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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy	DATE: February 2012
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APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE							
1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i>				PE 0604777N: <i>Navigation/Id System</i>							
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	58.727	39.331	47.764	-	47.764	50.259	32.508	32.596	42.294	Continuing	Continuing
0253: <i>Nav & Electro-Optical Supt</i>	7.292	5.958	7.527	-	7.527	7.598	7.755	7.890	8.029	Continuing	Continuing
0676: <i>Improve ID Development</i>	2.586	1.842	2.335	-	2.335	2.367	2.311	2.319	2.426	Continuing	Continuing
0921: <i>NAVSTAR GPS Equipment</i>	19.108	20.019	19.652	-	19.652	19.749	19.832	20.043	20.420	Continuing	Continuing
1253: <i>Combat Ident System</i>	29.741	11.512	18.250	-	18.250	20.545	2.610	2.344	11.419	Continuing	Continuing

A. Mission Description and Budget Item Justification

Reliable and secure navigation and positive identification (ID) systems are essential elements of battle management in the naval environment. The Photonics Imaging System (0253) is a non-hull penetrating replacement for existing optical periscopes. The Photonics Imaging System exploits a wide portion of the electro-magnetic spectrum utilizing advanced Electro-Optic/thermal imaging, and communications intercept/Electronic Warfare Support (ES). The Integrated Submarine Imaging System (ISIS) (0253) is a back fit system to integrate all imaging capabilities on existing submarine classes. The Combat Identification System (CIS) project (1253) for Mark XIIA, and Improved Identification Development (0676) for AN/UPX-29(V), covers the Mark XIIA Mode 5 upgrade to the existing Mark XII family of systems that is Joint and North Atlantic Treaty Organization (NATO) interoperable. Per OSD direction, NATO participation is encouraged and performance data is exchanged to ensure the opportunity for interoperability with allied identification systems is maximized. In addition to distinguishing friend from foe for weapons employment, the Navy requires secure, jam resistant Identification Friend or Foe (IFF) systems for battle group air defense management and air traffic control. Identification is multifaceted and includes information received from several sensors (both cooperative and non-cooperative systems).

NAVSTAR Global Positioning System (GPS) project (0921) is a space-based positioning, navigation and timing (PNT) system that provides authorized users with secure, worldwide, all weather, three dimensional position, velocity and precise time data. Navigation Sensor System Interface (NAVSSI) is a system that provides an integrated navigation message structure for network distribution to support combat, command and control, information and other mission critical capabilities. Navy Air and Sea Navigation Warfare (NAVWAR) are major elements of the GPS program. NAVWAR's mission is to provide continued access to GPS information in a denied environment. NAVWAR accomplishes this through the use of enhanced user equipment (UE). GPS modernization addresses the Navy's future integration of GPS Joint Program Office (JPO) Modernized User Equipment (MUE) products being developed that will enable the use of new signals in space. WRN-X is a modernized ship GPS equipment development program required to provide a replacement for the existing WRN-6 receiver and other shipboard receivers. Navigation Sensor System Interface (NAVSSI) is a surface based system that integrates shipboard position, navigation and timing data, and distributes the processed output to user systems and networks.

UNCLASSIFIED

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APPROPRIATION/BUDGET ACTIVITY		R-1 ITEM NOMENCLATURE			
1319: Research, Development, Test & Evaluation, Navy		PE 0604777N: Navigation/Id System			
BA 5: Development & Demonstration (SDD)					
B. Program Change Summary (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	66.636	50.178	48.151	-	48.151
Current President's Budget	58.727	39.331	47.764	-	47.764
Total Adjustments	-7.909	-10.847	-0.387	-	-0.387
• Congressional General Reductions	-	-0.047			
• Congressional Directed Reductions	-	-10.800			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-5.883	-			
• SBIR/STTR Transfer	-1.666	-			
• Program Adjustments	-	-	-0.448	-	-0.448
• Rate/Misc Adjustments	-	-	0.061	-	0.061
• Congressional General Reductions Adjustments	-0.360	-	-	-	-
 <u>Change Summary Explanation</u>					
Technical: Not applicable.					
 Schedule: Project 0676 and 1253: Initial Operational Test and Evaluation (IOT&E) has moved from 4QFY11 to 1QFY12 due to ship availability. This schedule change has pushed the IOT&E Outbrief, the Full Rate Production Decision Review, the Initial Operational Capability, and the Full Rate Production Contract Award to 3QFY12.					

UNCLASSIFIED

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 0604777N: Navigation/Id System				PROJECT 0253: Nav & Electro-Optical Supt			
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
0253: Nav & Electro-Optical Supt	7.292	5.958	7.527	-	7.527	7.598	7.755	7.890	8.029	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		
A. Mission Description and Budget Item Justification											
The Navigation and Electro-Optical (E-O) Support program develops Submarine Electro-Optical and imagery systems and equipment that will improve submarine imaging capability in the areas of: ship safety, Intelligence, Surveillance and Reconnaissance (ISR), and tactical control (contact management in the littorals). The Photonics Imaging System, mounted on the Universal Modular Mast, will provide imaging capability for the SSGN and VIRGINIA Class submarines. The Photonics Imaging System design exploits a wide portion of the electro-magnetic spectrum through advanced E-O and thermal imaging and Electronic Warfare Support (ES)/ Communications intercept. It will provide significant improvements in submarine stealth and Infra-Red (IR) imaging capability. The non-hull penetrating design provides freedom in ship design and space savings for SSGN and VIRGINIA Class and future submarines designs. Specific efforts include: (1) Low Light Level TV development, digital sensor development and integration, and displays, and (2) Imaging System Test Efforts.											
The Department of the Navy established the Integrated Submarine Imaging System (ISIS) to rapidly field the Type 18 Periscope Patriot Rangefinder, Type 8 Mod 4 IR Periscope systems, and integrate existing periscope imagery systems into a single system for installation on board SSN 688 Class and SEAWOLF Class submarines. The ISIS baseline includes the Type 18 Periscope Patriot Rangefinder, Type 8 Mod 4 IR Periscope, and supports high intensity operations in the littorals and provides the submarine force with the tactical imaging systems necessary to safely and effectively employ its surveillance and weapons capabilities. Specific efforts undertaken to meet the ISIS requirements are: (1) Type 18 Periscope Automated Range Finder development; (2) Development of hardware capabilities common to ISIS and Photonics via the Technology Insertion process. The AN/BVS-1 Photonics Mast Program (PMP) provides for the development and acquisition of a non-hull penetrating submarine electronic imaging system for VIRGINIA Class submarines. The Integrated Submarine Imaging System (ISIS) provides mission critical, all weather, visual, and electronic search, digital image management, indication, warning, and platform architecture interface capabilities for SSN 688, SSN 21, SSN 774 and SSGN Class submarines.											
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)								FY 2011	FY 2012	FY 2013	
Title: Upgrade/Resolve Obsolescent Photonics On-Board Team Trainer development. (PMOBT)								0.131	-	-	
Articles:								0			
FY 2011 Accomplishments: Updated hardware and software of the PMOBT system for obsolescence and other associated improvements.											
Title: ISIS and Photonics common hardware capabilities development and obsolescence.								3.989	3.227	5.872	
Articles:								0	0	0	
FY 2011 Accomplishments:											

UNCLASSIFIED

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APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 5: Development & Demonstration (SDD)	R-1 ITEM NOMENCLATURE PE 0604777N: Navigation/Id System	PROJECT 0253: Nav & Electro-Optical Supt		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013
ISIS Technical Insertion (TI-12) development for LOS ANGELES and SEAWOLF Classes. FY 2012 Plans: Continue ISIS Technical Insertion (TI) development for LOS ANGELES and SEAWOLF Classes. FY 2013 Plans: ISIS Technical Insertion (TI) development for LOS ANGELES, SEAWOLF and VIRGINIA Classes.				
Title: Low Light Level TV development, digital sensor development and integration and displays. FY 2011 Accomplishments: Incorporation of IR Camera Upgrades into ISIS Inboard Systems. FY 2012 Plans: Completion of display upgrades.		Articles: 1.604 0	1.307 0	-
Title: Imaging Systems Test Efforts. FY 2011 Accomplishments: ISIS TI-10 OT Testing. FY 2012 Plans: ISIS TI-12 EDM Testing. FY 2013 Plans: TI-12 OT Testing.		Articles: 1.063 0	0.860 0	1.08 0
Title: Patriot Radar Range Finder Development for Photonics for SSGN and VIRGINIA Class Submarine. FY 2011 Accomplishments: Upgraded the Type 18 Periscope Automated Rangefinder Software. Integrated the ISIS TI-10 Patriot Rangefinder and Software Development for VIRGINIA and SSGN Classes. FY 2012 Plans: Continue upgrade of the Type 18 Periscope Automated Rangefinder Software. Continue integration of the ISIS TI-10 Patriot Rangefinder and Software Development for VIRGINIA and SSGN Classes. FY 2013 Plans:		Articles: 0.505 0	0.564 0	0.574 0

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)									FY 2011	FY 2012	FY 2013
Development and integration of Patriot Radar Range Finder into ISIS Technical Insertion kit design											
Accomplishments/Planned Programs Subtotals									7.292	5.958	7.527
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
• SCN/201300: Photonics Mast	38.978	36.250	36.975	0.000	36.975	18.857	38.469	39.238	40.023	Continuing	Continuing
• OPN/0831: Sub Periscopes & Imaging Equip.	72.360	57.033	53.809	0.000	53.809	57.867	53.322	52.077	44.282	Continuing	Continuing
• RDT&E/0604558N: VIRGINIA Class Design Development	4.550	3.000	3.200	0.000	3.200	3.500	4.500	3.000	3.000	Continuing	Continuing
D. Acquisition Strategy											
The Acquisition Strategy for AN/BVS-1 Photonics Mast Program (PMP) is dated 24 Sept 2001. The PMP provides for the development and acquisition of a non-hull penetrating submarine electronic imaging system for VIRGINIA Class submarines. The Acquisition Strategy for Integrated Submarine Imaging System (ISIS) is dated 07 Jul 2003. The ISIS will provide mission critical, all weather, visual, and electronic search, digital image management, indication, warning, and platform architecture interface capabilities for SSN 688, SSN 21, SSN 774 and SSGN class submarines.											
E. Performance Metrics											
Successful application of system engineering processes. Design and development of improvements. Site acceptance of product improvements with no Priority 1 or 2 problem reports. Completion of 2 upgrades per year. Acceptance of product improvements with no Priority 1 or 2 problem reports.											
The RDD program goal is to respond to urgent operational needs within 30 days and provide for rapid development and fielding of prototype solutions within 270 days.											

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: 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 0604777N: Navigation/Id System				PROJECT 0253: Nav & Electro-Optical Supt					
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 Hardware Development	WR	NUWC:Newport, RI	11.034	-		-		-		-	0.000	11.034	
Software Development	C/CPIF	Lockheed Martin:Manassas, VA	11.203	1.328	Apr 2012	1.552	Mar 2013	-		1.552	Continuing	Continuing	Continuing
Systems Engineering	WR	NUWC:Newport, RI	12.774	1.791	Oct 2011	2.157	Oct 2012	-		2.157	Continuing	Continuing	Continuing
Miscellaneous	WR	NUWC:Newport, RI	3.589	0.286	Oct 2011	0.528	Oct 2012	-		0.528	Continuing	Continuing	Continuing
Primary Hardware Development	C/CPIF	Lockheed Martin:Manassas, VA	1.956	1.421	Apr 2012	1.809	Mar 2013	-		1.809	Continuing	Continuing	Continuing
Subtotal			40.556	4.826		6.046		-		6.046			
Support (\$ 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	AT&T:Vienna, VA	3.521	0.406	Oct 2011	0.579	Oct 2012	-		0.579	Continuing	Continuing	Continuing
Subtotal			3.521	0.406		0.579		-		0.579			
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
Development Test & Evaluation	WR	NUWC:Newport, RI	5.455	0.672	Oct 2011	0.847	Oct 2012	-		0.847	Continuing	Continuing	Continuing
Subtotal			5.455	0.672		0.847		-		0.847			

UNCLASSIFIED

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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
Travel	C/CPAF	NAVSEA:Washington, DC	0.303	0.054	Oct 2011	0.055	Oct 2012	-		0.055	Continuing	Continuing	Continuing
Subtotal			0.303	0.054		0.055		-		0.055			

	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	49.835	5.958		7.527		-		7.527			

Remarks

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Exhibit R-4, RDT&E Schedule Profile: 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 0604777N: <i>Navigation/Id System</i>	PROJECT 0253: <i>Nav & Electro-Optical Supt</i>

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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 0604777N: <i>Navigation/Id System</i>	PROJECT 0253: <i>Nav & Electro-Optical Supt</i>	

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Nav & Electro-Optical Supt</i>				
Major Milestones: ISIS Increment I Capability Insertion: ISIS Increment I Capability Insertion Fielding (TI-10)	1	2012	1	2012
Major Milestones: ISIS Increment I Capability Insertion: ISIS Increment I Capability Insertion Fielding (TI-12)	3	2012	3	2012
Major Milestones: ISIS Increment I Capability Insertion: ISIS Increment I Capability Insertion Fielding (TI-14)	4	2014	4	2014
Major Milestones: ISIS Block Upgrade Technology Insertion: ISIS Block Upgrade Technology Insertion Fielding (TI-10)	2	2011	2	2011
Major Milestones: ISIS Block Upgrade Technology Insertion: ISIS Block Upgrade Technology Insertion Fielding (TI-12)	2	2013	2	2013
Major Milestones: ISIS Block Upgrade Technology Insertion: ISIS Block Upgrade Technology Insertion Fielding (TI-14)	3	2014	3	2014
Major Milestones: ISIS Block Upgrade Technology Insertion: ISIS Block Upgrade Technology Insertion Fielding (TI-16)	3	2016	3	2016
Spiral Developments: ISIS: Spiral Development: ISIS TI-10	1	2011	1	2011
Spiral Developments: ISIS: Spiral Development: ISIS TI-12	4	2011	1	2013
Spiral Developments: ISIS: Spiral Development: ISIS TI-14	4	2013	1	2015
Spiral Developments: ISIS: Spiral Development: ISIS TI-16	4	2015	1	2017
Spiral Developments: ISIS: Spiral Developments: ISIS TI-18	4	2017	4	2017
Test & Evaluation: ISIS: Test & Evaluation - ISIS TI-10 OT	4	2011	4	2011
Test & Evaluation: ISIS: Test & Evaluation - ISIS TI-12 EDM	3	2012	3	2012
Test & Evaluation: ISIS: Test & Evaluation - ISIS TI-12 OT	3	2013	3	2013
Test & Evaluation: ISIS: ISIS Test & Evaluation - TI-14 EDM	3	2014	3	2014

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Exhibit R-4A, RDT&E Schedule Details: 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 0604777N: Navigation/Id System		PROJECT 0253: Nav & Electro-Optical Supt	
	Start		End	
Events by Sub Project	Quarter	Year	Quarter	Year
Test & Evaluation: ISIS: Test & Evaluation - ISIS TI-14 OT	4	2015	4	2015
Test & Evaluation: ISIS: Test & Evaluation - ISIS TI-16 EDM	3	2016	3	2016
Test & Evaluation: ISIS: Test & Evaluation - ISIS TI-16 OT	3	2017	3	2017

UNCLASSIFIED

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 0604777N: Navigation/Id System				PROJECT 0676: Improve ID Development			
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
0676: Improve ID Development	2.586	1.842	2.335	-	2.335	2.367	2.311	2.319	2.426	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		
A. Mission Description and Budget Item Justification											
Reliable and secure navigation and positive identification (ID) systems are essential elements of battle management in the naval environment. In addition to providing platform identification for weapons employment, the Navy requires secure, jam resistant Identification Friend or Foe (IFF) systems for battle group air defense management and air traffic control. The Improved ID Development project addresses the Mark XIIA Mode 5 upgrade to the existing AN/UPX-29(V) Mark XII family of systems that is Joint and North Atlantic Treaty Organization (NATO) interoperable. This exhibit also addresses the AN/UPX-29(V) antenna, the OE-120/UPX.											
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)								FY 2011	FY 2012	FY 2013	
Title: AN/UPX-29 (V) - OE-120/UPX Antenna Replacement Articles: Description: Engineering and integration development for antenna group OE-120/UPX modernization. Develop design studies and Analysis of Alternitives (AoA), draft specifications, and perform system development and integration efforts. FY 2011 Accomplishments: Initiated vendor Class 1 Part 1 ECP to address obsolescence/producibility of the OE-120 antenna system for commissioned ships and new ship construction program. FY 2012 Plans: Finalize the Class 1 Part 1 ECP. FY 2013 Plans: Develop Antenna Group OE-120/UPX system requirements and address obsolescence issues as required.								1.438	1.368	1.373	
								0	0	0	
Title: Mark XIIA Mode 5 Improvement for AN/UPX-29(V) Articles: Description: Engineering, development, and integration of Mark XIIA Improvements to the AN/UPX-29 (V). Correct deficiencies from Integrated Test and Operational Test (IT - OT) and baseline software and documentation. Funds development and integration of Mark XIIA Improvement to the AN/UPX-29 (V) system on CG 47, DDG 51, LHD 1, LPD 17 and CV/CVN class ships. Provides core Integrated Logistics Support (ILS) documentation; formalizes hardware/software configuration; finalizes technical/ design data, and resolves testing anomalies. FY 2011 Accomplishments:								0.968	0.334	0.814	
								0	0	0	

UNCLASSIFIED

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)							FY 2011		FY 2012		FY 2013	
Prepared systems and platforms for Initial Operational Test and Evaluation. Prepared final deficiency resolution. Resolved remaining system deficiencies and final Integrated Logistics Support documentation updates. Continued integration on LHD 1 class and began LPD 17 integration Certification testing. Conducted interface certification testing and qualification with CEC/7.1 FY 2012 Plans: Continue AN/UPX-29(V) integration and interface certification testing with ship baselines. Evaluate and replace system processors due to obsolescence. FY 2013 Plans: Continue AN/UPX-29(V) integration and interface certification testing with ship baselines. Continue evaluating and replacing system processors due to obsolescence (as required).												
Title: AN/UPX-29(V) Management Support Description: Engineering and Program Management of the AN/UPX 29 (V). Perform system integration efforts. FY 2011 Accomplishments: Managed engineering investigations (EI), provided engineering assessments, and recommended resolution. Reviewed and evaluated reports. FY 2012 Plans: Manage engineering assessments/evaluations/development efforts that provide resolution to EIs and obsolescence issues. FY 2013 Plans: Manage engineering assessments/evaluations/development efforts that provide resolution to EIs and obsolescence issues.							Articles: 0.180 0		0.140 0		0.148 0	
Accomplishments/Planned Programs Subtotals							2.586		1.842		2.335	
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/2851: Identification Systems	22.998	31.470	35.474	0.000	35.474	39.119	38.719	35.276	29.072	Continuing	Continuing	
D. Acquisition Strategy												
The acquisition strategy is to develop Mode 5 Engineering Change Proposals for modern Mark XII IFF equipment and integrate into all Navy Combat Weapons systems platforms and augment the Navy's Cooperative Identification Capability to include Mode 5.												

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E. Performance Metrics

Achieve Full Rate Production (FRP) Decision and Initial Operational Capability and award FRP contract in FY 2012.

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1319: Research, Development, Test & Evaluation, Navy BA 5: Development & Demonstration (SDD)				PE 0604777N: Navigation/Id System				0676: Improve ID Development					
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 Hardware Development	WR	NAWCAD:St Inigoes, MD	3.985	1.093	Nov 2011	1.140	Nov 2012	-		1.140	Continuing	Continuing	Continuing
Ship Integration	WR	NAWCAD:St Inigoes, MD	2.077	0.075	Nov 2011	0.152	Nov 2012	-		0.152	Continuing	Continuing	Continuing
Systems Engineering	WR	NAWCAD:St Inigoes, MD	5.002	0.200	Nov 2011	0.410	Nov 2012	-		0.410	Continuing	Continuing	Continuing
Subtotal			11.064	1.368		1.702		-		1.702			
Support (\$ 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
Configuration Management	WR	NAWCAD:St Inigoes, MD	0.169	-		-		-		-	0.000	0.169	
ILS	WR	NAWCAD:St Inigoes, MD	2.371	0.056	Nov 2011	0.059	Nov 2012	-		0.059	Continuing	Continuing	Continuing
Software Development	WR	NAWCAD:St Inigoes, MD	5.081	0.093	Nov 2011	0.193	Nov 2012	-		0.193	Continuing	Continuing	Continuing
Technical Data	WR	NAWCAD:St Inigoes, MD	1.247	0.185	Nov 2011	0.233	Nov 2012	-		0.233	Continuing	Continuing	Continuing
Training	WR	NAWCAD:St Inigoes, MD	0.200	-		-		-		-	0.000	0.200	
Subtotal			9.068	0.334		0.485		-		0.485			
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
Developmental Test & Evaluation	WR	NAWCAD:St Inigoes, MD	0.500	-		-		-		-	0.000	0.500	

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Exhibit R-3, RDT&E Project Cost Analysis: 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 0604777N: Navigation/Id System				PROJECT 0676: Improve ID Development					
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
Operational Test & Evaluation	WR	NAWCAD:St Inigoes, MD	1.328	-		-		-		-	0.000	1.328	
Test Assets	WR	NAWCAD:St Inigoes, MD	0.731	-		-		-		-	0.000	0.731	
Subtotal			2.559	-		-		-		-	0.000	2.559	
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/CPFF	American Electronics:California, MD	1.408	0.140	Dec 2011	0.148	Nov 2012	-		0.148	Continuing	Continuing	Continuing
Engineering Support	WR	NAWCAD:PAX River, MD	0.244	-		-		-		-	Continuing	Continuing	Continuing
Subtotal			1.652	0.140		0.148		-		0.148			
			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			24.343	1.842		2.335		-		2.335			
Remarks													

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Exhibit R-4, RDT&E Schedule Profile: 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 0604777N: <i>Navigation/Id System</i>	PROJECT 0676: <i>Improve ID Development</i>

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Exhibit R-4, RDT&E Schedule Profile: 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 0604777N: <i>Navigation/Id System</i>	PROJECT 0676: <i>Improve ID Development</i>

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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 0604777N: <i>Navigation/Id System</i>	PROJECT 0676: <i>Improve ID Development</i>	

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Mode 5 Improv Identification Dev				
Acquisition Milestones: Milestones: Mode 5 - Full Rate Production Decision Review (FRPDR)	3	2012	3	2012
Acquisition Milestones: Milestones: IOC	3	2012	3	2012
Acquisition Milestones: Milestones: Mode 5 - Joint IOC	4	2014	4	2014
System Development: Reviews: Operational Test Readiness Review (OTRR)	3	2011	3	2011
Test & Evaluation Group: Operational Evaluation: Mode 5 - OT-C2 (IOT&E)	1	2012	1	2012
Test & Evaluation Group: Operational Evaluation: Mode 5 - IOT&E Outbrief	3	2012	3	2012
Test & Evaluation Group: Operational Evaluation: Mode 5 - Follow-on Test and Evaluation	1	2012	4	2017
Production Milestones: Contract Awards: Mode 5 - LRIP 6 Contract Award (OPN, APN5, RDTEN)	1	2011	1	2011
Production Milestones: Contract Awards: Mode 5 - FRP Contract Award	3	2012	3	2012
Deliveries: Mode 5 - Low-Rate Initial Production Deliveries (DI,CXP) (OPN, APN5, RDTEN)	1	2011	2	2013
Deliveries: Mode 5 - Production Line Insertion	1	2011	4	2017
Deliveries: Mode 5 - Prepare and Evaluate ECPs/SCDs	1	2011	4	2017
Deliveries: Mode 5 - Host Platform Integrations	1	2011	4	2017
Deliveries: Mode 5 - FRP Deliveries	2	2013	4	2017
OE-120/UPX Antenna Improv Identification Dev				
System Development: Reviews: OE-120/UPX Antenna - System Functional Review (SFR)	4	2015	4	2015
System Development: Reviews: OE-120/UPX Antenna - PDR	3	2016	3	2016

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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 0604777N: <i>Navigation/Id System</i>		PROJECT 0676: <i>Improve ID Development</i>

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
System Development: Reviews: Part 1 Engeneering Change Proposal Class 1	1	2011	4	2012

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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 0604777N: Navigation/Id System				PROJECT 0921: NAVSTAR GPS Equipment			
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
0921: NAVSTAR GPS Equipment	19.108	20.019	19.652	-	19.652	19.749	19.832	20.043	20.420	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		
A. Mission Description and Budget Item Justification											
<p>NAVSTAR Global Positioning System (GPS) project (0921) is a space-based positioning, navigation, and timing (PNT) system that provides authorized users with secure, worldwide, all weather, three dimensional position, velocity, and precise time data. Research, Development, Testing and Evaluation (RDT&E) funds are used to perform all the non-recurring GPS Surface Ship, Submarine and Aircraft Development, Integration, and Testing efforts. GPS continues to be integrated in all DoD platforms and the development of enhanced GPS is a national security priority.</p> <p>The Naval Research Advisory Committee (NRAC) GPS Vulnerability Study Panel assessed the Navy's GPS Vulnerabilities and recommended specific actions to resolve serious issues to ensure the continued availability of GPS information in a high risk hostile jamming environment. As a result, the Navy Enhanced GPS User Equipment Operational Requirement Document (ORD) was drafted to address operational requirements. NAVWAR's mission is to provide continued access to GPS information in a denied environment. RDT&E continues to support platform integration requirements, Developmental Test/Operational Test (DT/OT), the Navy's development of a smaller Anti-Jam (AJ) antenna and a conformal low-observable AJ antenna for aircraft with unique requirements, and new technology AJ solutions for submarines.</p> <p>Two similar but separate ACAT III programs (Air and Sea NAVWAR) have been established and have become the basis for the Navy's Air and Sea Navigation Warfare (NAVWAR) programs. The Sea NAVWAR Program is executed in 3 increments. The GPS Antenna System (GAS-1) is integrated on surface platforms in Increment 1. Increment 2 is Advanced Digital Antenna Production (ADAP). It is an enhanced adaptive AJ antenna system based on advanced digital electronics and digital signal processing planned for surface ship integrations. Increment 3 addresses AJ capabilities for submarines. The Air NAVWAR program is a single increment with GAS-1, ADAP, and other efforts continuing. The Capability Production Document for Sea NAVWAR Increment 2 (12/08) was approved to support the ADAP production and procurement.</p> <p>The primary GPS shipboard systems fielded on the majority of U.S. Navy ships today include the AN/WRN-6 and the Navigation Sensor System Interface (NAVSSI). These military GPS systems provide precise Position, Navigation, and Time (PNT) data required for many combat, weapons, command, control, communications, navigation, and other systems, as well as providing the time synchronization critical to the network environments.</p> <p>The Global Positioning System (GPS)-based Positioning, Navigation, and Timing (PNT) Service (GPNTS) system is being developed to replace stand-alone AN/WRN-6 receivers and integrated Navigation Sensor System Interface (NAVSSI) systems. Additionally, future capability will migrate toward a Common Computing Environment (CCE) such as Consolidated Afloat Networks Enterprise Services (CANES).</p>											
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)								FY 2011	FY 2012	FY 2013	
Title: Air Navigation Warfare (NAVWAR)								6.157	5.379	2.279	

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: 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 0604777N: <i>Navigation/Id System</i>	PROJECT 0921: <i>NAVSTAR GPS Equipment</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013
Articles:		0	0	0
<p><i>FY 2011 Accomplishments:</i> Completed integration, developmental and operational testing of the NAVWAR anti-jam capability on F/A-18 E/F/G. Monitored Small Antenna System (SAS)/Miniature - Controlled Reception Pattern Antenna (M-CRPA) development. Continued integration of NAVWAR on other Air platforms which included unmanned air systems and weapons. Continued GPS Modernization platform impact studies and provided Navy unique requirements to the GPS Wing. Continued to coordinate GPS Modernization efforts with other programs and DoD services to reduce impacts to platform navigation systems. Started studies for integration of GPS Wing developed Military GPS User Equipment (MGUE) into Air platforms. Participated in joint NAVWAR Memorandum of Understanding (MOU) initiatives with Canada, United Kingdom and Australia.</p> <p><i>FY 2012 Plans:</i> Continue to assist other air platforms with integration of anti-jam capability to include Unmanned Air Systems (UAS) and weapons. Provide assured PNT efforts to Naval aircraft. Continue to provide GPS Modernization Navy unique requirements to GPS Wing. Continue to keep the Fleet apprised of GPS Enterprise Selective Availability Anti-Spoofing Module (SAASM) developments. Continue to coordinate GPS Modernization efforts with other programs and DoD services to reduce impacts to platform navigation systems. Participate in joint NAVWAR MOU initiatives with Canada, United Kingdom and Australia.</p> <p><i>FY 2013 Plans:</i> Continue to assist other air platforms with integration of anti-jam capability to include UAS and weapons. Continue to provide GPS Modernization Navy unique requirements to GPS Wing. Continue to assist the Fleet with GPS Enterprise SAASM developments. Continue to coordinate GPS Modernization efforts with other programs and DoD services to reduce impacts to platform navigation systems. Participate in joint NAVWAR MOU initiatives with Canada, United Kingdom and Australia. Begin Assured PNT development. Continue to assist other air platforms with integration of anti-jam capability to include UAS, EP-3E, Fire Scout and weapons.</p>				
<p><i>Title:</i> Sea Navigation Warfare (NAVWAR)</p> <p>Articles:</p>		4.583 0	2.990 0	1.367 0
<p><i>FY 2011 Accomplishments:</i> Increment 2 Advanced Digital Antenna Production (ADAP): Conducted developmental testing (DT) and integration of ADAP on Cruiser Guided Missile (CG) ships and Carrier Vessel Nuclear (CVN) ships. Initiated discussion of Increment 3 Submarine Anti-Jam (SUB AJ) Analysis of Alternatives (AoA). Participated in joint NAVWAR Memorandum Of Understanding (MOU) initiatives with Canada, United Kingdom, and Australia.</p> <p><i>FY 2012 Plans:</i></p>				

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Exhibit R-2A, RDT&E Project Justification: 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 0604777N: <i>Navigation/Id System</i>	PROJECT 0921: <i>NAVSTAR GPS Equipment</i>	
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012
Increment 2 (ADAP): Conduct DT and integration on CVN ships and CG ships. Complete Technical Readiness Assessment (TRA) in support of MS B decision. Increment 3 (SUB AJ): Begin acquisition and logistics documentation in support of Milestone B award. Award Engineering, Manufacturing, Development (EMD) Cost Plus Incentive Fee (CPIF) contract for Sub AJ development. Participation in joint NAVWAR MOU initiatives with Canada, United Kingdom, and Australia.			
FY 2013 Plans: Increment 2 (ADAP): Conduct DT on amphibious helicopter assault ship (LHA) and amphibious transport dock (LPD) ships. Increment 3 (SUB AJ): Begin acquisition and logistics documentation in support of Milestone C Low Rate Initial Production (LRIP). Begin developmental testing and operational assessment (DT/OA) of Sub AJ. Participate in joint NAVWAR MOU initiatives with Canada, United Kingdom, and Australia.			
Title: Global Positioning System (GPS) - Based Positioning, Navigation and Timing (PNT) Service (GPNTS)		8.368	11.650
Articles:		0	0
FY 2011 Accomplishments: Completed DoD 5000 series statutory and regulatory acquisition documentation and obtained a Milestone B decision. Completed systems engineering reviews System Readiness Review (SRR) and a Technology Readiness Assessment (TRA). Obtained a Milestone B Acquisition Decision Memorandum authorizing entry into the EMD phase. Released a Request for Proposal (RFP) and completed source selection activities. Completed pre-post award contract activities.			
FY 2012 Plans: Complete a post award kick off conference. Conduct the Initial Baseline Review (IBR) and Integrated Logistics Assessment (ILA) meetings with the Contractor. Complete a Preliminary Design Review (PDR) with the Contractor and brief the Milestone Decision Authority (MDA) on the design review outcome. Provide engineering and technical support to the Contractor to ensure system design and software development are in alignment with the Capabilities Development Document (CDD) and the Technical Requirements Document (TRD). Review all contract deliverables and attend Contractor Engineering, Program Management, Test and Evaluation, and Logistics Integrated Product Team (IPT) meetings. Report on contract Earned Value Management (EVM) objectives and manage the program's Integrated Master Schedule (IMS) with the Contractor. Update program acquisition documentation as necessary.			
FY 2013 Plans: Prepare the program for the Critical Design Review (CDR). Brief the MDA on the design review outcomes. Obtain an updated Acquisition Decision Memorandum (ADM) to proceed from CDR to Milestone B. Complete the draft Capabilities Production Document (CPD) to support a milestone C decision. Prepare the program for the delivery of the Engineering Development Models (EDMs) and begin lab testing including Independent Verification and Validation (IV&V) test events. Track the programs			

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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 0604777N: Navigation/Id System				PROJECT 0921: NAVSTAR GPS Equipment				
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)										FY 2011	FY 2012	FY 2013
IMS and report EVM metrics as required. Begin updates of all DoD series acquisition statutory and regulatory documentation as required to support a MS C decision.												
Accomplishments/Planned Programs Subtotals										19.108	20.019	19.652
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 / 2657, 0604777N: Other Procurement, Navy	9.269	9.926	9.089	0.000	9.089	11.810	17.640	16.670	16.463	Continuing	Continuing	
• APN / 0577: Common Avionics	11.121	8.434	8.025	0.000	8.025	8.361	8.387	8.785	8.933	173.909	577.517	
D. Acquisition Strategy												
Navigation Warfare (NAVWAR): The Sea NAVWAR Program is executed in 3 increments. The Global Positioning System (GPS) Antenna System (GAS-1) is integrated on surface platforms in Increment 1. Increment 2 is Advanced Development Antenna Production (ADAP). Increment 3 is a submarine anti-jam solution (SUB AJ). The Air NAVWAR program is executed in a single increment with GAS-1 and ADAP to integrate on air platforms, and development of a smaller Anti-Jam (AJ) antenna and a conformal low-observable AJ antenna for aircraft with unique requirements.												
GPNTS: The GPS-based Positioning, Navigation, and Timing Service (GPNTS) program will be conducted in two increments. Increment 1 will develop, acquire, and field the GPNTS, a scalable Selective Availability / Anti-Spoofing Module (SAASM) GPS based Service Oriented Architecture Positioning, Navigation, and Timing (PNT) system that will provide an open, extensible, modernized replacement for the current fleet PNT systems, while targeting Common Computing Environments (CCE). Increment 2 will integrate Military GPS User Equipment (MGUE) that will allow the U.S. Navy to leverage current and future technology development provided by the GPS Wing, formerly known as the GPS Joint Program Office (JPO). GPNTS will operate at the UNCLASSIFIED level, and can provide the PNT data to higher classified systems.												
E. Performance Metrics												
The primary metric used for the Air NAVWAR Program is acceptable system performance in a GPS denied environment which is defined by classified values of jamming to signal ratio (J/S) identified in the Enhanced GPS User Equipment (UE) Operational Requirements Document (ORD) 562-06-00 of 7 June 2000. The performance goal is met if acceptable system performance is achieved in the threshold J/S environment cited in the classified appendix.												
The primary metric used for the Sea NAVWAR is acceptable system performance in a GPS denial environment defined by classified values of jamming to signal ratio (J/S) identified in the Sea NAVWAR Increment 2 Capabilities Production Document (CPD) (12/08). The performance goal is met if acceptable system performance is achieved in the threshold J/S environment cited in the CPD.												
The primary metrics used for the GPNTS is successful completion of the system development as outlined in the GPNTS Technical Requirement Document.												

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy											DATE: February 2012			
APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE				PROJECT						
1319: Research, Development, Test & Evaluation, Navy BA 5: Development & Demonstration (SDD)				PE 0604777N: Navigation/Id System				0921: NAVSTAR GPS Equipment						
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	
Product Development	WR	SSC PAC/NAWC:San Diego/China Lake, Pax River	275.775	-		-		-		-	0.000	275.775		
Product Development	WR	SSC PAC:San Diego	71.009	0.900	Oct 2011	0.910	Oct 2012	-		0.910	Continuing	Continuing	Continuing	
Product Dev (other in house)	WR	SSC PAC:San Diego	439.397	-		-		-		-	0.000	439.397		
Systems Engineering	WR	Govt/Contractor:San Diego	20.141	0.855	Jan 2012	0.900	Jan 2013	-		0.900	Continuing	Continuing	Continuing	
Product Development	C/CPIF	Unknown:Unknown	2.593	8.531	Jan 2012	6.995	Jan 2013	-		6.995	Continuing	Continuing	Continuing	
Product Development	C/CPFF	Boeing:St Louis	15.445	-		-		-		-	0.000	15.445		
Subtotal			824.360	10.286		8.805		-		8.805				
Support (\$ 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	
Development Support	WR	SSC PAC/NAWC:San Diego/Pax River/China Lake	12.710	-		-		-		-	0.000	12.710		
Software Development	WR	SSC PAC/NAWC:San Diego/Pax River/ China Lake	10.450	-		-		-		-	0.000	10.450		
Integrated Logistics Support	WR	SSC PAC/NAWC:San Diego/Pax River	7.102	0.596	Dec 2011	0.650	Dec 2012	-		0.650	Continuing	Continuing	Continuing	
Training Development	WR	SSC PAC/NAWC:San Diego/Pax River	5.375	-		-		-		-	0.000	5.375		
Technical Data	WR	Platform PMOs:San Diego	4.650	-		-		-		-	0.000	4.650		
Technical Data	C/CPAF	BAH:San Diego, Pax River	-	0.496	Jan 2012	0.630	Jan 2013	-		0.630	Continuing	Continuing	Continuing	
Technical Data	WR	SSC PAC:San Diego	-	2.000	Dec 2011	2.240	Dec 2012	-		2.240	Continuing	Continuing	Continuing	
Technical Data	WR	NAWC:Pax River	-	0.254	Dec 2011	0.275	Dec 2012	-		0.275	Continuing	Continuing	Continuing	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy											DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE				PROJECT					
1319: Research, Development, Test & Evaluation, Navy BA 5: Development & Demonstration (SDD)				PE 0604777N: Navigation/Id System				0921: NAVSTAR GPS Equipment					
Support (\$ 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
Technical Data	WR	NAWC:China Lake	-	0.250	Dec 2011	0.290	Dec 2012	-		0.290	Continuing	Continuing	Continuing
Subtotal			40.287	3.596		4.085		-		4.085			
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
Test & Evaluation	WR	SSC PAC/NAWC PAX:San Diego/Pax River	29.729	0.608	Nov 2011	0.700	Nov 2012	-		0.700	Continuing	Continuing	Continuing
Test & Evaluation	C/CPAF	BAH:Pax River	5.276	-		-		-		-	0.000	5.276	
Test & Evaluation	WR	SSC PAC:San Diego	8.875	2.677	Dec 2011	3.000	Dec 2012	-		3.000	Continuing	Continuing	Continuing
Test & Evaluation Platform Testing	WR	SSC PAC:San Diego	32.027	-		-		-		-	0.000	32.027	
Subtotal			75.907	3.285		3.700		-		3.700			
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	BAH:Pax River, San Diego	19.989	2.852	Jan 2012	3.062	Jan 2013	-		3.062	Continuing	Continuing	Continuing
Acquistion Workforce	Allot	Unknown:Uknown	0.139	-		-		-		-	0.000	0.139	
Contractor Engineering Services	C/CPAF	BAH:San Diego, Pax River, China Lake	1.400	-		-		-		-	0.000	1.400	
Government Engineering Services	WR	SSC PAC, NAWC:San Diego, China Lake, Pax River	1.800	-		-		-		-	0.000	1.800	
Subtotal			23.328	2.852		3.062		-		3.062			

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Exhibit R-3, RDT&E Project Cost Analysis: 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 0604777N: Navigation/Id System				PROJECT 0921: NAVSTAR GPS Equipment				
		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		963.882	20.019		19.652		-		19.652			

Remarks

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Exhibit R-4, RDT&E Schedule Profile: 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 0604777N: <i>Navigation/Id System</i>	PROJECT 0921: <i>NAVSTAR GPS Equipment</i>

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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 0604777N: <i>Navigation/Id System</i>	PROJECT 0921: <i>NAVSTAR GPS Equipment</i>	

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 0921				
Air Navigation AV-8B Installations	1	2011	4	2013
Air Navigation P-3C installations	1	2011	4	2011
Air Navigation F/A 18 E/F/G DT/OT	1	2011	2	2012
Air Navigation MH-53E Installations	1	2011	4	2013
Air Navigation GAS-1 Option 2011	2	2011	2	2011
Air Navigation ADAP Option 2011	2	2011	2	2011
Air Navigation Conformal Antenna (C-CRPA) Production Award	3	2011	3	2011
Air Navigation GAS-1 Option 2012	2	2012	2	2012
Air Navigation ADAP Option 2012	2	2012	2	2012
Air Navigation C-CRPA Option 2012	2	2012	2	2012
Air Navigation F/A-18 E/F/G Installations	2	2012	4	2017
Air Navigation ADAP Option 2013	2	2013	2	2013
Air Navigation C-CRPA Option 2013	2	2013	2	2013
Air Navigation ADAP Option 2014	2	2014	2	2014
Air Navigation C-CRPA Option 2014	2	2014	2	2014
Air Navigation ADAP Option 2015	2	2015	2	2015
Air Navigation C-CRPA Option 2015	2	2015	2	2015
Air Navigation ADAP Option 2016	2	2016	2	2016
Air Navigation C-CRPA Option 2016	2	2016	2	2016
Air Navigation ADAP Option 2017	2	2017	2	2017
Air Navigation C-CRPA Option 2017	2	2017	2	2017

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Exhibit R-4A, RDT&E Schedule Details: 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 0604777N: Navigation/Id System		PROJECT 0921: NAVSTAR GPS Equipment	
	Start		End	
Events by Sub Project	Quarter	Year	Quarter	Year
Sea Navigation Increment 3 (Sub A/J) AoA	1	2011	2	2011
Sea Navigation Increment 2 (ADAP) DT/OT	1	2011	1	2011
Sea Navigation Increment 2 (ADAP) FRP	2	2011	2	2011
Sea Navigation Increment 2 (ADAP) Installations	2	2011	4	2017
Sea Navigation Increment 2 (ADAP) IOC	3	2011	3	2011
Sea Navigation Increment 2 (ADAP) CVN DT	2	2012	2	2012
Sea Navigation Increment 2 (ADAP) CG DT	3	2012	3	2012
Sea Navigation Increment 3 (Sub A/J) M/S B	2	2012	2	2012
Sea Navigation Increment 2 (ADAP) LHA DT	1	2013	1	2013
Sea Navigation Increment 2 (ADAP) LPD DT	3	2013	3	2013
Sea Navigation Increment 3 (Sub A/J) DT/OA	4	2013	1	2014
Sea Navigation Increment 3 (Sub A/J) Development	3	2012	3	2014
Sea Navigation Increment 3 (Sub A/J) M/S C LRIP	2	2014	2	2014
Sea Navigation Increment 3 (Sub A/J) DT/OT	4	2014	1	2015
Sea Navigation Increment 3 (Sub A/J) Installations	1	2015	4	2017
Sea Navigation Increment 3 (Sub A/J) FRP	2	2015	2	2015
Sea Navigation Increment 3 (Sub A/J) IOC	4	2015	4	2015
Sea Navigation Increment 3 (Sub) USAF Competitive Prototyping	1	2011	3	2011
Sea Navigation Increment 3 EMD Contracting (CPIF)	3	2012	3	2014
Sea Navigation Increment 3 LRIP Production	3	2014	4	2017
GPNTS INCREMENT 1 MS B	1	2011	1	2011
GPNTS APB	1	2011	1	2011
GPNTS AP	1	2011	1	2011
GPNTS Increment 1 Award	3	2011	3	2011
GPNTS Post PDR Assessment	1	2012	1	2012

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Exhibit R-4A, RDT&E Schedule Details: 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 0604777N: Navigation/Id System		PROJECT 0921: NAVSTAR GPS Equipment	
	Start		End	
Events by Sub Project	Quarter	Year	Quarter	Year
GPNTS PDR	1	2012	1	2012
GPNTS Increment 1 Integrated Test 3rd Qtr	3	2013	3	2013
GPNTS CDR	2	2013	2	2013
GPNTS Increment 1 EDM Delivery	1	2014	1	2014
GPNTS INCREMENT 2 MS B Prep Activities	4	2014	4	2014
GPNTS MS C	1	2015	1	2015
GPNTS M/S C LRIP	1	2015	1	2015
GPNTS Increment 1 OTRR	3	2015	3	2015
GPNTS Increment 1 Tech Eval	4	2015	4	2015
GPNTS Increment 1 IOT&E	1	2016	1	2016
GPNTS Increment 1 JITC Testing	1	2016	1	2016
GPNTS IOC	2	2016	2	2016
GPNTS FRP DR	3	2016	3	2016
GPNTS Increment 1 FRP Option A	3	2016	3	2016

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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 0604777N: Navigation/Id System				PROJECT 1253: Combat Ident System			
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
1253: Combat Ident System	29.741	11.512	18.250	-	18.250	20.545	2.610	2.344	11.419	Continuing	Continuing
Quantity of RDT&E Articles	0	11	0	0	0	0	0	0	0		
A. Mission Description and Budget Item Justification											
<p>In 1995, the Under Secretary of Defense (Acquisition and Technology)/Vice Chairman, Joint Chiefs of Staff (USD(A7T)/VCJCS) tasked the Services to develop a high-level plan and long-range strategy for migrating to new Mark XII equipment. The services were also tasked to work with participating North Atlantic Treaty Organization (NATO) Allies to develop a new Mark XII waveform and document it in NATO Standard Agreement (STANAG). The Navy took the lead in a waveform development effort conducted in coordination with a five nation Technical Working Group (TWG), supported by Joint Services and Industry. The Navy, in conjunction with the TWG, designed, developed, modeled, and tested a new waveform - Mark XIIA Mode 5. A separate five nation Communications Security group, led by the National Security Administration, developed a new cryptographic algorithm and associated cryptographic equipment interoperability requirements specification, STANAG 4193, Part V has been ratified and promulgated to all NATO nations, and Part VI was approved for promulgation in January 2002.</p> <p>In August 2003 the Navy Mark XIIA Mode 5 program was approved for entry in Systems Development and Demonstration phase with approval to develop prototypes. In July 2006, the Navy Mark XIIA Mode 5 program was approved for entry into the Production and Deployment Phase and Low Rate Initial Production. In March 2007, Joint Requirements Oversight Council Memorandum (047-07) endorsed a Mode 5 Joint Initial Operational Capability (IOC) in FY14 and Joint Full Operational Capability in 2020.</p> <p>RDT&E articles include Mode 5 cryptographic modules and associated hardware and software changes, AN/APX-123, AN/APX-119, and AN/APX-111. These RDT&E units are to support hardware, software, and integration efforts to host systems on remaining aircraft Type/Model/Series, including AH-1Z/UH-1Y, E-2D, MH-60R/S, MV-22, KC-130J, and F/A-18E/F and EA-18G.</p>											
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)								FY 2011	FY 2012	FY 2013	
Title: Mode 5 prototype hardware, cryptographic module								17.167	5.438	12.568	
								0	11	0	
Description: Perform development of kits for installation into existing fleet assets including AN/UPX-37/41C Interrogator, AN/APX-118/123 Common Digital Transponder, and AN/APX-111 Combined Interrogator Transponder. Repair and correct deficiencies identified during testing and procure low rate initial production (LRIP) units (OPN, APN5, and RDTE) to support testing and platform integration. LRIP units include Mode 5 cryptographic module install kits for AN/UPX-37/41C, AN/APX-118/123, AN/APX-119, and AN/UPX-24 with associated hardware and software changes to the host boxes. Perform platform integration efforts for the AN/UPX-37/41C Interrogator, AN/APX-118/123 Common Digital Transponder, AN/APX-119 Transponder, and AN/APX-111 Combined Interrogator Transponder.											

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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 0604777N: Navigation/Id System		PROJECT 1253: Combat Ident System
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)				
		FY 2011	FY 2012	FY 2013
FY 2011 Accomplishments: Continued integration in MV-22, F/A-18E/F and EA-18G aircraft.				
FY 2012 Plans: Continue integration in MV-22, F/A-18E/F and EA-18G aircraft.				
FY 2013 Plans: Continue production line insertions and host platform integrations. Cost growth from FY12 to FY13 stems from the reinsertion of AN/APX-111 Combined Interrogator Transponder (CIT) integration for the F/A-18E/F and EA-18G with the new H12 software, which was terminated in FY12 due to budget reductions. In addition, maturation of the CIT will continue and begin integration into the F/A-18 A+/C/C+/D platform. The MV-22 platform integration will finalize in FY13.				
Title: Mode 5 systems Engineering and Integrated Logistics Support (ILS) Articles:		6.620 0	1.692 0	1.851 0
Description: Performed systems engineering and analysis in support of Mode 5 hardware/software development on AN/UPX-37/41C Interrogator, AN/APX-118/123 Common Digital Transponder, AN/APX-119 Transponder, AN/APX-111 Combined Interrogator Transponder, Cryptographic Module, Mode 5 Engineering Test Equipment, and Mode 5 support equipment. The Cryptographic Module included, but is not limited to, activities such as ILS, Design and Engineering Studies and Analysis, and Configuration Management performed as the Lead Service.				
FY 2011 Accomplishments: Continued systems engineering and analysis for deficiency correction, and implementation of Mode 5 in AN/APX-111 equipment. Initiated systems engineering for F/A-18E/F, EA-18G, E-2D and MV-22 aircraft.				
FY 2012 Plans: Continue systems engineering and analysis for MV-22, F/A-18E/F and EA-18G aircraft.				
FY 2013 Plans: Continue systems engineering and analysis for MV-22, F/A-18E/F and EA-18G aircraft and begin flight test.				
Title: Mode 5 Upgrade Developmental Test & Operational Test Articles:		5.954 0	4.382 0	3.831 0
Description: Perform Mode 5 developmental and operational test phases for AN/UPX-37/41C Interrogator, AN/APX-118/123 Common Transponder, AN/APX-119 Transponder, and AN/APX-111 Combined Interrogator Transponder.				
FY 2011 Accomplishments:				

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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 0604777N: Navigation/Id System				PROJECT 1253: Combat Ident System			
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)									FY 2011	FY 2012	FY 2013
Conducted Integrated testing and Operational Testing for the AN/APX-123 on the MH-60R/S, AH-1Z/UH-1Y, E-2D, and AN/UPX-41C.											
FY 2012 Plans: Conduct initial lab testing on Mode 5 AN/APX-111, integrated testing on the MV-22 and operational testing on the E-2D and MV-22.											
FY 2013 Plans: Continue lab testing on Mode 5 AN/APX-111, integrated testing on the MV-22 and operational testing on the E-2D and MV-22.											
Accomplishments/Planned Programs Subtotals									29.741	11.512	18.250
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/2851: Identification Systems	22.998	31.470	35.474	0.000	35.474	39.119	38.719	35.276	29.072	Continuing	Continuing
• APN/0582: Identification Systems	20.280	32.030	39.846	0.000	39.846	41.957	46.992	55.528	47.239	Continuing	Continuing
D. Acquisition Strategy											
The Acquisition Strategy is to develop Mode 5 Engineering Change Proposals for modern Mark XII Identification Friend or Foe equipment and integrate into all Navy Combat Weapons systems platforms and transition the Navy's Cooperative Identification Capability to Mode 5.											
E. Performance Metrics											
Complete Operational Test Readiness Review (OTRR) in 3rd Quarter FY 2011. Begin Full Rate Production and achieve Initial Operational Capability in FY 2012.											

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Exhibit R-3, RDT&E Project Cost Analysis: 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 0604777N: Navigation/Id System				PROJECT 1253: Combat Ident System						
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 Hardware Development	C/FFP	Lockheed:Owego, NY	3.354	-		-		-		-	3.651	7.005	7.005	
Primary Hardware Development	WR	NAWCWD:China Lake CA	12.027	-		2.735	Jan 2013	-		2.735	16.014	30.776		
Primary Hardware Development	SS/CPFF	Northrup Grumman:Bethpage NY	3.886	-		-		-		-	1.701	5.587	5.587	
Primary Hardware Development	Various	BAE:Greenlawn NY	26.343	0.093	Apr 2012	0.114	Jan 2013	-		0.114	0.547	27.097	27.097	
Primary Hardware Development	Various	Boeing:Philiadelphia, PA	6.683	0.250	Jun 2012	-		-		-	0.614	7.547	7.547	
Primary Hardware Development	Various	Raytheon:Towson, MD	1.164	-		-		-		-	0.353	1.517	1.517	
Primary Hardware Development	Various	Boeing:St Louis. MO	17.521	5.095	Jun 2012	8.960	Jan 2013	-		8.960	28.882	60.458	61.461	
Systems Engineering	WR	NAWCAD:PAX River, MD	10.671	1.507	Nov 2011	1.682	Nov 2012	-		1.682	8.991	22.851		
Systems Engineering	WR	NAWCAD:St Inigoes, MD	13.457	0.068	Nov 2011	0.125	Nov 2012	-		0.125	2.191	15.841		
Systems Engineering	WR	NAWCWD:China Lake, CA	0.600	-		-		-		-	0.000	0.600		
Primary Hardware Development	Various	L-3:Waco, TX	-	-		0.759	Mar 2013	-		0.759	2.516	3.275	3.275	
Subtotal			95.706	7.013		14.375		-		14.375	65.460	182.554		
Support (\$ 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	
ILS	Various	Various:Various	3.552	0.117	Nov 2011	0.045	Nov 2012	-		0.045	0.869	4.583		
Software Development	Various	Various:Various	2.708	-		-		-		-	0.000	2.708		
Technical data	Various	Various:Various	0.053	-		-		-		-	0.000	0.053		

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Exhibit R-3, RDT&E Project Cost Analysis: 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 0604777N: Navigation/Id System				PROJECT 1253: Combat Ident System					
Support (\$ 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
Subtotal			6.313	0.117		0.045		-		0.045	0.869	7.344	
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
Developmental T & E	WR	NAWCAD:PAX River MD	14.612	4.192	Nov 2011	3.830	Nov 2012	-		3.830	12.832	35.466	
Operational T & E	WR	NAWCAD:PAX River MD	16.433	0.190	Nov 2011	-		-		-	3.611	20.234	
Test Assets	Various	Various:Various	3.396	-		-		-		-	0.000	3.396	
Subtotal			34.441	4.382		3.830		-		3.830	16.443	59.096	
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
Contract Engineering Support	Various	Various:Various	0.450	-		-		-		-	0.000	0.450	0.450
Government Engineering Support	Various	Various:Various	1.811	-		-		-		-	0.000	1.811	
Program Management Support	Various	Various:Various	1.961	-		-		-		-	0.000	1.961	
ETS (Non-FFRDC)	WR	Various:PAX River MD	0.174	-		-		-		-	0.000	0.174	
Subtotal			4.396	-		-		-		-	0.000	4.396	
			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			140.856	11.512		18.250		-		18.250	82.772	253.390	
Remarks													

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Exhibit R-4, RDT&E Schedule Profile: 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 0604777N: <i>Navigation/Id System</i>	PROJECT 1253: <i>Combat Ident System</i>

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Exhibit R-4, RDT&E Schedule Profile: 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 0604777N: <i>Navigation/Id System</i>	PROJECT 1253: <i>Combat Ident System</i>

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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 0604777N: <i>Navigation/Id System</i>	PROJECT 1253: <i>Combat Ident System</i>	

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Combat Identification Systems				
Acquisition Milestones: Milestones: Full Rate Production Decision Review (FRPDR)	3	2012	3	2012
Acquisition Milestones: Milestones: IOC	3	2012	3	2012
Acquisition Milestones: Milestones: Mode 5 Joint IOC	4	2014	4	2014
Systems Development: Hardware Development: Production Line Insertion	1	2011	4	2017
Systems Development: Hardware Development: Prepare & Evaluate ECPs/SCDs	1	2011	4	2017
Systems Development: Hardware Development: Mode 5 Spiral Development	2	2015	2	2015
Systems Development: Software Development Integration: Host Platform Integrations	1	2011	4	2017
Systems Development: Reviews: Operational Test Readiness Review (OTRR)	3	2011	3	2011
Test and Evaluation: Operational Evaluation: OT-C2 (IOT&E)	1	2012	1	2012
Test and Evaluation: Operational Evaluation: IOT&E Outbrief	3	2012	3	2012
Test and Evaluation: Operational Evaluation: Follow-on Test and Evaluation	1	2012	4	2017
Production Milestones: Contract Awards: LRIP 5 Contract Award (OPN, APN5, RDTEN)	2	2011	2	2011
Production Milestones: Contract Awards: LRIP 6 Contract Award (OPN, APN5, RDTEN)	1	2011	1	2011
Production Milestones: Contract Awards: FRP Contract Award	3	2012	3	2012
Deliveries: Low-Rate Initial Production (LRIP) Deliveries (DI,CXP) (OPN, APN5, RDTEN)	1	2011	2	2013
Deliveries: FRP Deliveries	2	2013	4	2017