY 2014 Base	FY 2014 OCO ##	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
2464: <i>DD(X)</i> Sys Design, Dev & Integration	672.277	196.357	89.778	187.910	-	187.910	185.793	117.850	66.506	38.255	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

<sup>&</sup>lt;sup>#</sup> FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

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

Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy

## A. Mission Description and Budget Item Justification

This project encompasses DDG 1000 development efforts required to deliver the Flight I DDG 1000 Class Ships. Major efforts include software requirements analysis, architectural and design code and unit testing, integration, qualification testing, and Independent Verification and Validation (IV&V) for Software Release 6 and Spiral Release; execution of Integrated Power Systems (IPS) and ship control system testing and integration; Live Fire Test and Evaluation (LFT&E), Developmental Testing, and Integrated Testing in support of the TEMP and development of Tomahawk Weapon Control System software. Funding for previous years is included in PE 0604300N.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Title: Product / Software Development	155.560	49.278	89.381
Articles:	0	0	0
Description: Software Development			
FY 2012 Accomplishments: Continued development of Release 6 Hull, Mechanical & Electrical (HM&E) build to support Ship Activation and Test schedule. Software delivered to support initial light-off of engineering plant. Began development of Release 6 Self Defense Test Ship / Post Delivery Availability (SDTS/PDA) software build.			
FY 2013 Plans: Completion of Release 6 HM&E build. Continuation of development of Release 6 SDTS/PDA software build. Planned delivery of engineering builds to Self Defense Test Ship (SDTS) for Total Ship Computing Environment Infrastructure (TSCEI) integration. Begin system engineering and development of Post Shakedown Availability (PSA) software release.			
FY 2014 Plans: Complete development and test of Release 6 software build requirements for SDTS/PDA. Completion of Multi-Function Radar (MFR) with Volume Search. Capability required to launch and control missiles for ITB-1. Continue development of software			

PE 0204202N: DDG-1000

Navy

DATE: April 2013

EV 2042

EV 2042

<sup>##</sup> The FY 2014 OCO Request will be submitted at a later date

	UNCLASSIFIED				
Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy			DATE: A	pril 2013	
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 5: System Development & Demonstration (SDD)		<b>PROJECT</b> 2464: <i>DD(X</i>	() Sys De	esign, Dev &	Integration
B. Accomplishments/Planned Programs (\$ in Millions, Article Qua	ntities in Each)	FY	2012	FY 2013	FY 2014
build to support PSA required capabilities for full operation of Integrate Improvement Program (SEWIP), Tomahawk, and Vertical Launch Anti-		е			
Title: Test and Evaluation	Arti	cles:	40.127 0	40.000 0	98.129 0
<b>Description:</b> Test and Evaluation Master Plan Execution					
FY 2012 Accomplishments: Initiated planning for Developmental Test (DTB3-360) Software Releas Survivability Assessments for Live Fire Test and Evaluation. Initiated a Recoverability Analysis for TEMP Live Fire Test and Evaluation. Compange upgrades to support DDG 1000 Test and Evaluation. Continued Sparrow Missile (ESSM) engagements using the Self Defense Test Sh modification due to removal of S-Band Volume Search Radar (VSR) do Modular Enclosure (EME) shock qualification testing.	and completed AIREX, UNDEX Vulnerability and pleted Composite Blast Testing. Completed signature planning for Integrated Test (ITB1-120) Extended Sea hip. Continued X-Band Multi-Function Radar (MFR)				
FY 2013 Plans: Continue planning for Developmental Test (DTB3-360) Software Testir Live Fire Test and Evaluation. Continue planning for Integrated Test (I Test Ship (SDTS). Prepare for land based testing of anti-air warfare (A development of modeling and simulation (MAS) probability of raid and effectiveness (MOE) test bed.	TB1-120) ESSM engagements using the Self Defense AW) SDTS suite at SCSC Wallops Island. Continue	r			
FY 2014 Plans: Procure test ordnance ESSM and SM2 to conduct Integrated Test (ITE Mission Testing. Procure LRLAP rounds, blast shapes, propellant cha Ship) Land Attack Mission Testing. Procure Tomahawk rounds to cond Mission Testing. Conduct SDTS suite land based test at Wallops Island at SCSC Wallops Island. Prepare for installation of the AAW suite on the state of	rges and pallets to conduct Integrated Test (ITB3 - Lead duct Integrated Testing (ITB4 - Lead Ship) Land Attack and. Conduct DTB3-414 SPY 3 volume surveillance testi	ng			
Title: Management Support	Arti	cles:	0.670	0.500 0	0.400 0
<b>Description:</b> Government and Contractor Engineering Support.					
FY 2012 Accomplishments:					
		1	'	,	

PE 0204202N: DDG-1000

**UNCLASSIFIED** 

Navy Page 3 of 15 R-1 Line #135

Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy DATE: April 2013

**R-1 ITEM NOMENCLATURE** APPROPRIATION/BUDGET ACTIVITY **PROJECT** 

1319: Research, Development, Test & Evaluation, Navy PE 0204202N: DDG-1000 2464: DD(X) Sys Design, Dev & Integration BA 5: System Development & Demonstration (SDD)

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Continued to provide travel.			
FY 2013 Plans: Continue to provide travel.			
FY 2014 Plans: Continue to provide travel.			
Accomplishments/Planned Programs Subtotals	196.357	89.778	187.910

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

			FY 2014	FY 2014	FY 2014					<b>Cost To</b>	
<u>Line Item</u>	FY 2012	FY 2013	<u>Base</u>	OCO	<u>Total</u>	FY 2015	FY 2016	FY 2017	FY 2018	<b>Complete</b>	<b>Total Cost</b>
• SCN / 2119: DDG 1000	508.727	669.222	231.694		231.694	321.257	0.000	0.000	0.000	0.000	3,356.516
OMN / 3B1K: Specialized Skill	4.449	3.858	3.721		3.721	3.777	3.780	3.865	3.935	0.000	27.385
Training											
• WPN / 2307: <i>Evolved Sea</i>	0.000	7.207	0.000		0.000	0.000	0.000	0.000	0.000	0.000	7.207
Sparrow Missile											
RDTE / 0439: Standard Missile	16.918	22.744	12.706		12.706	0.000	0.000	0.000	0.000	0.000	52.368
Improvement											
• PANMC / 0198: <i>LRLAP 6</i>	0.000	7.102	3.906		3.906	18.832	32.015	31.039	56.028	0.000	148.922
OPN/9020: OPN Spares	0.000	0.000	4.844		4.844	12.624	0.000	0.000	0.000	0.000	17.468
SCN/5110: Outfitting/Post	4.276	10.630	48.446		48.446	74.922	77.085	71.874	25.612	96.098	408.943

## Delivery Remarks

# D. Acquisition Strategy

A revised acquisition strategy has been determined that supports the DDG-1000/DDG-51 restart shipyard allocation workload MOAs. Execution of the MOAs shifted primary construction of all three DDG-1000 class ships to Bath Iron Works (BIW). Award of the DDG 1001/1002 to BIW occurred in September 2011.

#### E. Performance Metrics

Successfully achieve Milestone C. Successfully achieve Initial Operational Capability. Successfully complete Operation Test Readiness Review. Successfully complete Developmental Test/Operational Test.

PE 0204202N: DDG-1000

**UNCLASSIFIED** 

Navy Page 4 of 15 R-1 Line #135

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy

APPROPRIATION/BUDGET ACTIVITY

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

R-1 ITEM NOMENCLATURE

PE 0204202N: *DDG-1000* 

**PROJECT** 

2464: DD(X) Sys Design, Dev & Integration

DATE: April 2013

Product Developmer	nt (\$ in Mi	illions)		FY 2	2012	FY 2	2013		2014 ase	FY 2		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	Total Cost	Target Value of Contract
Ship Integration Development Phase IV	SS/CPAF	Raytheon:Tewksbury MA	500.571	149.560	Dec 2011	39.378	Dec 2012	89.381	Jan 2014	-		89.381	Continuing	Continuing	Continuing
Ship Integration Development	SS/CPFF	Converteam:Pittsburgh	n, 6.250	6.000	Jan 2012	9.900	Jan 2013	0.000		-		0.000	Continuing	Continuing	Continuing
		Subtotal	506.821	155.560		49.278		89.381		0.000		89.381			

in Milli	ons)		FY 2	2012	FY 2	2013	FY 2 Ba	-	FY 2		FY 2014 Total			
Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To	Total Cost	Target Value of Contract
Various	Various:Various	1.100	0.000		0.000		0.000		-		0.000	0.000	1.100	
WR	NSWC:Bethesda, MD	0.700	0.000		0.000		0.000		-		0.000	0.000	0.700	
C/CPIF	ROI:Mullica Hills, NJ	2.300	5.650	Jan 2012	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
SS/CPFF	Raytheon:Portsmouth, RI	53.126	20.300	Oct 2011	21.845	Oct 2012	16.981	Oct 2013	-		16.981	Continuing	Continuing	Continuing
C/CPIF	CSC:Washington, DC	0.300	0.515	Feb 2012	1.022	Dec 2012	1.600	Dec 2013	-		1.600	0.000	3.437	
SS/CPFF	JHU/APL:Laurel, MD	0.300	0.500	Jan 2012	2.678	Dec 2012	5.430	Dec 2013	-		5.430	Continuing	Continuing	Continuing
C/CPIF	NSMA:Arlington, VA	1.700	0.000		1.077	Dec 2012	0.000		-		0.000	Continuing	Continuing	Continuing
WR	NSWC:Dahlgren, VA	2.840	1.736	Nov 2011	2.018	Dec 2012	2.100	Nov 2013	-		2.100	Continuing	Continuing	Continuing
WR	NSWC:Bethesda, MD	7.210	1.900	Nov 2011	0.500	Dec 2012	1.700	Nov 2013	-		1.700	Continuing	Continuing	Continuing
WR	NSWC:Port Hueneme, CA	2.014	1.820	Oct 2011	2.518	Dec 2012	4.310	Nov 2013	-		4.310	Continuing	Continuing	Continuing
WR	NRL:Washington, DC	1.125	0.650	Nov 2011	0.200	Dec 2012	0.030	Oct 2013	-		0.030	Continuing	Continuing	Continuing
WR	NAWC:China Lake, CA	3.070	1.200	Nov 2011	1.200	Dec 2012	1.200	Dec 2013	-		1.200	Continuing	Continuing	Continuing
,	Contract Method & Type  Various  WR  C/CPIF  SS/CPFF  C/CPIF  WR  WR  WR  WR	Method & Type Activity & Location  Various Various:Various  WR NSWC:Bethesda, MD  C/CPIF ROI:Mullica Hills, NJ  SS/CPFF Raytheon:Portsmouth, RI  C/CPIF CSC:Washington, DC  SS/CPFF JHU/APL:Laurel, MD  C/CPIF NSMA:Arlington, VA  WR NSWC:Dahlgren, VA  WR NSWC:Bethesda, MD  WR NSWC:Port Hueneme, CA  WR NRL:Washington, DC  NAWC:China Lake,	Contract Method & Type Activity & Location Years  Various Various:Various 1.100  WR NSWC:Bethesda, MD 2.300  C/CPIF ROI:Mullica Hills, NJ 2.300  SS/CPFF Raytheon:Portsmouth RI 53.126  C/CPIF CSC:Washington, DC 0.300  C/CPIF NSMA:Arlington, VA 1.700  WR NSWC:Dahlgren, VA 2.840  WR NSWC:Bethesda, MD 7.210  WR NSWC:Port Hueneme, CA NRL:Washington, DC 1.125  WR NSWC:China Lake, 3.070	Contract Method & Type         Performing Activity & Location         All Prior Years         Cost           Various         Various:Various         1.100         0.000           WR         NSWC:Bethesda, MD         0.700         0.000           C/CPIF         ROI:Mullica Hills, NJ         2.300         5.650           SS/CPFF         Raytheon:Portsmouth RI         53.126         20.300           C/CPIF         CSC:Washington, DC         0.300         0.515           SS/CPFF         JHU/APL:Laurel, MD         0.300         0.500           C/CPIF         NSMA:Arlington, VA         1.700         0.000           WR         NSWC:Dahlgren, VA         2.840         1.736           WR         NSWC:Bethesda, MD         7.210         1.900           WR         NSWC:Port Hueneme, CA         2.014         1.820           WR         NRL:Washington, DC         1.125         0.650           WR         NAWC:China Lake,         3.070         1.200	Contract Method & Type         Performing Activity & Location         All Prior Years         Cost Date           Various         Various:Various         1.100         0.000           WR         NSWC:Bethesda, MD         0.700         0.000           C/CPIF         ROI:Mullica Hills, NJ         2.300         5.650         Jan 2012           SS/CPFF         Raytheon:Portsmouth RI         53.126         20.300         Oct 2011           C/CPIF         CSC:Washington, DC         0.300         0.515         Feb 2012           SS/CPFF         JHU/APL:Laurel, MD         0.300         0.500         Jan 2012           C/CPIF         NSMA:Arlington, VA         1.700         0.000           WR         NSWC:Dahlgren, VA         2.840         1.736         Nov 2011           WR         NSWC:Bethesda, MD         7.210         1.900         Nov 2011           WR         NSWC:Port Hueneme, CA         2.014         1.820         Oct 2011           WR         NRL:Washington, DC         1.125         0.650         Nov 2011	Contract Method & Type Activity & Location Years Cost Date Cost  Various Various:Various 1.100 0.000 0.000  WR NSWC:Bethesda, MD 0.700 0.000 0.000  C/CPIF ROI:Mullica Hills, NJ 2.300 5.650 Jan 2012 0.000  SS/CPFF Raytheon:Portsmouth RI 53.126 20.300 Oct 2011 21.845  C/CPIF CSC:Washington, DC 0.300 0.515 Feb 2012 1.022  SS/CPFF JHU/APL:Laurel, MD 0.300 0.500 Jan 2012 2.678  C/CPIF NSMA:Arlington, VA 1.700 0.000 1.077  WR NSWC:Dahlgren, VA 2.840 1.736 Nov 2011 2.018  WR NSWC:Bethesda, MD 1.900 Nov 2011 0.500  WR NSWC:Port Hueneme, CA 2.014 1.820 Oct 2011 2.518  WR NRL:Washington, DC 1.125 0.650 Nov 2011 0.200	Contract Method & Type         Performing Activity & Location         All Prior Years         Cost         Award Date         Cost         Award Date           Various         Various:Various         1.100         0.000         0.000         0.000           WR         NSWC:Bethesda, MD         0.700         0.000         0.000         0.000           C/CPIF         ROI:Mullica Hills, NJ         2.300         5.650         Jan 2012         0.000           SS/CPFF         Raytheon:Portsmouth RI         53.126         20.300         Oct 2011         21.845         Oct 2012           C/CPIF         CSC:Washington, DC         0.300         0.515         Feb 2012         1.022         Dec 2012           SS/CPFF         JHU/APL:Laurel, MD         0.300         0.500         Jan 2012         2.678         Dec 2012           C/CPIF         NSMA:Arlington, VA         1.700         0.000         1.077         Dec 2012           WR         NSWC:Dahlgren, VA         2.840         1.736         Nov 2011         2.018         Dec 2012           WR         NSWC:Bethesda, MD         7.210         1.900         Nov 2011         0.500         Dec 2012           WR         NSWC:Port Hueneme, CA         2.014         1.820	Contract Method & Type Activity & Location Years Cost Date Cost Da	Contract Method & Performing Activity & Location	Contract Method & Performing All Prior Years	Contract Method & Performing Activity & Location	Contract   Performing   All Prior   Cost   Date   Date   Cost   Date	Contract Method & Performing Activity & Location Parts	Contract Method & Type Activity & Location Performing Activity

PE 0204202N: *DDG-1000* Navy

UNCLASSIFIED
Page 5 of 15

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy

APPROPRIATION/BUDGET ACTIVITY

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

R-1 ITEM NOMENCLATURE

PE 0204202N: *DDG-1000* 

**PROJECT** 

2464: DD(X) Sys Design, Dev & Integration

DATE: April 2013

Test and Evaluation	ı (\$ in Milli	ons)		FY 2	2012	FY 2	2013		2014 ise	FY 2		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	Total Cost	Target Value of Contract
SDTS	WR	SCSC:Wallops, Is, VA	6.127	0.000		0.601	Dec 2012	1.640	Oct 2013	-		1.640	Continuing	Continuing	Continuing
OA/DT Assist	WR	COTF:Norfolk, VA.	2.634	1.136	Oct 2011	1.409	Dec 2012	4.700	Dec 2013	-		4.700	Continuing	Continuing	Continuing
LRLAP Test Article	C/CPIF	BAE:Minneapolis, MN	0.000	0.000		0.000		19.000	Jan 2014	-		19.000	0.000	19.000	
LFT&E Engineering	C/CPIF	ROI:Mullica Hills, NJ	27.071	0.000		1.246	Dec 2012	3.200	Oct 2013	-		3.200	0.000	31.517	
ESSM/SM2	C/CPIF	Raytheon:Tucson, AZ	0.000	4.715	Mar 2012	1.300	Dec 2012	3.600	Jan 2014	-		3.600	0.000	9.615	
MOE Test Bed	WR	NUWC:Newport, RI	0.000	0.005	Nov 2011	0.573	Dec 2012	0.000		-		0.000	0.000	0.578	
SDTS/PRA	WR	NSWC:Corona, CA	0.000	0.000		1.637	Dec 2012	1.360	Dec 2013	-		1.360	0.000	2.997	
TTWCS	C/CPIF	Lockheed Martin:Valley Forge, PA	0.000	0.000		0.000		6.000	Jan 2014	-		6.000	0.000	6.000	
SDTS	WR	NSWC:Pt. Mugu	0.000	0.000		0.050	Dec 2012	0.000		-		0.000	0.000	0.050	
Travel	Various	NAVSEA:Washington DC	0.000	0.000		0.048	Oct 2012	0.049	Oct 2013	-		0.049	0.000	0.097	
SDTS/Integrated Test	Various	IWS:Washington DC	0.000	0.000		0.078	Dec 2012	25.229	Dec 2013	-		25.229	0.000	25.307	
	<u> </u>	Subtotal	111.617	40.127		40.000		98.129		0.000		98.129			

Management Service	s (\$ in M	illions)		FY 2	2012	FY 2	2013	FY 2 Ba		FY 2	2014 CO	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
Government Engineering Services	WR	NSWC:Dahlgren VA	6.781	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Government Engineering Services	WR	NSWC:Philadelphia PA	8.488	0.000		0.000		0.000		-		0.000	0.000	8.488	
Government Engineering Services	WR	NSWC:Port Hueneme CA	3.091	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Government Engineering Services	WR	NAWC:Patuxent River MD	6.934	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing

PE 0204202N: DDG-1000

Navy

UNCLASSIFIED

Page 6 of 15

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy

Project Cost Totals

672.277

196.357

1319: Research, Development, Test & Evaluation, Navy

BA 5: System Development & Demonstration (SDD)

APPROPRIATION/BUDGET ACTIVITY

R-1 ITEM NOMENCLATURE

PE 0204202N: *DDG-1000* 

**PROJECT** 

2464: DD(X) Sys Design, Dev & Integration

DATE: April 2013

Management Service	es (\$ in M	illions)		FY 2	2012	FY 2	2013		2014 ise	FY 2		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	Total Cost	Target Value of Contract
Government Engineering Services	WR	NSWC:Bethesda MD	15.810	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Government Engineering Services	Various	Other Govt Activities:Various	0.322	0.000		0.000		0.000		-		0.000	0.000	0.322	
Travel	Various	NAVSEA:Washington DC	1.400	0.670	Dec 2011	0.500	Dec 2012	0.400	Dec 2013	-		0.400	Continuing	Continuing	Continuing
Contractor Engineering Support	SS/CPFF	General Dynamics:Fairfax, VA	5.614	0.000		0.000		0.000		-		0.000	0.000	5.614	
Contractor Engineering Support	SS/CPAF	Alion:Washington, DC	1.703	0.000		0.000		0.000		-		0.000	0.000	1.703	
Contractor Engineering Support	SS/CPFF	JHU/APL:Laurel, MD	2.696	0.000		0.000		0.000		-		0.000	0.000	2.696	
Contractor Engineering Support	SS/CPFF	EG&G:Fairfax, VA	0.200	0.000		0.000		0.000		-		0.000	0.000	0.200	
Contractor Engineering Support	SS/CPAF	Sayres:Washington,Do	0.800	0.000		0.000		0.000		-		0.000	0.000	0.800	
		Subtotal	53.839	0.670		0.500		0.400		0.000		0.400			
			All Prior Years	FY 2	2012	FY 2	2013	FY 2 Ba	2014 Ise	FY 2		FY 2014 Total	Cost To	Total Cost	Target Value of Contract

Remarks

PE 0204202N: DDG-1000

Navy

89.778

187.910

0.000

187.910

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy

APPROPRIATION/BUDGET ACTIVITY

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

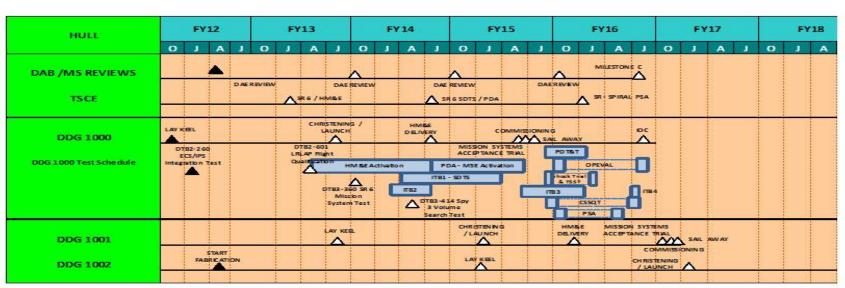
R-1 ITEM NOMENCLATURE

PE 0204202N: *DDG-1000* 

**PROJECT** 

2464: DD(X) Sys Design, Dev & Integration

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KEY DAB DEFENSE ACQUISITION BOARD DAE DEFENSE ACQUISITION EXECUTIVE SOFTWARE RELEASE SR COMPLETED EVENT ▲ HM&E HULL, MECHANICAL & ELECTRICAL SDTS SELF-DEFENSE TEST SHIP PDA POST DELIVERY AVAILABILITY POST SHAKEDOWN AVAILABILITY PSA IOC INITIAL OPERATIONAL CAPABILITY IPS INTEGRATED POWER SYSTEM ENGINEERING CONTROL SYSTEM ECS LRLAP LONG RANGE LAND ATTACK PROJECTILE PDT&T POST DELIVERY TEST & TRIALS TSST TOTAL SHIP SURVIVABILITY TEST **OPEVAL** OPERATIONAL EVALUATION

PE 0204202N: DDG-1000

Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy

DATE: April 2013

APPROPRIATION/BUDGET ACTIVITY R-1 ITEM NOMENCLATURE PROJECT

1319: Research, Development, Test & Evaluation, Navy

PE 0204202N: DDG-1000

2464: DD(X) Sys Design, Dev & Integration

BA 5: System Development & Demonstration (SDD)

## Schedule Details

	St	tart	End		
Events by Sub Project	Quarter	Year	Quarter	Year	
Proj 2464					
Software Release SR6/HM&E	2	2013	2	2013	
Software Release SR6 Self Defense Test Ship/Post Delivery Availability	4	2014	4	2014	
Software Release-Spiral Post Shakedown Availability	2	2016	2	2016	

PE 0204202N: *DDG-1000* Navy

UNCLASSIFIED
Page 9 of 15

| APPROPRIATION/BUDGET ACTIVITY | R-1 ITEM NOMENCLATURE | PROJECT | 1319: Research, Development, Test & Evaluation, Navy | PE 0204202N: DDG-1000 | DD(X) | PO(X) | PO(X)

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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 <sup>#</sup>	FY 2014 Base	FY 2014 OCO ##	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
4009: Advanced Gun System (AGS) on DD(X)	214.278	53.423	34.877	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	302.578
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

<sup>&</sup>lt;sup>#</sup> FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

## A. Mission Description and Budget Item Justification

These funds provide for the development of the Advanced Gun System (AGS) and the development, qualification and initial production of the Long Range Land Attack Projectile (LRLAP) associated with the development of DDG 1000. The AGS will consist of a major caliber gun, an automated ammunition handling system, and a guided projectile/propelling charge. The AGS will, at a minimum, meet the Land Attack and Surface Dominance Missions assigned to the gun system. The system will provide a high rate of fire (10 rounds per minute) with a magazine capacity of 600 rounds (total for both guns). LRLAP will be stored throughout its life cycle in an 8 round pallet which is handled by the AGS magazine. By palletizing the munition, AGS is able to significantly reduce manning and improve munition reliability, safety and resupply. System Design and Development began in FY06 with final land based qualification testing planned in FY13. The Long Range Land Attack Projectile (LRLAP) is a rocket-assisted projectile that will deliver a high explosive unitary payload with Global Positioning System (GPS) accuracy. Funding for previous years is included in PE 0604300N.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Title: System Engineering, Development and Testing	43.423	34.877	0.000
Articles:	0	0	
Description: System Engineering, Development and Testing			
FY 2012 Accomplishments:  LRLAP System Design, development, guided flight tests and qualification testing.			
FY 2013 Plans: LRLAP guided flight tests and qualification testing.			
Title: Procurement of Ordnance Test Assets	10.000	0.000	0.000
Articles:	0		
Description: Procurement of Ordnance Test Assets			
FY 2012 Accomplishments:			

PE 0204202N: *DDG-1000* 

UNCLASSIFIED

Navy Page 10 of 15 R-1 Line #135

<sup>##</sup> The FY 2014 OCO Request will be submitted at a later date

Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy

APPROPRIATION/BUDGET ACTIVITY R-1 ITEM NOMENCLATURE PROJECT

1319: Research, Development, Test & Evaluation, Navy PE 0204202N: DDG-1000 4009: Advanced Gun System (AGS) on

BA 5: System Development & Demonstration (SDD)

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

Procurement of LRLAP rounds for qualification testing.

Accomplishments/Planned Programs Subtotals 53.423 34.877 0.000

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

			FY 2014	FY 2014	FY 2014					Cost To	
<u>Line Item</u>	FY 2012	FY 2013	<b>Base</b>	000	<u>Total</u>	FY 2015	FY 2016	FY 2017	FY 2018	<b>Complete</b>	<b>Total Cost</b>
• SCN / 2119: DDG 1000	508.727	669.222	231.694		231.694	321.257	0.000	0.000	0.000	0.000	3,356.516
OMN / 3B1K: Specialized Skill	4.449	3.858	3.721		3.721	3.777	3.780	3.865	3.935	0.000	27.385
Training											
• WPN / 2307: <i>Evolved Sea</i>	0.000	7.207	0.000		0.000	0.000	0.000	0.000	0.000	0.000	7.207
Sparrow Missile											
RDTE / 0439: Standard Missile	16.918	22.744	12.706		12.706	0.000	0.000	0.000	0.000	0.000	52.368
Improvement											
• PANMC/0198: <i>LRLAP 6</i>	0.000	7.102	3.906		3.906	18.832	32.015	31.039	56.028	0.000	148.922
OPN/9020: OPN Spares	0.000	0.000	4.844		4.844	12.624	0.000	0.000	0.000	0.000	17.468
SCN/5110: Outfitting/Post	4.276	10.630	48.446		48.446	74.922	77.085	71.874	25.612	96.098	408.943

# Delivery Remarks

## **D. Acquisition Strategy**

A revised acquisition strategy has been determined that supports the DDG-1000/DDG-51 restart shippard allocation workload MOAs. Execution of the MOAs shifted primary construction of all three DDG-1000 class ships to Bath Iron Works (BIW). DDG 1001/1002 awarded to BIW 4th quarter FY11. AGS is developed via a sole source contract to BAE. Lockheed is the key supplier to BAE for LRLAP development.

#### **E. Performance Metrics**

Successfully achieve LRIP Decision. Successfully achieve Integrated Operational Capability. Successfully complete LRLAP guided flights and Initial Operational Test and Evaluation (IOT&E) test events.

PE 0204202N: DDG-1000

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy

APPROPRIATION/BUDGET ACTIVITY

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

R-1 ITEM NOMENCLATURE

PE 0204202N: *DDG-1000* 

**PROJECT** 

4009: Advanced Gun System (AGS) on

DATE: April 2013

DD(X)

Product Developmer	nt (\$ in Mi	illions)		FY 2	2012	FY 2	2013	FY 2 Ba		FY 2		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 Hardware Development	C/CPAF	BAE:Minneapolis MN	201.227	45.375	Dec 2011	22.270	Dec 2012	0.000		-		0.000	0.000	268.872	
		Subtotal	201.227	45.375		22.270		0.000		0.000		0.000	0.000	268.872	

Test and Evaluation	(\$ in Milli	ons)		FY 2	2012	FY 2	2013	FY 2 Ba		FY 2		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	Total Cost	Target Value of Contract
Test and Evaluation	Various	Various:Not Specified	6.872	0.000		0.000		0.000		-		0.000	0.000	6.872	
Test and Evaluation	WR	White Sands Missile Range:New Mexico	1.686	3.910	Dec 2011	6.400	Nov 2012	0.000		-		0.000	0.000	11.996	
		Subtotal	8.558	3.910		6.400		0.000		0.000		0.000	0.000	18.868	

Management Service	es (\$ in M	illions)		FY 2	2012	FY 2	2013	FY 2 Ba	2014 se		2014 CO	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
Contractor Engineering Services	Various	Various:Not Specified	0.852	0.350	Dec 2011	0.320	Dec 2012	0.000		-		0.000	0.000	1.522	
Government Engineering Services	WR	NSWC DD:Dahlgren VA	2.291	2.592	Dec 2011	3.054	Nov 2012	0.000		-		0.000	0.000	7.937	
Government Engineering Services	WR	NSWC PHD:Pt Hueneme CA	0.590	0.226	Nov 2011	0.281	Nov 2012	0.000		-		0.000	0.000	1.097	
Government Engineering Services	WR	NSWC IHD:Indian Head MD	0.760	0.745	Dec 2011	1.325	Nov 2012	0.000		-		0.000	0.000	2.830	
Government Engineering Services	WR	NAWC, China Lake:China Lake, CA	0.000	0.225	Dec 2011	1.227	Nov 2012	0.000		-		0.000	0.000	1.452	
		Subtotal	4.493	4.138		6.207		0.000		0.000		0.000	0.000	14.838	

PE 0204202N: DDG-1000

Navy

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Page 12 of 15

Exhibit R-3, RDT&E Project Cost Analysis: PB	2014 Navy	,		DATE:						
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, BA 5: System Development & Demonstration (SDI	•		<b>R-1 ITEM NON</b> PE 0204202N:		PROJE 4009: A DD(X)		Gun Syste	∍m (AGS	) on	
	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	214.278	53.423	34.877	0.000	0.000	0.000	0.000	302.578		

Remarks

PE 0204202N: *DDG-1000* 

Navy Page 13 of 15

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy

APPROPRIATION/BUDGET ACTIVITY

1319: Research, Development, Test & Evaluation, Navy

BA 5: System Development & Demonstration (SDD)

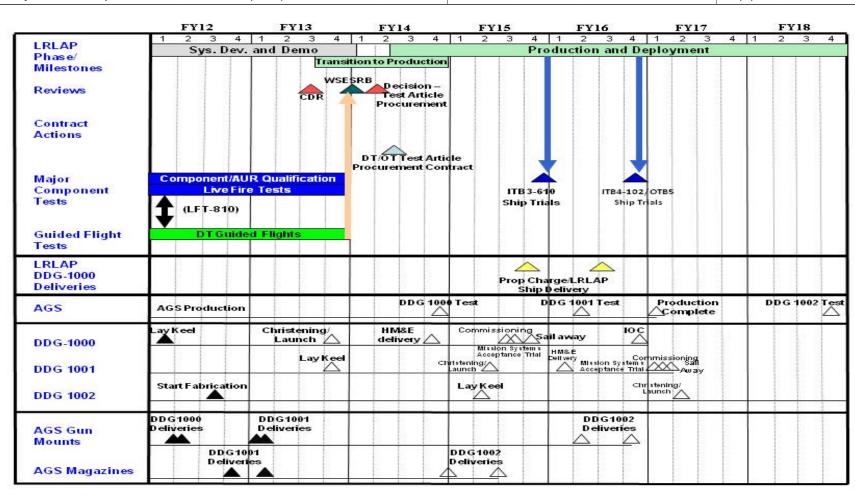
R-1 ITEM NOMENCLATURE

PE 0204202N: *DDG-1000* 

PROJECT

4009: Advanced Gun System (AGS) on

DD(X)



Navy

Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy

DATE: April 2013

APPROPRIATION/BUDGET ACTIVITY R-1 ITEM NOMENCLATURE PROJECT

1319: Research, Development, Test & Evaluation, Navy PE 0204202N: DDG-1000 4009: Advanced Gun System (AGS) on

BA 5: System Development & Demonstration (SDD)

## Schedule Details

	Si	tart	E	nd
Events by Sub Project	Quarter	Year	Quarter	Year
Proj 4009				
Critical Design Review (CDR)	3	2013	3	2013
Wpn Sys Explosive Safety Revw Bd (WSESRB)	1	2014	1	2014
DT/OT Test Article Decision	2	2014	2	2014
DT/OT Test Article Contract Award	2	2014	2	2014
Component/AUR Qualification	1	2012	4	2013
Live Fire Tests	1	2012	4	2013
DT Guided Flights	1	2012	4	2013
Prop Charge/LRLAP Ship Delivery	4	2015	3	2016
AGS Production	1	2012	1	2017
AGS DDG 1000 Test	4	2014	4	2014
AGS DDG 1001 Test	2	2016	2	2016
AGS DDG 1002 Test	4	2018	4	2018
DDG 1000 Gun Mount Deliveries	1	2012	2	2012
DDG 1001 Gun Mount Deliveries	1	2013	1	2013
DDG 1002 Gun Mount Deliveries	2	2016	4	2016
DDG 1001 AGS Magazine Deliveries	4	2012	1	2013
DDG 1002 AGS Magazine Deliveries	1	2015	2	2015

PE 0204202N: *DDG-1000* Navy

Page 15 of 15