Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy										DATE: February 2011	
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*				R-1 ITEM NOMENCLATURE PE 0604504N: *Air Control*							
COST ($ in Millions)	**FY 2010**	**FY 2011**	**FY 2012 Base**	**FY 2012 OCO**	**FY 2012 Total**	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**	**Cost To Complete**	**Total Cost**
Total Program Element	6.373	5.665	5.521	-	5.521	5.618	6.172	6.301	6.379	Continuing	Continuing
0718: *MATCALS*	0.492	0.369	0.620	-	0.620	0.631	0.644	0.659	0.666	Continuing	Continuing
0993: *Carrier ATC*	5.440	4.882	4.507	-	4.507	4.587	5.120	5.228	5.293	Continuing	Continuing
1657: *ATC Improvement*	0.441	0.414	0.394	-	0.394	0.400	0.408	0.414	0.420	Continuing	Continuing

A. Mission Description and Budget Item Justification

This program element provides for the development, integration, and testing of Automated Air Traffic Control (ATC) hardware and software required to provide improved flight safety and more reliable all-weather ATC and landing system capabilities at Naval Air Stations (NASs) and Marine Corps Air Stations (MCASs) and Fleet Area Control and Surveillance Facilities (FACSFAC) worldwide. Funded programs are required to upgrade or replace aging ATC and landing system equipment on aircraft, aircraft carriers, amphibious ships, NASs, MCASs and Navy/Marine Corps tactical/expeditionary airfields and remote landing sites.

B. Program Change Summary ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	6.506	5.665	6.023	-	6.023
Current President's Budget	6.373	5.665	5.521	-	5.521
Total Adjustments	-0.133	-	-0.502	-	-0.502
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.018	-			
• Program Adjustments	-	-	-0.323	-	-0.323
• Section 219 Reprogramming	-0.115	-	-	-	-
• Rate/Misc Adjustments	-	-	-0.179	-	-0.179

Change Summary Explanation

Schedule:

Proj. 0993: With the need for the ATC Console being delayed until delivery of CVN-79, currently scheduled for FY2020, this budget has re-focused efforts on the AN/SPN-43 Service Life Extension Program.

Technical:

Not applicable.

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604504N: *Air Control*	PROJECT 0718: *MATCALS*	

COST ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
0718: *MATCALS*	0.492	0.369	0.620	-	0.620	0.631	0.644	0.659	0.666	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

This program provides for continued development, integration, and testing of hardware and software to meet requirements for all-weather operation and improved flight safety of Air Traffic Control and Landing Systems at Marine Corps expeditionary airfields. Current program includes approved transition to Air Surveillance and Precision Approach Radar Control System (ASPARCS). The ASPARCS will replace the legacy Air Traffic Control (ATC) Precision Approach Radar (PAR), Air Surveillance Radar (ASR), and Communications and Control Subsystem with a High Mobility Multipurpose Wheeled Vehicle based PAR, ASR, and Command and Control (C2) Subsystem. Efforts have begun for requirements definition, development and engineering for the ASPARCS Pre-Planned Product Improvements (P3I), in accordance with Marine Corps Requirements Oversight Council (MROC) Decision Memorandum 11-2005 dated December 2004. P3I includes the design and development of software code to interface C2 input/output to existing software, incorporating Radar Range Extension and Mapping functionality, enhanced simulation and training and providing increased operator workstations.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: ASPARCS Improvements	0.492	0.369	0.620	-	0.620
Articles:	0	0	0		0
Description: Investigate and resolve obsolescence issues. Perform studies and analyses to implement P3I and other evolutionary improvements. Develop criteria for existing ASPARCS software to achieve Defense Information Infrastructure-Common Operating Environment Level 5 compliance, Information Assurance, Radar Range Extension and Mapping functionality, and enhanced simulation and training into the existing ASPARCS software. Perform studies and analyses.					
FY 2010 Accomplishments: Completed investigation of obsolescence issues. Performed studies and analyses to implement P3I and other evolutionary improvements. Developed criteria for existing ASPARCS software to achieve Defense Information Infrastructure-Common Operating Environment Level 5 compliance, Information Assurance, Radar Range Extension and Mapping functionality, and enhanced simulation and training into the existing ASPARCS software. Perform studies and analyses. Developed a requirement/capabilities document for Common Aviation Command Control System (CAC2S) / Ground Air Task Oriented Radar System (GATOR) requirements to interface with ASPARCS.					
FY 2011 Plans:					

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604504N: *Air Control*	PROJECT 0718: *MATCALS*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Develop and complete the Command, Control and Communications (C3) interface software for ASPARCS that meets Information Assurance requirements. ***FY 2012 Base Plans:*** Fund the development of a Capabilities Development Document for Replacement Expeditionary ATC Tower. Initial Capabilities Document for ATC states that a deployable, mobile, scalable (the size of airfield) tower with enhanced night vision device capability, and equipped with a certified tower radar display, is a capability gap in fielded Marine Air Traffic Control and Landing System (MATCALS) equipment. Current tower has increasing obsolescence issues and is reaching its service life limits.					
Accomplishments/Planned Programs Subtotals	0.492	0.369	0.620	-	0.620

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• OPN/2815: *MATCALS*	15.122	43.827	8.136	7.232	15.368	5.899	6.084	13.777	6.425	Continuing	Continuing

D. Acquisition Strategy

ASPARCS is an ACAT IVT program. Lockheed Martin was awarded the contract for this effort in June 2000. This effort included First Article development (Fixed Price Incentive) with (Firm Fixed Priced) production options. Schedule delays and technical issues with the PAR and ASR and integration with the operation subsystem/communication subsystem resulted in a no-cost close out to the Lockheed Martin contract in November 2004. An Acquisition Decision Memorandum was signed in Jan 2005 approving the procurement of the Army AN/TPN-31 System to fulfill the ASPARCS requirement for July 2006. The MROC Decision Memorandum 11-2005 of December 2004 outlined the evolutionary improvements envisioned by Headquarters Marine Corps. This program has joined with the Army to implement P3I and evolutionary product improvements.

E. Performance Metrics

The MATCALS RDTEN funding will develop a planned replacement for the current ASR.

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604504N: *Air Control*	PROJECT 0993: *Carrier ATC*	

COST ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
0993: *Carrier ATC*	5.440	4.882	4.507	-	4.507	4.587	5.120	5.228	5.293	Continuing	Continuing
Quantity of RDT&E Articles	0	1	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

Shipboard Air Traffic Control (ATC) Central systems, interfacing with versions of the AN/TPX-42(V) Direct Altitude and Identity Readout system (DAIR), allow Shipboard Air Traffic Controllers to identify, marshal, and direct aircraft within a 50 Nautical Mile (NM) radius of the ship. At closer range (8NM) a ship's Automatic Carrier Landing System (ACLS) and Independent Landing Monitor (ILM) are operationally required to affect safe landing on the moving decks of ships. The AN/SPN-41 ILM and AN/SPN-46 ACLS provide verification of aircraft approach glideslope position and precise aircraft automatic control respectively during its final approach and landing sequence to an aircraft carrier. Dual efforts are underway to improve the AN/SPN-46 system availability and supportability until at least September 2020. These efforts include various Engineering Change Proposals (ECPs), and the Life Cycle Extension (LCE) program transitional changes include a re-architecture of its radar control group process with Commercial Off the Shelf (COTS) technology, replacement of the computer group processing hardware, and conversion of system program software from CMS-2 to the more commonly used 'C' programming language. In recent years, the top 25% of the AN/SPN-43 frequency band has been reallocated to the Fixed Wireless Access community prohibiting ATC radar operation within 50 miles of the coast. Because the Navy requires an air traffic control radar, this project unit will include engineering efforts to identify requirements and develop a suitable replacement and/or a Service Life Extension Plan (SLEP) before the AN/SPN-43 becomes operationally ineffectual. Finally, the AN/TPX-42A(V)14 DAIR underwent several phased upgrades that have resulted in three field changes. System improvements include replacing militarized front-end equipment in the track processor with COTS technology, converting the operational program software to more commonly used and flexible 'C' language, integrating and interface with Mode 5 Identification Friend or Foe, and integrating a flat panel monitor into the AN/UYQ-70 console. The development of an ATC common console will reduce operational costs, improve reliability, and provide compatible interfaces and commonality for all ATC workstations.

Test Article Descriptions:

The AN/TPX-42 ATC Console Engineering Development Model delivered in FY 2012 will be used to support developmental testing to verify system performance against established requirements.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: AN/TPX-42	5.240	1.847	1.239	-	1.239
Articles:	0	0	0		0
Description: This project funds development of the final ATC Console configuration to include JPALS interface, Dual Band Radar interface, and replacement of AN/SPN-35 Operator displays. It is anticipated that this technology insertion will result in a formal nomenclature change for the AN/TPX-42 system, as such the					

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604504N: *Air Control*	PROJECT 0993: *Carrier ATC*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
identification of the modification kits will change to 'H' Kits. "H" Kits will also identify and test Voice Recorder replacement technology and obsolete components. ***FY 2010 Accomplishments:*** Commenced development of Field Change 4 & 5 to the AN/TPX-42 which will identify and test a replacement voice/video recorder and design and test a JPALS interface. ***FY 2011 Plans:*** Continue development of an ADS B interface, Field Change 4 & commence testing of Field Change 5 to AN/TPX-42. ***FY 2012 Base Plans:*** Complete Field Change 4 testing for the AN/TPX-42.					
Title: AN/SPN-43C ***Articles:*** ***Description:*** This project funds development of the final ATC Console configuration to include Joint Precision Approach and Landing System (JPALS) interface, Dual Band Radar interface, and replacement of AN/SPN-35 Operator displays. It is anticipated that this technology insertion will result in a formal nomenclature change for the AN/TPX-42 system, as such the identification of the modification kits will change to 'H' Kits. "H" Kits will also identify and test Voice Recorder replacement technology and obsolete components. This project funds development of an AN/SPN-43C replacement or SLEP. ***FY 2010 Accomplishments:*** Continue identification and testing and begin system development of AN/SPN-43C replacement system. ***FY 2011 Plans:*** Begin development of AN/SPN-43 SLEP. ***FY 2012 Base Plans:*** Continue system development and begin design/build of a receiver ECP prototype for the AN/SPN-43 SLEP testing.	0.200 0	3.035 1	3.268 0	-	3.268 0
Accomplishments/Planned Programs Subtotals	5.440	4.882	4.507	-	4.507

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604504N: *Air Control*	PROJECT 0993: *Carrier ATC*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• OPN/2831: *Shipboard Air Traffic Control*	7.945	7.658	7.394	0.000	7.394	8.394	9.485	10.216	10.370	Continuing	Continuing
• OPN/2832: *Automatic Carrier Landing Systems*	18.823	15.169	18.518	0.000	18.518	15.767	18.233	19.511	19.852	Continuing	Continuing

D. Acquisition Strategy

AN/SPN-46 Computer Group replacement subprojects are part of the AN/SPN-46 LCE project, which is an ECP. Initial contract was awarded in November 2003 for the Radar Control Group, and the contract for the Computer Group was awarded in December 2005. AN/TPX-42 Voice/Video recorder replacement, JPALS Interface, Shipboard trainer, and ATC Console are all anticipated ECPs, with improvements being incorporated into the production of AN/TPX-42 upgrade kits. AN/SPN-43 SLEP will consist of a receiver, pedestal, and transmitter ECPs and will be incorporated into AN/SPN-43 upgrade kits.

All other projects are non-ACAT upgrades to existing systems. An evolutionary acquisition approach is being used to introduce these technology advancements that either satisfy user requirements, such as all weather operation, or address supportability and cost of ownership problems.

E. Performance Metrics

Quality Design and Build will occur in FY12 for the AN/SPN-43C.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604504N: *Air Control*	PROJECT 0993: *Carrier ATC*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Primary HDW Develop-SPN-46	WR	NAWCAD:PAX River, MD	11.546	-		-		-		-	0.000	11.546	
Primary HDW Develop-SPN-46	SS/CPIF	SNC:Sierra, NV	6.356	-		-		-		-	0.000	6.356	6.356
Primary HDW Develop-TPX-42	WR	NAWCAD:PAX River, MD	2.623	0.350	Dec 2010	0.794	Dec 2011	-		0.794	Continuing	Continuing	Continuing
Primary HDW Develop - SPN-43	WR	NAWCAD:PAX River, MD	-	-		1.703	Dec 2011	-		1.703	Continuing	Continuing	Continuing
		Subtotal	20.525	0.350		2.497		-		2.497			

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Software Development-SPN-46	WR	NAWCAD:PAX River, MD	13.120	-		-		-		-	0.000	13.120	
Software Development-TPX-42	WR	NAWCAD:PAX River, MD	7.599	3.658	Dec 2010	1.153	Dec 2011	-		1.153	Continuing	Continuing	Continuing
Integrated Logistics Support-TPX-42	WR	NAWCAD:PAX River, MD	0.632	0.100	Dec 2010	0.075	Dec 2011	-		0.075	Continuing	Continuing	Continuing
Studies & Analysis- SPN-46	WR	NAWCAD:PAX River, MD	0.273	-		-		-		-	0.000	0.273	
Studies & Analysis- SPN-43	WR	NAWCAD:PAX River, MD	1.105	0.250	Dec 2010	0.050	Dec 2011	-		0.050	Continuing	Continuing	Continuing
Studies & Analysis- TPX-42	WR	NAWCAD:PAX River, MD	-	0.250	Dec 2010	0.050	Dec 2011	-		0.050	Continuing	Continuing	Continuing
Integrated Logistics Support - SPN-43	WR	NAWCAD:PAX River, MD	-	-		0.075	Dec 2011	-		0.075	Continuing	Continuing	Continuing
		Subtotal	22.729	4.258		1.403		-		1.403			

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604504N: *Air Control*	PROJECT 0993: *Carrier ATC*

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation- SPN-46	WR	NAWCAD:PAX River, MD	1.645	-		-		-		-	0.000	1.645	
Developmental Test & Evaluation- TPX-42	WR	NAWCAD:PAX River, MD	0.891	0.159	Dec 2010	0.458	Dec 2011	-		0.458	Continuing	Continuing	Continuing
OperationalTest & Evaluation- TPX-42	WR	OPTEVOR:Norfolk, VA	0.062	-		-		-		-	0.000	0.062	
		Subtotal	2.598	0.159		0.458		-		0.458			

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Support	C/CPFF	American Electronics, Inc.:California, MD	1.837	0.100	Dec 2010	0.046	Dec 2011	-		0.046	Continuing	Continuing	Continuing
Program Management Support	WR	NAWCAD:PAX River, MD	-	-		0.103	Dec 2011	-		0.103	Continuing	Continuing	Continuing
Travel	WR	NAVAIRHQ:PAX River, MD	0.120	0.015	Oct 2010	-		-		-	0.000	0.135	
		Subtotal	1.957	0.115		0.149		-		0.149			

	Total Prior Years Cost	FY 2011 Cost	FY 2011	FY 2012 Base Cost	FY 2012 Base	FY 2012 OCO Cost	FY 2012 OCO	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	47.809	4.882		4.507		-		4.507			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0604504N: *Air Control*	**PROJECT** 0993: *Carrier ATC*

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0604504N: *Air Control*	**PROJECT** 0993: *Carrier ATC*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Carrier ATC				
Acquisition Milestones: Milestones: Configuration Control Board (SPN43) - Part 1	1	2011	1	2011
Acquisition Milestones: Milestones: Configuration Control Board (TPX42)	4	2014	4	2014
Acquisition Milestones: Milestones: Configuration Control Board (SPN43) - Part 2	2	2014	2	2014
System Development: Hardware Development: AN/SPN-43C	1	2010	4	2016
System Development: Hardware Development: System Requirement Review (SRR) (SPN43)	1	2010	4	2010
System Development: Hardware Development: System Development (SPN43)	1	2011	1	2012
System Development: Hardware Development: Quality Design and Build (SPN43)	1	2012	4	2012
System Development: Hardware Development: Prototype Delivery (SPN43)	1	2013	1	2013
System Development: Software Development: System Requirement Review (SRR) (TPX42)	1	2010	3	2014
System Development: Software Development: System Development (TPX42)	1	2015	1	2016
System Development: Software Development: Quality Design and Build (TPX42)	1	2016	4	2016
Test and Evaluation: Developmental Testing/Operational Testing (SPN43)	1	2013	1	2014
Deliveries: Production Deliveries (SPN43)	1	2015	4	2016
Deliveries: AN/TPX-42	1	2010	4	2016

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604504N: *Air Control*	PROJECT 1657: *ATC Improvement*	

COST ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
1657: *ATC Improvement*	0.441	0.414	0.394	-	0.394	0.400	0.408	0.414	0.420	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

This program provides for engineering development, integration, adaptation, and testing of new and/or modernized Air Traffic Control (ATC) systems, air navigational aids, landing systems, and ATC communication systems for Naval and Marine Corps Air Stations (NAS/MCAS) and Fleet Air Traffic Control Systems. These systems are critical to Naval Aviation and provide for safe, efficient air operations. Additionally, the Federal Aviation Administration (FAA) is affecting major modernization of the National Airspace System (NAS). The Navy must maintain compatibility with FAA-developed ATC systems in order to ensure seamless interoperability within the NAS. NAS modernization initiatives in Project 1657 include the Visual Information Display System (VIDS) and follow-on Pre-Planned Product Improvements, with additional RDT&E efforts required for modified commercial-off-the-shelf ATC systems and equipment for modernization and recapitalization of these systems at our NAS, MCAS & Fleet Area Control & Surveillance Facilities (FACSFACs) worldwide. Landing Systems initiatives include re-engineering and technology insertion efforts for the Precision Approach Radar, Tactical Air Navigation System, and other landing systems.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: NAS MOD VIDS	0.419	0.397	0.194	-	0.194
Articles:	0	0	0		0
Description: Continue engineering development of pre-planned product improvements for the VIDS and initiate efforts to incorporate VIDS into the FACSFACs. Research display alternatives for Navy ATC systems, and evaluate alternatives for future communication and radar systems.					
FY 2010 Accomplishments: Continued engineering development of Pre-Planned Product Improvements for VIDS to develop additional capabilities into VIDS.					
FY 2011 Plans: Continue engineering development of Pre-Planned Product Improvements for VIDS to develop additional capabilities into VIDS.					
FY 2012 Base Plans: Continue engineering development of Pre-Planned Product Improvements for VIDS to incorporate multiple weather source inputs. Continue Standard Terminal Automation Replacement System and VIDS engineering					

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604504N: *Air Control*	PROJECT 1657: *ATC Improvement*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
development for technology insertion. Begin engineering efforts to maintain interoperability with the FAA's next generation air traffic control system.					
Title: Fleet ATC Systems	0.022	0.017	0.200	-	0.200
Articles:	0	0	0		0
Description: Research efforts to determine the best technical approach to integrate various data link and communication system upgrades into Navy/Marine Corps ATC Systems including but not limited to the Digital Airport Surveillance Radar (DASR) into the FACSFAC Fleet Area Control Tracking System (FACTS) 3200 system. Evaluate alternatives for future processor/display, sensor and communication systems.					
FY 2010 Accomplishments: Completed development of DASR interface with FACTS software.					
FY 2011 Plans: Identify components for Navy Scheduling System (NAVSKED)/FACTS Technology Refresh. Begin engineering efforts to maintain interoperability with the FAA's next generation air traffic control system.					
FY 2012 Base Plans: Continue engineering development for NAVSKED/FACTS Technology Refresh and engineering efforts to maintain interoperability with the FAA's next generation air traffic control system.					
Accomplishments/Planned Programs Subtotals	0.441	0.414	0.394	-	0.394

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• OPN/2840: *National Air Space System Modernization*	28.899	17.531	26.054	0.000	26.054	17.190	20.037	30.085	30.619	Continuing	Continuing
• OPN/2845: *Fleet Air Traffic Control Systems*	7.798	6.851	7.213	0.000	7.213	6.898	7.785	8.369	8.514	Continuing	Continuing

D. Acquisition Strategy

All projects are non-ACAT upgrades to existing systems. An evolutionary acquisition approach is being used to introduce technology advancements that either satisfy emergent requirements or address supportability and cost of ownership problems.

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0604504N: *Air Control*	**PROJECT** 1657: *ATC Improvement*

E. Performance Metrics

The ATC Improvement program goal is to continue to research, evaluate and develop display and other alternatives for Navy ATC, communication and radar systems.