SECTION III - INVESTING IN THE FUTURE OF THE NAVY AND MARINE CORPS

The Department's program to recapitalize and transform naval forces is greatly improving in this budget. We have more new construction ships and aircraft than in the FY 2003 budget as well as funding for transformational initiatives consistent with our focus to buy down future risk. The total request for procurement funding has increased from $27.5 billion in FY 2003 to $30 billion in FY 2004.

SHIP PROGRAMS

Surface Programs

The Department's FY 2004 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.

The Department continues to support the requirement for future carriers, and has added funding to accelerate implementation of transformational technologies on the future carrier. To mark this change in strategy, the CVN(X) program definition has been refined and designated the CVN-21. This transformational 21st century ship, the future centerpiece of the Navy Carrier Strike group, will bring many significant changes to the fleet. These changes include a new electrical generation and distribution system, the electro-magnetic aircraft launching system, a new/enlarged flight deck, weapons and material handling improvements, and a crew reduction of 800. Construction of the CVN-21 is scheduled to start in FY 2007.

DD(X) is the centerpiece to the transformational 21st century Navy and will play a key role in the Seapower 21 strategic concept. Winning the fight requires the ability to conduct assured 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. This advanced warship will provide credible forward naval 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. Significant R&D efforts for DD(X) continue in FY 2004 in support of constructing a lead ship in FY 2005.

A critical component of Seapower 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 in support of anti-access, asymmetric threats in the littorals. The primary mission areas of LCS are small boat prosecution, mine counter measures, shallow water anti-submarine warfare, and intelligence, surveillance, and reconnaissance. Secondary missions include homeland defense, maritime intercept, and special operation forces support. These focused mission ships will contribute significantly to the Sea Shield core operational requirement of Seapower 21. As an integral member of the Surface Combatant Family of Ships, it will operate in environments where it is impractical to employ larger multi-mission ships. FY 2004 R&D efforts support the first LCS construction in FY 2005.

The DDG program successfully awarded a ten-ship FY 2002-2005 multi-year procurement (MYP) contract during the past year. The contract pricing and conditions were negotiated in conjunction with a workload reallocation agreement between the Department of the Navy, Northrop Grumman Ship Systems (NGSS), and General Dynamics (GD). The agreement reallocates DDG and LPD shipbuilding work between the shipbuilders, resulting in a net cost savings and cost avoidance by taking advantage of business efficiencies and learning curve performance. The workload reallocation agreement is based on procuring three DDGs per year in both FY 2004 and FY 2005, and an LPD-17 class ship in FY 2004. The reallocation is intended to help stabilize the workload at three shipyards (Bath Iron Works, Ingalls, and Avondale) during the transition to the transformational family of ships of the future.

FY 2004 marks the start of the Ticonderoga class cruiser modernization program. The Cruiser Conversion effort will substantially increase the service life and capability of the CG 47 class. The conversion provides selected AEGIS cruisers with essential theater ballistic missile defense (TBMD) capability, as well as area air defense commander capability and improved naval surface fire support performance. The conversion will also reduce combat system and computer maintenance costs, replace obsolete combat systems, and extend mission relevant service life.

This budget also addresses the substantial incremental funding requirements needed across the FYDP to complete LHD-8. The Landing Craft Air Cushioned (LCAC) modernization program continues with a service life extension for three craft in FY 2004. Finally, the Department has committed to an LHA(R) procurement with R&D efforts continuing into FY 2004 to the support procurement of an LHA(R) in FY 2007.

The FY 2004 budget also provides for procurement of two Auxiliary Cargo and Ammunition Ships (T-AKEs) in the National Defense Sealift Fund. These will be the fifth and sixth ships of the class.

Chart 10 displays shipbuilding quantities for FY 2003 to FY 2009.

Chart 10 - Shipbuilding Programs

	FY03	FY04	FY05	FY06	FY07	FY08	FY09
CVN-21	-	-	-	-	1	-	-
SSN-774	1	1	1	1	2	2	2
DDG-51	2	3	3	-	-	-	-
DDX	-	-	* 1	1	1	2	3
LCS	-	-	* 1	1	-	3	4
LPD-17	1	1	-	2	1	1	1
LHA (R)	-	-	-	-	1	-	-
MPF(F) (NDSF)	-	-	-	-	-	1	2
T-AKE (NDSF)	1	2	2	2	1	-	-
T-AOE(X) (NDSF)	-	-	-	-	-	-	2
Total New Construction	5	7	8	7	7	9	14
SSGN	2	2	-	-	-	-	-
Cruiser Conversion	-	1	2	2	2	3	3
Total Conversions	2	3	2	2	2	3	3
CVN RCOH	-	-	1	-	-	-	-
SSN/SSBN refueling	2	-	2	2	3	2	1
LCU (R)	-	-	2	3	3	3	3
LCAC SLEP	3	3	5	6	6	6	6
Mobile Offshore Base	-	-	-	-	-	-	1
PY Completion $M	$ 1,280	$ 636	$ 484	$ 46	-	-	-
*Funded in RDTEN							

Submarine Programs

The Navy will covertly project power with its fleet of modern SSN 688, 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 highlights the Navy's ongoing effort to

modernize its 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 the first two Virginia class submarines began in FY 1998 and FY 1999 under the teaming arrangement with General Dynamics and Newport News Shipbuilding Company. FY 2004 funds the first of seven submarines under a proposed multi-year procurement contract. Approximately $400 million in economic order quantity advance procurement is funded in FY 2004 in support of this contract.

FY 2004 also includes funding to continue the SSGN program and provide covert conventional strike platforms capable of carrying 150 Tomahawk missiles. The FY 2004 SSGN request will convert two of four Trident SSBNs to SSGNs, refuel the third submarine, and fund advance work for the remaining overhaul and final two conversions.

The FY 2004 budget's emphasis on recapitalization forced the Department to make difficult decisions concerning modernization accounts. Advanced Submarine Technology, Acoustic Rapid COTS Insertion (ARCI), Virginia Class Submarine RDT&E, and other submarine development and modernization programs were rephased to support recapitalization, but in aggregate, the budget reflects a balanced approach to enhancing our submarines' performance and commonality.

Ship Weapons Program

The Standard Missile program replaces ineffective, obsolete inventories with the procurement of more capable Block IIIB missiles. The Rolling Airframe Missile (RAM) program continues procurement of the improved Guided Missile Launching System (GMLS) and the upgraded Block I missile, providing an enhanced guidance capability along with a helicopter, air and surface (HAS) mode. In addition to Standard Missile and RAM, the FY 2004 budget provides funding to continue production of the Evolved Sea Sparrow Missile (ESSM). Additionally, the Tactical Tomahawk missile begins full rate production in FY 2004 and the budget requests authority for an FY 2004 – 2008 MYP.

Major Weapons Quantities

	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Tactical Tomahawk*	167	267	218	422	406	471	410
Standard Missile	93	75	75	75	75	94	110
RAM	90	90	90	90	90	90	156
ESSM	23	105	111	153	195	186	206

* Includes Submarine Launched Weapons

Several land attack R&D efforts critical to future littoral warfare, continue in FY 2004, including the Extended Range Guided Munition (ERGM), the 5"/62 gun, the Advance Gun System (AGS), the Naval Fires Control System (NFCS), and the Naval Fires Network (NFN). ERGM contains an internal global positioning system and inertial navigation system that provide state-of-the-art guidance to surface-fired munitions. The ERGM program successfully conducted an all-up round guided flight in June 2002 and is on track for initial operational capability in FY 2006. 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
Weapon Procurement, Navy	A-11
National Defense Sealift Fund	A-17

AVIATION PROGRAMS

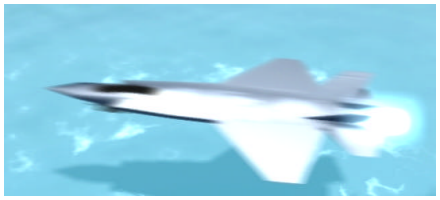
Aircraft Programs

The Department's FY 2004 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 procurements (MYP) for the F/A-18E/F (both airframe and engine), the E-2C and the MH-60S. The Department has also agreed to enter into a joint MYP contract with the Air Force for 20 KC-130J's, to replace the Marine Corps' aging KC-130 fleet. Robust development funding is also provided for JSF, MV-22, UH-1Y/AH-1Z and MH-60R.

The F/A-18E/F is the centerpiece of Navy combat aviation and reached its initial operational capability in September of 2001. The FY 2004 budget continues to support this platform and the capabilities it provides to the warfighter by including additional funding for weapons integration. Further, the budget for the F/A-18E/F also funds required corrections of discrepancies to ensure these aircraft do not prematurely reach their life limits.

The Department will continue to procure the V-22 Osprey at the minimum sustaining rates through an expanded developmental and operational test phase. The goal of the revised MV-22 program is to ensure the Osprey is a safe, reliable aircraft capable of meeting all Marine Corps requirements. This goal is achieved through a robust flight testing program.

FY 2004 will mark the first year of procurement in the AH-1Z/UH-1Y program. When delivered, 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.



Major R&D programs include the active electronically scanned array (AESA) radar for the F/A-18E/F and the continuation of a multi-mission aircraft program to replace the P-3

Maritime Patrol. Joint aircraft programs also continue to be an important component of naval acquisition strategy, with the Joint Strike Fighter continuing in the Engineering and Manufacturing Development phase in FY 2004. The Department has also placed substantial resources to develop the EA-18G aircraft as a follow on to replace the aging EA-6B fleet.

Continuing the emphasis on transformational systems, the Department has budgeted R&D funding for several aviation programs. The Advanced Hawkeye (also known as E-2 Radar Modernization Program (RMP)) is funded through the FYDP with first production planned for FY 2008. The FY 2004 budget continues to demonstrate the Department's commitment to developing, acquiring and fielding transformational UAV technologies for Intelligence, Surveillance and Reconnaissance and tactical missions. The budget includes funding for a second Unmanned Combat Air Vehicle (UCAV-N) demonstrator, continues development of the Global Hawk Maritime Demonstration System (GHMDS), and initiates development of the Broad Area Maritime Surveillance (BAMS). Finally, the budget provides for the development and procurement of Pioneer UAV improvements in support of Marine Corps mission. Additionally, the Department has included funding to support procurement of required capabilities in the fleet, such as Advanced Targeting Forward Looking Infra-Red (ATFLIR) and Joint Helmet Mounted Cueing Systems (JHMCS).

Chart 11 displays the Department's new production and remanufactured aircraft programs.

Chart 11 - Aircraft Programs

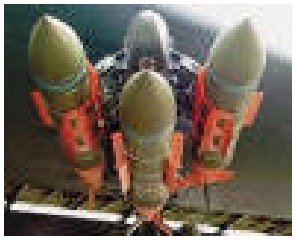
	FY 03	FY 04	FY 05	FY 06	FY 07	FY 08	FY 09
F/A-18 E/F/G	46	42	42	42	42	42	42
JSF	-	-	-	4	8	29	52
CH-53E	-	-	-	-	-	3	5
V-22	11	9	8	17	29	30	33
UH-1Y/AH-1Z	-	9	7	14	23	23	24
MH-60S	15	13	15	26	30	30	40
MH-60R	-	6	10	15	21	31	31
MMA	-	-	-	-	-	-	8
E-2C	5	2	2	2	2	* 4	5
UC-35	1	2	-	-	-	-	-
C-40A	1	1	1	1	3	3	3
C-37	-	-	1	-	-	-	2
T-39	-	1	2	3	3	7	-
T-45TS	8	15	8	5	-	-	-
JPATS	4	-	-	-	24	48	48
KC-130J	4	-	4	4	4	4	5
BAMS UAV	-	-	-	-	2	4	4
TOTAL	95	100	100	133	191	258	302
*Funded in RDTEN							

Within our aircraft modification program, we continue procurement of the AV-8B Open System Core Avionics Requirements (OSCAR) program to update obsolete avionics and also continue F/A-18 Radar Upgrade, structural and safety improvements. Funding also provides for the Anti-Surface Warfare Improvement Program (AIP) efforts, the Update III Common Configuration program, and upgrades to tactical aircraft electronic warfare countermeasures capabilities.

Aircraft Weapons Programs

The Department continues to procure the EA-6B Improved Capability (ICAP) 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 which experienced extremely high OPTEMPO during Operation Enduring Freedom and Noble Eagle.

The Department's employment of Precision-Guided Munitions (PGMs) during Desert Storm, Bosnia, and from the North Arabian Sea during Operation Enduring Freedom, has provided our commanders with all-weather, day and night, precision strike attack capable of being delivered well inland on demand. The budget continues to procure Joint Direct Attack Munitions (JDAMs) at the maximum production rate, and begins full rate production of the MK-82 variant (500 lb) in FY 2004. The budget also includes increased procurement of unguided bombs to support deliveries of JDAM and Laser Guided Bombs (LGBs) precision guidance kits. The Joint Standoff Weapon (JSOW) Unitary (penetrator variant) enters Full Rate production in FY 2004, while production of the JSOW Baseline (dispenser variant) continues to ramp up in FY 2004. The budget also continues procurement of the remaining SLAM-ER conversions.



The AIM-9X Sidewinder air-to-air missile enters full rate production in FY 2004, providing a significantly increased capability required to defeat existing threats, and the Department continues the procurement of the Advanced Medium Range Air-to-Air Missile, the next generation, all weather,

Major Aviation Weapons Quantities

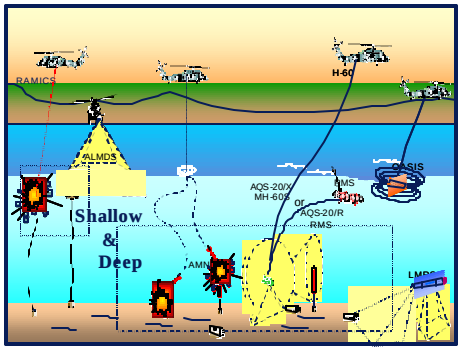
	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
JSOW	165	429	463	490	404	387	405
SLAM-ER	120	84	90	0	0	0	0
AIM-9X	284	167	162	173	229	213	183
JDAM	12,280	12,326	11,014	5,380	5,166	4,536	4,380
AMRAAM	100	53	46	101	150	140	150
JASSM	0	0	0	0	30	110	110
Common Missile	0	0	0	0	50	50	150

all environment, radar guided missile for air defense.
The FY 2004 budget continues development of Precision JDAM, which will provide a smaller more precise and flexibly targeted weapon to minimize collateral damage, and continues the integration of the Joint Air-To-Surface Standoff Missile (JASSM) on the F/A-18E/F. Finally the Department enters into a robust Common Missile 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
Weapons Procurement, Navy	A-11
Procurement of Ammunition, Navy and Marine Corps	A-15

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 (MCM) force. The FY 2004 Budget reflects an increase of $482 million for mine warfare programs. The budget requests development and procurement funding for a variety of systems discussed below. The FY 2004 budget continues the development and integration of the AQS-20A Minehunting System and the Airborne Laser Mine Detection System (ALMDS) on the MH-60S platform, both organic systems, with an Initial Operational Capability (IOC) planned in FY 2005. 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 provided for the development of a single common console for all organic Airborne Mine Counter Measures (AMCM) systems. This action reflects the Department's intent to establish a mid-term organic mine warfare capability that is fully integrated on the MH-60 helicopter.

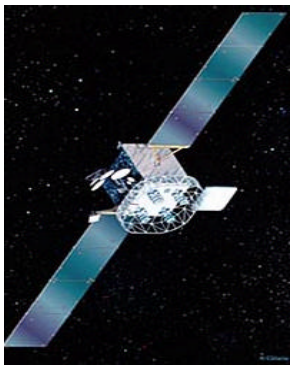


The FY 2004 budget continues the development and acquisition of the Long-Term Mine Reconnaissance System (LMRS), and is on track for an FY 2005 IOC on the SSN-688 class. LMRS will provide a clandestine reconnaissance capability for mine and mine-like objects. The FY 2004 budget includes funding for the development and acquisition of the Remote Minehunting System, with an FY 2005 IOC and planned fielding on DDG 91-96. Finally, it also includes funding to initiate the Assault Breaching System (ABS) to add mine and obstacle clearance capability in the beach and surf zones.

Also refer to Appendix A for more information:	**Table**
Aircraft Procurement, Navy	A-10
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 the U.S. Naval forces. Leveraging the most advanced technologies available in the world today, the C4I programs make "One Team, One Fight" a reality. Additionally, these technologies will be the primary guides for the Naval Transformation Roadmap. The C4I evolutionary plan revolves around four key elements: connectivity; a common tactical picture; a sensor-to-shoot 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) Local Area Network (LANs) afloat and local and regional networks ashore integrated under the Navy/Marine Corps Intranet (NMCI) 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 2004 funding continues to accelerate ISNS procurement and installation to achieve a Full Operational Capability (FOC) for all platforms by FY 2007.

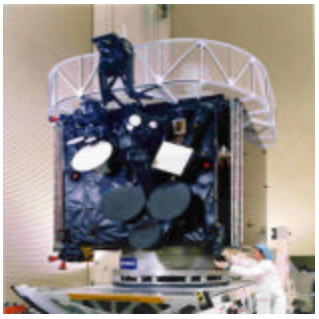
IT-21 connectivity is critical because it provides the managed bandwidth for timely transmission of information. The Satellite Communications Systems program continues expansion of available bandwidth to the warfighter.

FY 2004 begins the major development of the Advanced Narrowband System/Mobile User Objective System (ANS/MUOS), leading to an Initial Operational Capability (IOC) in FY 2008 and FOC in FY 2013. ANS/MUOS will provide the DoD's Ultra High Frequency (UHF) satellite communication requirements of the 21st century.

FY 2004 funding continues the development of Advanced EHF (AEHF) terminals, which supports the synchronization with the Air Force's Advanced Wideband System (AWS/AEHF) satellite program to meet a FOC in FY 2010. FY 2004 funding accelerates the effort to transition the Navy's Digital Modular Radio (DMR) to the maritime version of the Joint Tactical Radio System (JTRS) and also supports the development and procurement of the

JTRS Maritime/Fixed (M/F) Cluster. The joint radio system is a single family of radios that will replace and integrate various incompatible service radios.

Funding in FY 2004 also continues to emphasize the procurement and installation of Global Broadcast System (GBS), Super High Frequency (SHF), and Extra High Frequency (EHF) 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 2004 for the Advanced Tactical Data Links (ATDLS) system, ensuring timely transmission of surveillance, targeting, engagement, combat identification, and battle damage assessment information over IT-21 networks. FY 2004 funding provides for the development of FORCEnet. FORCEnet is a cornerstone Command, Control, Communication, Computers, Surveillance and Reconnaissance (C4ISR) 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 (IW/C2W) 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 2004 funding provides for the procurement of Common Data Link – Navy (CDL-N) systems and continues funding for the Maritime Cryptologic Systems for the 21st Century (MCS-21). In the Information Systems Security Program (ISSP), FY 2004 funds the procurement of Mission Critical Secure Terminal Equipment (MC/STE). FY 2004 funding continues to provide cryptologic equipment and secure communications equipment for Navy ships, shore sites, aircraft, and the Marine Corps.

Finally, the Department of Defense has stepped up the efforts to web enable C4I systems which allows the sailors on ship or shore with a web browser to access software applications electronically from a single workstation, such as the Navy Tactical Command Support System.

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. In the FY 2004 budget these programs represent modernization of existing capabilities and several programs provide truly transformational capabilities to the Marine Corps. When combined with revolutionary operational concepts, organizational change and improved business and acquisition practices, they all contribute to a transformed Marine Corps.

In FY 2004 modernization, several major replacement, remanufacture and program upgrades initiate or continue in this budget. They include the High Mobility Multi-purpose Wheeled Vehicle (HMMWVA2) program and the Light Armored Vehicle (LAV) Service Life Extension Program (SLEP). Continued procurement of the LAV SLEP ensures LAV combat capabilities are preserved through FY 2015.

In the area of transformation, this budget continues the procurement of Advanced Amphibious Assault Vehicle (AAAV) with the purchase of special tooling in FY 2004 and 2005. The AAAV will allow immediate high speed surface maneuver of Marine infantry units as they emerge from ships located over the visual horizon and beyond. Production representative vehicle procurement occurred in FY 2003 and will deliver in FY 2005. The program was restructured to add an additional 6 to 9 months in FY 2004 to include extensive multi-vehicle operational testing. Initial Operational Capability (IOC) will be reached in FY 2008 and Full Operational Capability in FY 2018.

Of significance to Marine Corps transformation efforts, the Lightweight 155mm Howitzer 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.

Additionally, procurement of the Predator weapon continues at a slightly more robust level. Another transformational addition to the FY 2004 budget, the High Mobility Artillery Rocket System (HIMARS) delivers its first launchers. HIMARS is a C-130 transportable, wheeled, indirect fire weapon system with a range of 30 to 60 km providing a large increase in area coverage for engaged warfighting forces.

In FY 2004, 31 Unit Operations Centers (UOC) are requested and will provide a centralized facility to host C2 functionality for the Marine Air Ground Task Forces' (MAGTF) Command Element, Ground Combat Element, Aviation Combat Element and Combat Service Support Element, providing tentage, power, cabling, LAN and processing systems while remaining scaleable to support command echelons battalion and above.

Major Marine Corps Ground Equipment Procurement Quantities

	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009
HMMWV2	1,650	1,738	1,792	1,511	1,606	1,289	0
AAAV	1	0	0	18	24	54	90
MTVR	1,405	0	0	0	0	0	0
LW155	34	60	110	120	53	0	0
HIMARS	2	1	1	15	19	0	0
Predator	445	526	673	805	739	789	829
Unit Ops Ctr	32	31	34	41	95	89	133
ABV	0	0	0	15	15	0	0

The FY 2004 RDT&E,N 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 (MCWL) is the centerpiece for operational reform in the Corps, investigating new and potential technologies and evaluating their impact on how the Marine Corps organizes, equips and trains to fight in the future. Additionally, the budget continues to finance Non-Lethal Weapons (NLW) research and development – a program for which the Marine Corps serves as the Executive Agent. In the FY 2004 budget, we seek to leverage developing and emerging technologies that have applications across the spectrum of warfare. Additional significant R&D efforts focus on Command Post Systems, Command and Control shared data environments, and landing force technologies.

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

RESEARCH AND DEVELOPMENT SUPPORT

Science and Technology

The Department continues to refocus how it transitions Science and Technology (S&T) to the acquisition community and the warfighter. That new focus will maintain a broad base of S&T feed 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 (FNCs) to the warfighter and to support the technological innovation to support the National Military Strategy. These desired future capabilities are approved by the DoN 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.

Sea Trial: Process 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.

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 of the Sea Trial concept 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 align wargaming, experimentation, and exercise events so that they optimally support the development of transformational concepts and technologies.

Management and Support

RDT&E Management Support (6.6) 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; R&D aircraft and ship funding, target and threat simulator development efforts. This funding level reflects required R&D infrastructure support commensurate with overall Navy force structure and facilities management consolidations. Seventy-one percent of this funding, or about $459 million in FY 2004, supports the Major Range and Test Facilities Base (MRTFB), 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 15 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 15

Department of the Navy
Research, Development, Test and Evaluation

(In Millions of Dollars)

	FY 2002	FY 2003	FY 2004
Significant RDT&EN Activities			
Science and Technology	1,997	2,031	1,715
Basic Research	395	412	457
Applied Research	755	806	536
Advanced Technology Development	847	813	722
Demonstration and Validation	2,565	2,709	2,600
Engineering and Manufacturing Development	3,606	5,265	6,239
R&D Management Support	878	704	651
Operational Systems Development	2,333	2,922	2,902
Total R&D	11,379	13,631	14,107
Major Platform Efforts:			
Joint Strike Fighter	$725	$1,709	$2,172
DD(X)	556	1,029	1,244
C4I	486	639	963
V-22	416	411	441
CVN-21	280	322	311
AAAV	253	270	241
EA-18G	5	10	205
F/A-18	253	210	179
Unmanned Aerial Vehicles (UAV/UCAV)	75	257	165
LCS	0	33	158
Virginia Class SSN	198	257	126
Deployable Joint Command and Control (DJC2)	0	32	79
MMA	42	68	76

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