SECTION IV - TECHNOLOGY INSERTION

The Department's program to recapitalize and transform naval forces is improving in this budget. We have 2 more new construction ships and 1 additional aircraft than in the FY 2004 budget as well as funding for transformational initiatives consistent with our focus to buy down future risk.

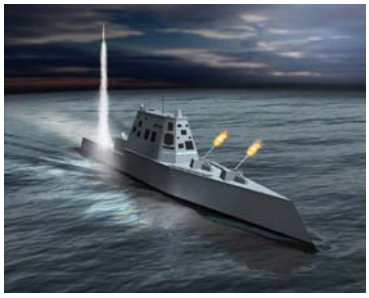
SHIP PROGRAMS

Surface Programs

The Department's FY 2005 budget continues to address the requirement for the acquisition, modernization, and recapitalization of the world's preeminent surface fleet. Continuing to integrate emerging technologies, the Navy will ensure that tomorrow's fleet will remain on the cutting edge.

CVN-21 will be a transformational 21st century ship and the future centerpiece of the Carrier Strike Group. It will have a new electrical generation and distribution system, an electro-magnetic aircraft launching system, a new/enlarged flight deck, weapons and material handling improvements, and a smaller crew (by at least 500). Construction of CVN-21 remains on track to start in FY 2007.

DD(X), a transformational 21st century surface combatant, will play a key role in the *Sea Power 21* strategic concept. Winning the fight requires the ability to assure access and maneuver warfare. DD(X) will be a multi-mission surface combatant and will be the precision strike and volume fires provider within the family of surface combatants. It will provide credible forward presence while operating independently or as an integral part of naval, joint, or combined expeditionary forces. Armed with an array of land attack weapons, DD(X) will provide offensive, distributed, and precision firepower at long ranges in support of forces ashore. DD(X) lead ship construction is planned to start in FY 2005, commencing with the detailed design.



A critical component of *Sea Power 21* is the Littoral Combat Ship (LCS). LCS is envisioned to be a fast, agile, stealthy, relatively small and affordable surface combatant capable of operating against anti-access, asymmetric threats in the littorals. The primary mission areas of LCS are small boat prosecution, mine countermeasures, shallow water anti-submarine warfare, and intelligence, surveillance, and reconnaissance. Secondary missions include homeland defense, maritime intercept, and special operation forces support. It will operate in environments where it is impractical to employ larger multi-mission ships. Detailed design and construction of the first LCS Flight 0 ship is planned in FY 2005.

FY 2005 marks the last procurement of the DDG-51 under the FY 2002-2005 multi-year contract. The Ticonderoga class (CG-47) cruiser modernization program will continue in FY 2005. The modernization will replace obsolete combat systems, reduce combat system and computer maintenance costs, and extend mission relevant service life. The first shipyard availability begins in FY 2006.

Building on LPD-17 advanced procurement funding provided by the Congress in FY 2004, the FY 2005 budget provides the residual funding to construct LPD-23. The FY 2005 budget includes incremental funding needed in FY 2005 and FY 2006 to complete LHD-8. The Landing Craft Air Cushioned modernization program continues with a service life extension for five craft in FY 2005. The Landing Craft Utility (LCU) replacement program is a new start in FY 2005 and will build the first LCU(R) for testing and evaluation. The budget request continues research and development efforts in support of Landing Helicopter Assault Replacement procurement in FY 2008.

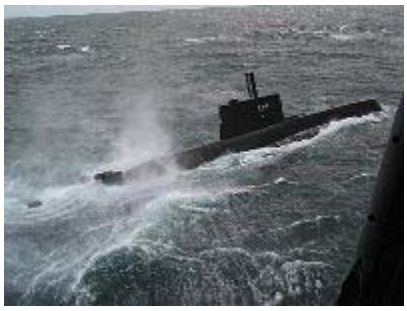
The FY 2005 budget also provides for procurement of two Auxiliary Cargo and Ammunition Ships in the National Defense Sealift Fund (NDSF). These will be the seventh and eighth ships of the class. The NDSF budget also includes funding for the development of mission variants for the FY 2007 MPF(Future) and the FY 2009 MPF(Aviation). The FY 2005 budget continues to provide advanced procurement funds for the CVN 70 Refueling Complex Overhaul, now scheduled to begin in FY 2006.

Chart 13 displays shipbuilding quantities for FY 2004 to FY 2009.

Chart 13 - Shipbuilding Programs

	FY04		FY05						
	PB04	Current	PB04	PB05	FY06	FY07	FY08	FY09	FYDP
CVN-21	-	-	-	-	-	1	-	-	1
SSN-774	1	1	1	1	1	1	1	2	6
DDG-51	3	3	3	3	-	-	-	-	3
DDX	-	-	1	1	-	2	2	3	8
LPD-17	1	1	-	1	1	1	1	1	5
LHA(R)	-	-	-	-	-	-	1	-	1
LCS	-	-	1	1	1 + 1	1	3	6	13
T-AKE (NDSF)	2	2	2	2	2	1	-	-	5
T-AOE(X) (NDSF)	-	-	-	-	-	-	-	2	2
MPF(Future) (NDSF)	-	-	-	-	-	1	-	2	3
MPF(Aviation) (NDSF)	-	-	-	-	-	-	-	1	1
Total New Construction	7	7	8	9	6	8	8	17	48
CVN RCOH	-	-	1	-	1	-	-	-	1
SSN Refueling	-	2	1	-	-	3	1	-	4
SSBN Refueling	-	-	-	1	1	1	1	1	5
SSGN Conversion	1	1	1	1	-	-	-	-	1
PY Completion $M		$636		$484	$46	-	-	-	
Color Legend: Funded in RDTEN		Transformational							

Submarine Programs



The Navy will covertly project power with its fleet of modern SSN-688, SSGN, Seawolf, Virginia class, and Trident submarines. Their firepower, stealth sensors, and communications equipment will enable submarines to act as force multipliers in every conceivable scenario. This budget also includes the ongoing effort to modernize the existing submarine fleet with the latest technology ensuring the viability of these critical ships while, at the same time, continuing to replace aging fast attack submarines with the new Virginia class submarine. Construction of Virginia class submarines is performed under a teaming arrangement with General Dynamics and Northrop Grumman Newport News Shipbuilding Company. FY 2004 funded the first of five submarines under a multi-year procurement (MYP) contract awarded in January. The second submarine of the MYP contract is funded in FY 2005. Approximately $240 million in economic order quantity advanced procurement is also funded in FY 2005 in support of this contract.

FY 2005 also includes funding to continue the SSGN program, providing covert conventional strike platforms capable of carrying 150 Tomahawk

missiles. The FY 2005 budget request will convert the third of four Trident SSBNs to SSGNs and refuel the fourth submarine. Conversion of the fourth is planned for FY 2006.

Ship Weapons Programs

The Standard Missile program replaces ineffective, obsolete inventories with the more capable Block IIIB missiles. The Rolling Airframe Missile (RAM) program continues procurement of the improved Guided Missile Launching System and the upgraded Block I missile, providing an enhanced guidance capability along with a helicopter, air, and surface mode. In addition to Standard Missile and RAM, the FY 2005 budget provides funding to continue production of the Evolved Sea Sparrow Missile (ESSM) and will support a production contract award of 71 missiles. Additionally, the Tactical Tomahawk missile continues full rate production in FY 2005 via multi-year procurement.

Major Weapons Quantities

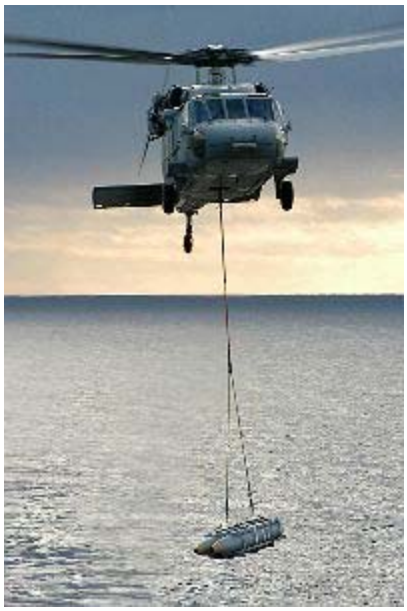
	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Tactical Tomahawk	350	293	419	434	485	424
Standard Missile	75	75	75	75	94	110
RAM	90	90	90	90	90	156
ESSM	82	71	116	108	137	112

Several land attack research and development efforts critical to future littoral warfare continue in FY 2005, including an extended range munition, the 5"/62 gun, the Advance Gun System (AGS), the Naval Fires Control System (NFCS), and the Naval Fires Network (NFN). The AGS will provide the next generation of surface combatants with a modular large caliber gun system including an automated magazine handling system. The NFCS and NFN will use existing fire control infrastructure to serve as the nerve center for surface land attack by automating shipboard land attack battle management duties, incorporating improved land attack weapons systems, and utilizing battlefield digitization.

Also refer to Appendix A for more information:	**Table**
Shipbuilding and Conversion, Navy	A-12
Research, Development, Test and Evaluation, Navy	A-16
Weapon Procurement, Navy	A-11
National Defense Sealift Fund	A-17
Procurement of Ammunition, Navy and Marine Corps	A-15

AVIATION PROGRAMS

Aircraft Programs



The Department's FY 2005 budget is structured to maintain the continued superiority of Navy and Marine Corps aviation for the next generation. The budget continues to maximize the return on procurement dollars, primarily through the use of multi-year procurement contracts for the F/A-18E/F and EA-18G (both airframe and engine), E2-C, MH-60S, and KC-130J. The Department continues to implement the TACAIR integration plan to reduce the number of new aircraft needed. Robust development funding is also provided for Joint Strike Fighter (JSF), MV-22, EA-18G, Multi-Mission Maritime Aircraft (MMA), Aerial Common Sensor (ACS), and Executive Transport Helicopter (VXX).

The F/A-18E/F continues to be the centerpiece of Navy combat aviation and entered into a five-year multi-year procurement contract commencing in FY 2004. Additionally, the FY 2005 budget for this aircraft increases funding for ancillary equipment, weapons integration, and Active Electronically Scanned Array, which are critical to the success of the F/A-18 program. With significant commonality with the F/A-18 E/F, the Department has selected the EA-18G as its follow-on Airborne Electronic Attack aircraft to replace the aging EA-6B fleet.

The Department will continue to procure AH-1Z/UH-1Y. These aircraft will provide numerous capability improvements for the Marine Corps, including increased payload, range, and time on station, improved sensors and lethality, and 85% component commonality. Both aircraft will also incorporate common, modernized and fully integrated cockpits/avionics that will reduce operator workload, and improve situational awareness and safety.

The Department made significant changes to the P-3 and MMA programs to ensure future maritime patrol requirements are met. The Department has added funding for the Special Structural Inspection Kit program, which

provides pre-emptive replacement of P-3 wing components and extends aircraft service life a minimum of 5,000 flight hours. Additionally, FY 2005 funding for MMA will help ensure the Initial Operating Capability of FY 2012 will be met.

Joint aircraft programs continue to be an important component of the naval acquisition strategy, with the JSF continuing in the Systems Development and Demonstration phase. The program has been restructured, with a delay in procurement, to ensure time to address key technology challenges. In FY 2005 the Department will join the Army ACS program to provide a common solution to signal intelligence requirements and to replace the Navy's EP-3s. The joint V-22 program continues with the procurement of MV-22s, coupled with CV-22s, at the minimum sustaining rate. The V-22 program is designed to meet the amphibious/vertical assault needs of the Marine Corps, the strike rescue needs of the Navy, and supplement USSOCOM special mission aircraft.

Continuing the emphasis on transformational systems, the Department has budgeted research and development funding through the FYDP for several aviation programs. The Advanced Hawkeye (E-2 Radar Modernization Program) is funded through the FYDP with the first production in FY 2008. A fully automated digital engine control and improved generators have been incorporated into the aircraft to improve performance and reliability. Additionally, the Department has included funding to support procurement of required capabilities in the fleet, such as Advanced Targeting Forward Looking Infra-Red and Joint Helmet Mounted Cueing Systems. The development of the VXX, the replacement for the legacy Presidential helicopter fleet, continues in FY 2005 to attain an IOC of FY 2008.

The FY 2005 budget continues to demonstrate the Department's commitment to developing, acquiring, and fielding transformational Unmanned Aerial Vehicle (UAV) technologies for intelligence, surveillance, and reconnaissance and tactical missions. The budget includes funding for the Broad Area Maritime Surveillance UAV and the vertical take off and landing UAV.

Chart 14 displays the Department's new production and remanufactured aircraft programs for FY 2004 - FY 2009.

Chart 14 - Aircraft Programs

	FY04		FY05							
	PB04	Current	PB04	PB05	FY06	FY07	FY08	FY09		FYDP
JSF	-	-	-	-	-	2	16	40		58
F/A-18 E/F	42	42	42	42	38	30	24	20		154
EA-18G	-	-	-	-	4	12	18	22		56
MV-22	9	9	8	8	15	29	30	33		115
UH-1Y/AH-1Z	9	9	7	9	12	19	21	21		82
CH-53E	-	-	-	-	-	-	3	5		8
MH-60S	13	13	15	15	26	30	30	40		141
MH-60R	6	6	10	8	15	21	31	31		106
VXX	-	-	-	5	-	3	4	-		12
E-2C	2	2	2	2	2	2	4	4		14
UC-35	2	4	-	-	-	-	-	-		0
C-40	1	1	1	1	3	3	-	-		7
C-37	-	1	1	1	-	-	-	2		3
T-48	1	-	2	1	3	3	7	-		14
T-45	15	14	8	8	5	-	-	-		13
JPATS	-	2	-	-	-	24	48	48		120
KC-130J	-	-	4	4	4	4	4	5		21
BAMS UAV	-	-	-	-	-	2	4	4		10
ACS	-	-	-	-	-	-	2	2		4
MMA	-	-	-	-	-	-	-	8		8
TOTAL	100	103	100	104	127	184	246	285		946
Color Legend:	Funded In RDTEN		Transformational							

Within our aircraft modifications program, we continue emphasis on safety modifications as well as key operational improvements. The FY 2005 budget requests funding for procurement of the AV-8B Open System Core Avionics Requirements program to update obsolete avionics, the F/A-18 Radar Upgrade, and various structural and safety improvements. Funding is also provided for Anti-Surface Warfare Improvement Program efforts, the EP-3 Update III Common Configuration program, and upgrades to tactical aircraft electronic warfare countermeasures capabilities. The Department continues to procure the EA-6B Improved Capability III. This upgrade will provide the Prowler with a new selective re-active receiver with integrated communications, jamming, and connectivity capabilities. This increased capability will be a welcome addition for an aircraft that experienced extremely high OPTEMPO during Operations Enduring Freedom/Noble Eagle and Operation Iraqi Freedom.

Aircraft Weapons Programs

The employment of Precision-Guided Munitions during Operation Enduring Freedom and Operation Iraqi Freedom demonstrated all weather, day and night, precision strike, capable of being delivered well inland on demand. The budget continues to procure M82 and M83 variants of the Joint Direct Attack Munition (JDAM) and includes procurement of unguided bombs to support deliveries of JDAM and Laser Guided Bomb precision guidance kits. The Joint Standoff Weapon (JSOW) Unitary (penetrator variant) enters full rate production in FY 2005, while production of the JSOW Baseline (dispenser variant) continues.

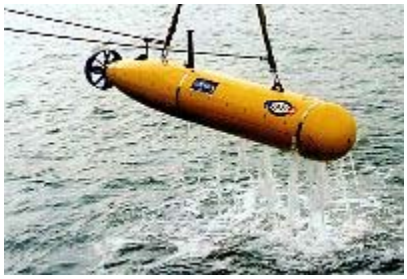
Major Aviation Weapons Quantities						
	FY 2004	**FY 2005**	**FY 2006**	**FY 2007**	**FY 2008**	**FY 2009**
JSOW	328	389	412	380	422	444
SLAM-ER	77	0	0	0	0	0
AIM-9X	102	157	170	226	211	181
JDAM	12,326	6,620	4,250	3,430	2,850	4,380
AMRAAM	42	46	101	150	140	150
JASSM	0	0	0	0	28	106
Common Missile	0	0	0	0	22	88

The AIM-9X Sidewinder air-to-air missile enters full rate production in FY 2005, providing a significantly increased capability required to defeat existing threats. The Department continues the procurement of the Advanced Medium Range Air-to-Air Missile (AMRAAM), the next generation, all weather, all environment, radar guided missile for air defense.

The FY 2005 budget continues the integration of the Joint Air-To-Surface Standoff Missile (JASSM) on the F/A-18E/F. Finally, the Department will enter into a Common Missile research and development program with the Army to replace the aging inventory of TOW, Maverick, and HELLFIRE missiles.

Also refer to Appendix A for more information:	**Table**
Aircraft Procurement, Navy	A-10
Weapon Procurement, Navy	A-11
Procurement of Ammunition, Navy and Marine Corps	A-15
Research, Development, Test and Evaluation, Navy	A-16

MINE WARFARE

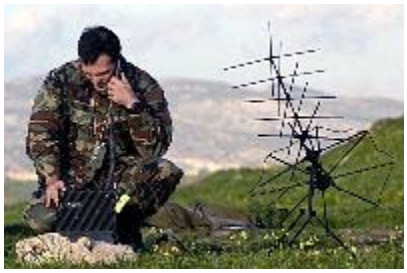


In keeping with the Department's goal to achieve an organic mine warfare capability in FY 2005, the budget includes funding to meet scheduled battle group deployments while maintaining funding for a potent and dedicated Mine Countermeasure force. The FY 2005 budget continues the development and integration of two key organic systems: the AQS-20A Minehunting System (IOC of Nov 2005) and the Airborne Laser Mine Detection System LCS module (IOC of FY 2006) on the MH-60S platform. The budget also continues the development of the Airborne Mine Neutralization System (AMNS), the Rapid Airborne Mine Clearance System (RAMICS), and the Organic Airborne and Surface Influence Sweep (OASIS) system, with IOC planned in FY 2007 for AMNS and RAMICS, and FY 2008 for OASIS. Funding is also included for the development of a single common console for all Airborne Mine Counter Measures systems to establish a fully integrated mid-term organic mine warfare capability on the MH-60 helicopter.

The FY 2005 budget continues the development of the Long-Range Mine Reconnaissance System (LMRS). LMRS will provide a clandestine reconnaissance capability for mine and mine-like objects. The FY 2005 budget includes funding for the development and acquisition of the Remote Minehunting System, with an FY 2005 IOC and planned fielding on DDG 91-96. Lastly, funding is requested for the Assault Breaching System to add mine and obstacle clearance capability in the beach and surf zones.

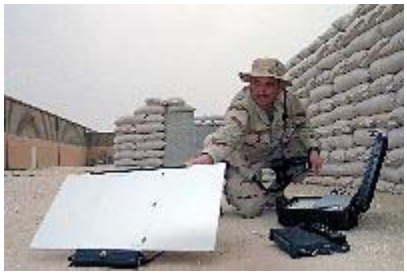
Also refer to Appendix A for more information:	**Table**
Weapons Procurement, Navy	A-11
Other Procurement, Navy	A-13
Research, Development, Test and Evaluation, Navy	A-16

C4I PROGRAMS



The Navy's Command, Control, Communication, Computers, and Intelligence (C4I) programs represent the backbone of the combat capability of Naval forces. The C4I evolutionary plan revolves around four key elements: connectivity; a common tactical picture; a "Sensor-to-Shooter" emphasis; and information/command and control warfare.

A central theme continuing to shape the Navy's budget for C4I programs is the concept of Information Technology for the 21st Century (IT-21). IT-21 provides the common backbone for command, control, communications, computers, and intelligence systems to be linked afloat, ashore, and to the Internet. The Integrated Shipboard Network Systems (ISNS) afloat and local and regional networks ashore integrated under the Navy/Marine Corps Intranet serve as the principal element of this effort. The networks integrate afloat tactical and tactical support applications with enhanced satellite systems and ashore networks. FY 2005 funding continues to accelerate ISNS procurement and installation to achieve a Full Operational Capability (FOC) for all platforms by FY 2007. IT-21 connectivity is critical because it provides the managed bandwidth for timely transmission of information. The Satellite Communications Systems program continues expansion of available bandwidth to the warfighter.



FY 2005 reflects the procurement of the first of nine Advanced Narrowband System/Mobile User Objective System (ANS/MUOS), leading to an Initial Operational Capability (IOC) in FY 2009 and FOC in FY 2013. ANS/MUOS will provide the DoD's Ultra High Frequency satellite communication capability for the 21st century.

FY 2005 continues the development of Advanced EHF (AEHF) terminals that support the synchronization with the Air Force's Advanced Wideband System (AWS/AEHF) satellite program to meet an IOC in FY 2010 and FOC in FY 2014. FY 2005 continues the System Development and Demonstration Phase of the Joint Tactical Radio System Maritime/Fixed Cluster. The joint radio system is a single family of radios that will replace and integrate various incompatible Service radios.

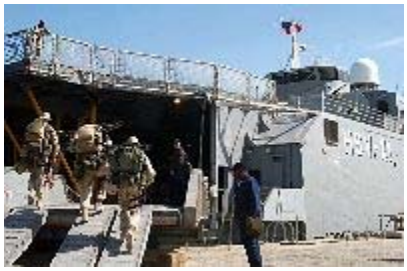
Funding in FY 2005 also continues the procurement and installation of Global Broadcast System, Super High Frequency, and Extra High Frequency terminals and provides for upgraded power distribution and enhanced connectivity "drops" accomplished during equipment installations.

The "Sensor-to-Shooter" concept, which is increasingly critical in the Joint arena, focuses on the process of putting a weapon on target using all available sensor data. Funding continues in FY 2005 for the Advanced Tactical Data Links system, ensuring timely transmission of surveillance, targeting, engagement, combat identification, and battle damage assessment information over IT-21 networks. FY 2005 continues development of FORCEnet. FORCEnet is a cornerstone Command, Control, Communication, Computers, Surveillance, and Reconnaissance architecture which will integrate sensors, networks, decision aids, and weapons into an adaptive human control maritime system in order to achieve dominance across all warfare spectrums.

Information Warfare/Command and Control Warfare is the integrated use of operations security, military deception, psychological operations, electronic warfare, and physical destruction to deny information to, influence, degrade, or destroy an adversary's C2 capabilities against such actions. FY 2005 funding provides for the procurement of Common Data Link – Navy systems and continues funding for the Maritime Cryptologic Systems for the 21st Century. In the Information Systems Security Program, FY 2005 funds the procurement of Mission Critical Secure Terminal Equipment. FY 2005 funding continues to provide cryptologic equipment and secure communications equipment for Navy ships, shore sites, aircraft, and the Marine Corps.

Also refer to Appendix A for more information:	**Table**
Other Procurement, Navy	A-13
Procurement, Marine Corps	A-14

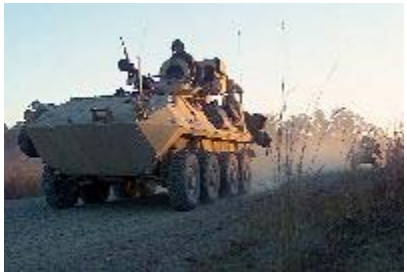
MARINE CORPS GROUND EQUIPMENT



This category of our budget supports the development and subsequent fielding of all equipment used by Marine Corps ground forces. These programs represent the modernization of existing capabilities and some of them will help provide truly transformational methods the Marine Corps will bring to future conflicts.

Modernization efforts contained within the FY 2005 budget reflect several major replacements and upgrade programs, both new and continuing. Included are the High Mobility Multi-Purpose Wheeled Vehicle (HMMWVA2) program and the Light Armored Vehicle Product Improvement Program (LAV PIP). The LAV PIP ensures that LAV combat capabilities will be preserved through FY 2015.

This budget continues the procurement of the transformational Expeditionary Fighting Vehicle (EFV), formerly known as the Advanced Amphibious Assault Vehicle, through the purchase of special tooling in FY 2005. The EFV will allow immediate high-speed surface maneuver by Marine infantry units as they are off-loaded by ships located beyond the enemy's visual horizon. Production representative vehicle procurement occurred in FY 2003 and will deliver in FY 2005. Initial Operational Capability will be reached in FY 2008 and Full Operational Capability in 2018.



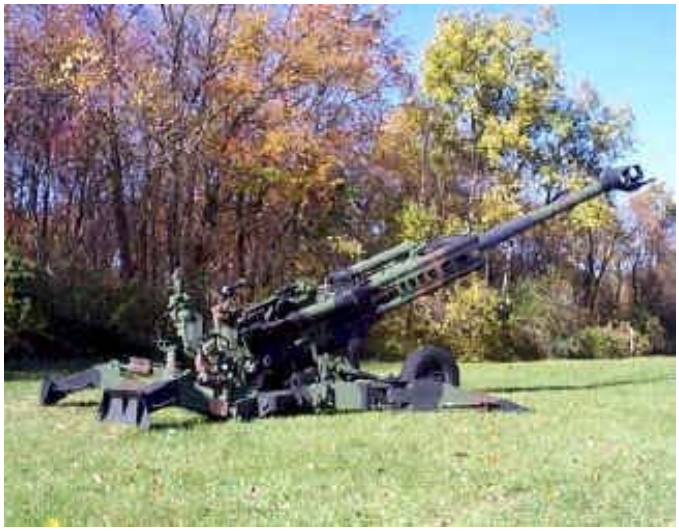
Critical to Marine Corps transformation efforts, the Lightweight 155mm Howitzer (LW-155) will provide significant improvements over the current M198 system. Its lighter weight and increased lethality will allow for rapid deployment and improved accuracy. The LW-155 is compatible with all U.S. and NATO 155mm rounds, and its smaller footprint reduces the strategic sealift required.

Another transformational component of the FY 2005 budget, the High Mobility Artillery Rocket System (HIMARS), will continue Low Rate Production. HIMARS is a C-130 transportable, wheeled, indirect fire weapon system with a range of 30 to 60 km, thus providing a major improvement in area fire support.

The FY 2005 budget includes 34 Unit Operations Centers that offer centralized facilities to host C2 functionality for the Marine Air Ground Task Force Command Element, Ground Combat Element, Aviation Combat Element, and Combat Service Support Element. They will provide tentage, power, cabling, local area network, and processing systems while remaining scalable to support command echelons at the battalion level and above.

Procurement of Assault Breaching Vehicles (ABVs) begins in FY 2005 with initial quantity of 2. The ABV provides the ability to breach minefields and clear complex obstacles while keeping pace with the maneuver force and providing exceptional crew protection and survivability. Additionally, the ABV consists of a rebuilt and upgraded M1 tank chassis affording the economic advantages of commonality with the M1A1 tank fleet.

Major Marine Corps Ground Equipment Procurement Quantities						
	FY2004	**FY2005**	**FY2006**	**FY2007**	**FY2008**	**FY2009**
HMMWV2	1,839	1,830	1,947	1,827	1,774	486
EFV	-	-	18	24	54	90
LW155	60	97	93	33	-	-
HIMARS	1	1	15	19	-	-
Unit Ops Ctr	31	34	41	95	89	133
ABV	-	2	13	15	-	-



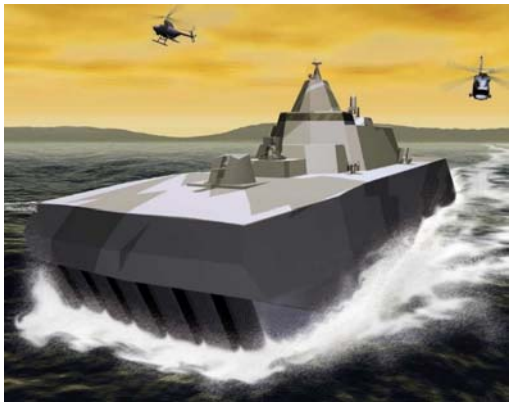
Also refer to Appendix A for more information:	**Table**
Procurement, Marine Corps	A-14
Procurement of Ammunition, Navy and Marine Corps	A-15
Research, Development, Test and Evaluation, Navy	A-16

RESEARCH AND DEVELOPMENT SUPPORT

Processes for Innovation

Sea Trial is the Navy process of integrating emergent concepts and technologies, leading to continuous improvements in warfighting effectiveness and a sustained commitment to innovation. It is based on the mutually reinforcing mechanisms of technology push, concept pull, and spiral development. It puts the Fleet at the heart of innovation and provides a mechanism to more readily capture the fruits of their operational excellence and experimentation.

Led by the Naval Warfare Development Command (NWDC), Sea Trial is designed to constantly survey the changing frontier of technological development, identifying those candidates with the greatest potential to provide dramatic increases in warfighting capability. The result is a process that discovers and aligns emergent technologies to deliver next-generation equipment into the hands of the warfighters. Following the warfighter's lead, supporting centers for concept development propose innovative operational concepts to address emergent conditions. A basic premise is that new capabilities must be delivered to the Fleet quickly and efficiently. To retain technological superiority, we are shifting to spiral development. Under the spiral development philosophy, systems are designed to receive technological updates at regular intervals without disrupting production or performance. A primary goal of Sea Trial is to more fully integrate the technological and conceptual centers of excellence in the Systems Commands and elsewhere, along with testing and evaluation centers, so that their combined efforts result in significant advancements in deployed combat capability. Working closely with the Fleet, technology development centers, Systems Commands, warfare centers, and academic resources, NWDC will continue to align wargaming, experimentation, and exercise events so that they optimally support the development of transformational concepts and technologies.



The FY 2005 budget continues to finance Marine Corps led experimentation with future tactics, concepts, and innovations involving both Marine and Navy forces. The Marine Corps Warfighting Laboratory is the centerpiece for operational reform in the Marine Corps, investigating new and potentially

valuable technologies, and evaluating their impact on how the Marine Corps organizes, equips, and trains to fight in the future. Examples of such efforts include work on Command Post Systems, Command and Control shared data environments, landing force technologies, and assault vehicles. In addition, the budget continues to finance Non-Lethal Weapons research and development – a program for which the Marine Corps serves as the Executive Agent. In the FY 2005 budget, we seek to leverage developing and emerging technologies that have applications across the spectrum of warfare, giving the Marine Corps the versatility to tackle any mission it may confront in an ever-changing world environment.

Science and Technology

The Department continues to refocus how it transitions Science and Technology (S&T) to the acquisition community and the warfighter. This focus will maintain a broad base of S&T fed into the research and development transition process while ensuring adequate coverage for military superiority against technological surprise. The focus is on advanced Future Naval Capabilities to the warfighter and technological innovation to support the National Military Strategy. These desired future capabilities are approved by the Department of the Navy Science and Technology Corporate Board. Technology products resulting from the investment in future naval capabilities are transitioning to acquisition programs throughout the FYDP. Such programs include, but are not limited to: next generation warships (especially those with all-electric systems, advanced propulsion, and reduced manning), advanced combat systems for the Marine Corps, and advanced tactical aircraft and weapons.

Management and Support

Research, Development, Test, and Evaluation Management Support funds installations required for general research and development use. These efforts include the test and evaluation support programs required to operate the Navy's test range sites; research and development aircraft and ship funding, target and threat simulator development efforts. This funding level reflects required infrastructure support commensurate with overall Navy force structure and facilities management consolidations. Seventy-three percent of this funding, or about $476.5 million in FY 2005, supports the Major Range and Test Facilities Base, necessary to conduct independent test

and evaluation assessments for all Navy ship, submarine, aircraft, weapons, combat systems and other development, acquisition, and operational system improvements.

The remaining categories of research are platform-related and have been discussed as applicable in the previous sections. Table 17 provides Research, Development, Test, and Evaluation, Navy summary data at the budget activity level and the major platform efforts.

Also refer to Appendix A for more information:	**Table**
Research, Development, Test and Evaluation, Navy	A-16

Table 17
Department of the Navy
Research, Development, Test and Evaluation
(In Millions of Dollars)

	FY 2003	FY 2004	FY 2005
Significant RDT&E,N Activities			
Science and Technology	1,998	2,217	1,718
Basic Research	*406*	*484*	*477*
Applied Research	*778*	*724*	*564*
Advanced Technology Development	*814*	*1,009*	*677*
Advanced Component Development and Prototypes	2,661	2,807	2,804
System Development and Demonstration	5,185	6,360	8,009
R&D Management Support	939	687	654
Operational Systems Development	2,917	2,898	3,162
Total R&D	13,700	14,969	16,346
Major Platform Efforts:			
Joint Strike Fighter	1,662	2,159	2,265
DD(X)	668	1,052	1,432
C4I	563	753	1,020
VXX	27	195	777
Advanced Hawkeye	172	343	597
MMA	66	71	496
EA-18G	18	215	358
CVN-21	362	335	353
LCS	35	166	352
V-22	387	402	304
EFV	263	238	237
Unmanned Aerial Vehicles (UAV)	256	188	173
Virginia Class SSN	235	145	143
F/A-18	193	173	135
LHA(R)	39	64	44
Deployable Joint Command and Control (DJC2)	32	64	42

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