TITLE IV

RESEARCH, DEVELOPMENT, TEST AND EVALUATION

ESTIMATES AND APPROPRIATION SUMMARY

The fiscal year 2005 Department of Defense research, development, test and evaluation budget request totals $67,772,288,000. The accompanying bill recommends $68,946,512,000. The total amount recommended is an increase of $1,174,224,000 above the fiscal year 2005 budget estimate and is $3,728,628,000 above the total provided in fiscal year 2004. The table below summarizes the budget estimate and the Committee's recommendations.

(DOLLARS IN THOUSANDS)

	BUDGET REQUEST	COMMITTEE RECOMMENDED	CHANGE FROM REQUEST
RECAPITULATION			
Research, Development, Test and Evaluation, Army	9,266,258	10,220,123	+953,865
Research, Development, Test and Evaluation, Navy.....	16,346,391	16,532,361	+185,970
Research, Development, Test and Evaluation, Air Force.	21,114,667	21,033,622	-81,045
Research, Development, Test and Evaluation, Defense-Wide.....	20,739,837	20,851,271	+111,434
Operational Test and Evaluation, Defense.....	305,135	309,135	+4,000
GRAND TOTAL.....	67,772,288	68,946,512	+1,174,224

REPROGRAMMING GUIDANCE FOR ACQUISITION ACCOUNTS

As described elsewhere in this report, the Committee has continuing concerns about DoD practices on the reprogramming of funds. Accordingly, the Committee directs that the following guidelines be applied for the reprogramming of funds provided in this bill. For transfers greater than $20,000,000 for procurement funds, and $10,000,000 for research, development, test and evaluation funds, DoD must follow normal, prior approval reprogramming procedures. The Committee further directs that these thresholds are cumulative. Therefore, if the combined value of transfers into or out of a procurement (P–1) or research and development (R–1) line exceed the identified threshold, the Department of Defense must submit a prior approval reprogramming following normal prior approval procedures. The Department shall also observe the limitation that prior approval reprogrammings are set at either the specific dollar threshold or 20 percent of the procurement or research and development line, whichever is less. In addition, guidelines on the application of prior approval reprogramming procedures for congressional special interest items are established elsewhere in this report.

JOINT STRIKE FIGHTER (F–35)

The budget included a total request of $4,571,927,000 for the Joint Strike Fighter (JSF) F–35 program, an increase of $320,183,000 over the 2004 appropriated level. The Committee recommends a total appropriation of $4,367,927,000 for the F–35, a reduction of $204,000,000 from the fiscal year 2005 request and an increase of $116,183,000 over the fiscal year 2004 appropriated level.

The F–35 Joint Strike Fighter as currently conceived offers significant benefits in war-fighting capability, logistics support, and affordability for the Navy, Marine Corps, Air Force, and the program's international partners. For example, the development program is focused on maintaining commonality of the variants, offering a major opportunity for the Department to reduce the life-cycle costs of its future air forces. In addition, the current estimated cost of the F–35 production unit is substantially less than other aircraft, of critical importance as the Department of Defense must replace large numbers of older aircraft and achieve a much needed recapitalization of its air forces. The Committee believes the stated goal of this program—the development and construction of an affordable next-generation fighter aircraft—is what the Department must deliver.

Concerns about the excessive weight of the aircraft during the initial part of the Systems Development and Design (SDD) phase have been heightened by internal discussions, studies, and congressional inquiries. For example, results presented at the Preliminary Design Review (PDR) indicated an excess of approximately 2,400 pounds greater than the stated weight requirement. This has led to a decision to postpone the Critical Design Review (CDR) for the airframe, with the stated plan to first identify opportunities to reduce weight through trade offs, including a review of performance requirements and the option of re-designing the airframe. The

Committee supports these steps, as well as the appointment of an Independent Review Team (IRT) to conduct a thorough review of the F–35 program.

The Committee understands that while a formal report of the IRT findings has not been released, initial findings indicate that the weight of this aircraft, particularly the Short Take Off Vertical-Landing (STOVL) variant, may be greater than previously recognized. Initial findings also suggest that current funding levels for the JSF are insufficient to execute the program as currently configured.

The Committee is concerned about the impact, if any, these new findings may have on program cost, schedule, and ultimately the successful transition to production of all three F–35 variants. Moreover, the Committee notes the timeframe to address potential program changes based on the IRT findings may occur after Congress has finalized consideration of the fiscal year 2005 budget. This is of concern to the Committee because of the potential that the funds appropriated for JSF in fiscal year 2005 may be executed in a manner inconsistent with detail provided in support of the 2005 request.

The Committee believes that should the Department of Defense determine that alterations in stated performance requirements or aircraft design are essential for continuation of this program, it must present such changes and associated alterations in budgetary and schedule requirements to Congress. Therefore, of the total funding provided for the F–35, the Committee directs that $1,357,927,000 may not be obligated or expended until the Department of Defense submits to the congressional defense committees a detailed report on its plan to implement findings of the Independent Review Team (IRT) and the impact this plan will have on the JSF program, schedule, and cost. The Committee directs that the Department provide the Committee a summary of the IRT findings by not later than July 1, 2004, and that the Department provide, by January 15, 2005, a detailed report highlighting all JSF budgetary and programmatic changes from the budget request that will be implemented during fiscal year 2005.

Other adjustments to the budget request are as follows:

- An increase of $52,000,000 to the $404,000,000 request for airframe Engineering Activity. This recommendation is based on the Committee's understanding that ongoing and future airframe weight analysis studies and options are not fully accommodated within the current budget request and therefore additional funds are required.
- A reduction of $98,000,000 to the $820,000,000 request for the F–135 engine development program. This recommendation is based on the Committee's view that the F–135 engine development program should be re-aligned so that it coincides with the revised aircraft development program based on the budget proposal to add one year to the System Design and Development (SDD) program. The Committee understands that fewer flight test engines than originally planned are required for the flight test program at this point in time.
- A reduction of $120,000,000 to the $1,099,000,000 request for airframe Manufacturing, Tooling, and Materials, deferring that

funding related to developing a manufacturing process, tooling process, and the purchase of materiel for production-configuration aircraft. This recommendation is based on the Committee's understanding that ongoing and future studies may yield a production-configuration aircraft that is different from the preliminary-design aircraft. Therefore, funding for these activities is requested in advance of need. This recommendation fully funds requirements for the A–1 (Conventional Take Off and Landing) and B–1 (Short Take Off and Vertical Landing) first flight aircraft.

- A reduction of $50,000,000 to the overall funding request based on a history of Navy and Air Force reprogramming actions that have continually reduced previously appropriated funds for the JSF program.
- Finally, the Committee recommends a $12,000,000 increase to the F–35 program for an initiative, described in the next section of this report, to pursue emerging technologies that will help preserve future growth potential for the F–35 by providing additional weight savings.

PRESERVING GROWTH POTENTIAL FOR THE F–35

Anticipating that the F–35 will remain in the inventory until well into this century, and that its missions will expand over time, the Committee believes the Department must redouble its efforts to examine both short- and long-term alternatives for reducing the weight of the aircraft. An excessive fixation on more traditional options, such as re-design of the airframe and engine, may unnecessarily add significant time and cost to the F–35's development program, as well as the ability to successfully seek product improvements to the aircraft over time.

The Committee believes the Department should pursue alternative technologies which have proven successful in reducing aircraft component weight, particularly in avionics and weapons systems, and integrate these technologies into future upgrades of the F–35. The Committee understands there are several emerging technologies now available for this purpose, which just a few years ago were promising but not sufficiently mature to warrant consideration. These technologies offer significant reductions in weight, power consumption, volume, thermal related issues, and cost while increasing performance and Mean Time Between Failure (MTBF). Several defense programs have adopted these technologies and a few have received the DoD Value Engineering Award or have been selected for exploitation in the newly created DoD CHALLENGE Program.

The Committee believes it necessary to establish, separate from the existing F–35 development contract, an initiative to pursue such alternative technologies. This initiative should focus on developing emerging technologies that produce lightweight, extremely efficient avionics and weapons systems, and then transitioning these technologies into the F–35 program at the appropriate time, potentially as a part of a future block upgrade.

The Committee has provided an additional $12,000,000 to implement this initiative. These funds shall be used by the F–35 program manager to take a "clean sheet" look at these emerging technologies to determine the best opportunity to eliminate weight from

the F–35 avionics and weapons system, including mission systems, and demonstrate these technologies through a Systems Integration Laboratory and flight test environment. Furthermore, the program manager shall evaluate the risk and cost of completing the technology effort and determine the appropriate point at which to "cut in" the technology with the F–35 architecture.

The Department shall report back to the Committee no later than January 15, 2005, on its plan to implement this initiative. This plan shall address the specific goals of weight reduction, the initial set of technologies that the Department will pursue, the criteria used to select and then test these technologies, and an initial plan for transitioning such technologies into the F–35 architecture.

F–35 PROGRAM MANAGEMENT

The Committee is concerned that the current structure of transitioning the Joint Strike Fighter (F–35) program acquisition responsibility contributes to program instability and excessive overhead costs.

The management of the Joint Program Office (JPO) transitions among the Services with each Service having Program Management responsibility at established intervals. Acquisition Executive responsibilities also transition at established intervals between the Navy and the Air Force. The Committee believes these shifts in management and responsibilities, while well-intended, contribute to program delays, instability, duplicative management staff, and increased overhead costs. In addition, this circumstance makes it difficult for both senior DoD officials and Congress to exercise optimal oversight of the F–35 program.

Therefore, the Committee directs the Secretary of Defense to review and revise the management oversight of the Joint Strike Fighter (F–35) program by November 15, 2004. The Committee believes DoD should retain the practice of transitioning the JPO management team between Service personnel, but the management responsibilities should not be transitioned between acquisition executives of each Service. The Committee believes management of program acquisition should remain with one Service, and that the U.S. Navy, due to its significant investment in two variants of the F–35, should be assigned all of the acquisition executive oversight responsibilities for the Joint Strike Fighter (F–35) program.

JOINT UNMANNED COMBAT AERIAL SYSTEM (JUCAS)

The budget included a total request of $710,401,000 for the Joint Unmanned Combat Aerial System (JUCAS) program, an increase of $381,652,000 over the 2004 appropriated level. The Committee recommends a total appropriation of $710,401,000, the amount requested, for the JUCAS program. However, the proposed allocation of these funds has been adjusted to emphasize the near-term development and demonstration of unmanned combat aerial vehicles (UCAVs) for the Air Force and the Navy.

The Committee recommends $449,617,000, an increase of $165,000,000 over the budget request, for the JUCAS Advanced Technology Development and Risk Reduction program (program element 0603400D8Z). These funds are for completion and demonstration of the X–45A technology demonstrator and to continue

development and demonstration of the X–45C and the Navy's X–47B demonstrator systems. The Committee believes the Department should aggressively pursue and fully fund the development and demonstration of these technologies to meet the stated requirements of the Air Force and the Navy.

The Committee recommends $260,784,000, a reduction of $162,089,000 from the budget request, for the JUCAS Advanced Component and Prototype Development program (program element 0604400D8Z). These funds support the effort of achieving a joint operational assessment in the 2007–2009 timeframe, and the development of a JUCAS common operating system. The Committee supports the Department's efforts in these areas, but believes a more pressing requirement for the JUCAS program is the development of an affordable weapons system which provides versatile combat capability to augment manned forces.

The Committee recommends no appropriation, a reduction of $2,911,000 from the budget request, for the Air Force support to the Joint Program Office (program element 0207256F).

The Committee directs the Defense Advanced Research Projects Agency (DARPA) to submit a report to the Committee, within 90 days of enactment of the fiscal year 2005 Defense Appropriations Act, detailing the fiscal year 2005 program and budgetary changes implemented as a result of the Committee's recommendation. The Committee also directs the Department to submit, by July 1, 2004, a copy of the April 2004 memo from Acting Undersecretary of the Department of Defense for Acqusition, Technology and Logistics (AT&L) to the Director of the Defense Advanced Research Projects Agency (DARPA), which addresses issues associated with the JUCAS program.

The Committee supports the recommendations made by the Senate Armed Services Committee, in Senate Report 108–260, to establish an Executive Committee to provide guidance and recommendations to the JUCAS Program Office. The Committee believes this will encourage support for the JUCAS program throughout the Department of Defense.

To ensure the Department has considered all options available with respect to unmanned aerial vehicle (UAV) technologies for this mission, the Committee directs DARPA to conduct an analysis of currently available UAVs that could potentially meet the JUCAS requirement. The Committee believes current systems and technology may prove effective in accomplishing aspects of prospective JUCAS missions. Early identification of these programs will present DARPA and the Services with a more robust array of options for pursuing future operations with unmanned aerial systems, while helping DARPA focus its development efforts towards addressing those mission areas which remain unique challenges.

SPECIAL INTEREST ITEMS

Items for which additional funds have been provided as shown in the project level tables or in paragraphs using the phrase "only for" or "only to" in this report are congressional interest items for the purpose of the Base for Reprogramming (DD 1414). Each of these items must be carried on the DD Form 1414 at the stated amount, or a revised amount if changed during conference or if otherwise

specifically addressed in the conference report. These items remain special interest items whether or not they are repeated in a subsequent conference report.

CLASSIFIED ANNEX

Adjustments of the classified programs are addressed in a classified annex accompanying this report.

RESEARCH, DEVELOPMENT, TEST AND EVALUATION, ARMY

Fiscal year 2004 appropriation	$10,363,941,000
Fiscal year 2005 budget request	9,266,258,000
Committee recommendation	10,220,123,000
Change from budget request	+953,865,000

This appropriation finances the research, development, test and evaluation activities of the Department of the Army.

COMMITTEE RECOMMENDATION

The Committee recommends an appropriation of $10,220,123,000 for Research, Development, Test and Evaluation, Army. The following report and project level tables provide a summary of the Committee's recommendation.

EXPLANATION OF PROJECT LEVEL ADJUSTMENTS
[in thousands of dollars]

R-1		Budget Request	Committee Recommended	Change From Request
2	**DEFENSE RESEARCH SCIENCES**	**131,206**	**163,706**	**32,500**
	Perpetually Assailable and Secure Information Systems Research, Training and Education (PASIS)		15,000	
	Center for Advanced Research and Technology (CART) (Note: only to continue Nanometrology Laboratory development to maximize the effectiveness of a high-resolution analytical transmission electron microscope)		4,000	
	Army Knowledge Management Fusion Center		3,000	
	Advanced Carbon Nanotechnology Program		4,000	
	Functionally Integrated Reactive Surfaces Technologies Program		3,000	
	National Prion Research Program (NPRP) (Note: Only to support development of rapid diagnostic tests for TSE and BSE)		1,500	
	Technology Commercialization and Management Network (Note: only for the development of an integrated technology transfer network and service management center at CSUSB)		2,000	
3	**UNIVERSITY RESEARCH INITIATIVES**	**75,133**	**80,633**	**5,500**
	Low Temperature Research Center		2,500	
	Institute of Bioengineering and Nancoscience in Advanced Medicine		2,000	
	Desert Environmental Research (Note: Only for the University-based GIS program using sensor technology, long distance sampling, special analysis techniques to monitor desert tortoise populations related to the expansion for NTC Ft. Irwin and coursework development for environmental security)		1,000	
4	**UNIVERSITY AND INDUSTRY RESEARCH CENTERS**	**77,658**	**95,158**	**17,500**
	Center of Excellence--HBCU/MI		3,000	
	Center for Ferroelectic Electronic-Photonic Nanodevices		2,000	
	Electronic Engineering Technology Program		1,000	
	Interactive Training tools to promote emergency procedures in high-rise buildings and mitigate disasters from attacks, fires, or other threats		1,000	
	Eye and Sensor Protection Against Laser Sources		2,000	
	Center for Advanced Sensors		3,000	
	Basic Research for Infrastructure Protection From Terrorists Attacks		2,000	
	Center for Nano-Materials Research		1,500	
	Nanotubes		1,000	
	Rapidly Deployable Visualization for Training and Simulation in Urban Terrains		1,000	
5	**FORCE HEALTH PROTECTION**	**9,538**	**21,538**	**12,000**
	Biomedical Engineering Initiative		3,000	
	ALS Therapy Development for Gulf War Research		4,000	
	Rural Health Center for Remote and Medically Under-Served Areas		5,000	

R-1		Budget Request	Committee Recommended	Change From Request
6	**MATERIALS TECHNOLOGY**	**15,385**	**34,385**	**19,000**
	Future Affordable Multi-Utility Materials		1,000	
	Ultrasonic Consolidation of Metal Matrix Composites		2,000	
	Development of Manufacturing Science for Lightweight Ceramic Armor		1,000	
	Molecular Design of Polymer Nanocomposites		2,000	
	MEMS Sensors for Rolling Elements Bearings (Note: only for development of a one chip solution for the determination of temperature, vibration, strain, and angular rotation in a rolling element)		2,000	
	Ballistic Shields Program		2,000	
	Precision Polishing of Large Optics (Note: only for the continued development of MRF and RAP finishing of large optics)		4,000	
	Micro-Laminate Ceramic Armor		3,000	
	Tactical Armor Manufacturing Technology (Note: only for a materials processing technology program for a unique polycrystalline ceramic with superior armor and optics qualities compared to present state-of-the-art materials)		2,000	
7	**SENSORS AND ELECTRONIC SURVIVABILITY**	**25,629**	**33,629**	**8,000**
	Disposable Sensors for Battlefield and Urban Warfare		3,000	
	Optical Combat Identification System prototype development and testing		5,000	
9	**AVIATION TECHNOLOGY**	**41,629**	**49,029**	**7,400**
	Composite Small Main Rotor Blades		1,000	
	Center for Rotorcraft Innovation		5,000	
	Mono Tiltrotor/Army Rotorcraft		1,400	
11	**MISSILE TECHNOLOGY**	**51,993**	**55,793**	**3,800**
	National Aerospace Initiative		-8,700	
	Agile MEMS/Nano-Technology for Wireless Security & Defense Applications		1,000	
	MARIAH II Hypersonic Wind Tunnel Development Program		6,000	
	Microelectromechanical Systems (MEMS) and Nanotechnology		5,500	
12	**ADVANCED WEAPONS TECHNOLOGY**	**16,641**	**27,641**	**11,000**
	Rapid Target Acquisition and Tracking System (RTATS)		6,000	
	Army Missile and Space Technology Initiative		5,000	

R-1		Budget Request	Committee Recommended	Change From Request
14	**COMBAT VEHICLE AND AUTOMOTIVE TECHNOLOGY**	**69,638**	**106,138**	**36,500**
	The Center for Tribology and Coatings		2,000	
	Light Utility Vehicle (Note: only to apply previous research in Light Utility Vehicle technology done for the National Automotive Center to designing a new Light Utility Vehicle (LUV))		3,000	
	Nano-Engineered Materials for High Performance Armor		5,000	
	CALSTART Defense Advanced Transportation Technology Program		2,000	
	Mobile Thermal Perimeter Surveillance System		2,000	
	Future Hybrid Vehicle Systems		3,000	
	Distributed Transportable Synthetic Fuel Manufacturing Modules		3,000	
	Stoichiometric Explosive Detector System		1,500	
	Nano-Engineered Multi-Functional Transparent Armor		4,000	
	Affordable, Low Temperature, High Performance Advanced Rechargeable Stored Energy Device Technologies for Future Army Combat Hybrid Electric Vehicles (Note: only to develop and demonstrate a modular hybrid electric vehicle power train using the lithium-ion batteries and ultracapacitors that use affordable, low temperature, high performance carbide, nitride, and metal alloy nanocomposite materials with the appropriate power electronics)		2,000	
	Army Trailer Technology Insertion (TTI)		3,000	
	Military Wheeled Vehicle Electronic Architecture Integration		3,000	
	Unmanned Vehicles Surveillance and Sensor System		1,000	
	Compact Pulsed Power for Defense Applications		1,000	
	Wireless Sensors for Vehicle Maintenance		1,000	
15	**BALLISTICS TECHNOLOGY**	**51,301**	**54,801**	**3,500**
	Guardian Angel		1,000	
	Advanced Tungsten Penetrators and Ballistic Materials		2,500	
16	**CHEMICAL, SMOKE AND EQUIPMENT DEFEATING TECHNOLOGY**	**3,476**	**4,976**	**1,500**
	Biotechnology Education Initiative		1,500	
17	**JOINT SERVICE SMALL ARMS PROGRAM**	**5,739**	**16,239**	**10,500**
	New Metal Coating Technology for Greaseless Weapons		5,500	
	Anti-Material Sniper Rifle (AMSR) (Note: only to develop technologies to upgrade individual and crew-served weapons to create a smaller ground footprint and lighter weapons utilizing breech locking design, improved muzzle/break suppressor, sight saving mounting base, multi-functional rechargeable power source and a recoil absorption system)		5,000	

R-1		Budget Request	Committee Recommended	Change From Request
18	**WEAPONS AND MUNITIONS TECHNOLOGY**	**44,666**	**99,066**	**54,400**
	Dynamic Pulse Detonation		1,000	
	Armament Systems Engineering and Integration Initiative (ASEI2)		6,000	
	Applied Research Integration		2,500	
	Perimeter Defense Technologies		3,000	
	Rangesafe		3,000	
	Green Armaments		4,000	
	Armaments Systems Info Assurance		3,000	
	Active Coatings Technology		3,000	
	Generation 2 Warhead		1,500	
	Less than Lethal and Layered Protection Systems		3,000	
	Seamless Data to Display		5,000	
	Strategic Materials/Strategic Manufacturing Initiative (SM2i)		3,000	
	Scram-jet Powered Munitions for Future Combat System		1,000	
	Hazardous Materials Management and Technology Development		1,000	
	Applied Research Program for Advanced Materials and Processes for Armament Structures Program		4,000	
	Research Authority Active Coatings Technology (ACT) Program		2,000	
	Advanced Integrated Digital Camera Rifle Scope (ADCRS)		1,000	
	Alloy Tungsten Armor Piercing Ammunition		2,400	
	Acoustic Counter Battery System (ACBS)		3,000	
	Polymer Cased Ammunition--5.56mm (Note: only to Support PEO Soldier requirements related to XM8 Light Weight Assault Weapon program)		2,000	
19	**ELECTRONICS AND ELECTRONIC DEVICES**	**41,236**	**92,286**	**51,050**
	Integrated Methanol Fuel Cell/Reformer		1,000	
	Soldier Fuel Cell System		1,500	
	Portable Reforming on the Battlefield		1,000	
	Metal Oxide Cathode - 1.5v Alkaline		2,500	
	Rechargeable Cylindrical Cell Systems		3,000	
	CFX Electrochemical Systems for Safe Soldier Power		2,000	
	State of Charge Battery Life Indicator		1,000	
	Lithium Metal Air Battery		750	
	JP-8 Solider Fuel Cell		2,000	
	Nanofluidic Electronic Sensor Technologies for Defense Applications		3,000	
	E-Beam Reticle and Lithography Inspection		7,500	
	Advanced Simplified Hybrid Fuel Cell/LiON Battery Program for the Objective Force Warrior		1,000	
	Conformal Lithium Ion Polymer Belt Battery		2,000	
	Ring Extruder		5,000	
	Dry Polymer Electrolyte Development for Safe Soldier Power		3,800	
	Flexible Polymer Multilaminate Packaging		2,000	
	Weapons of Mass Destruction Marking Set		2,000	
	Low Cost Power Generation Platforms and Electric Power Control Hybrid Vehicles		2,000	

R-1		Budget Request	Committee Recommended	Change From Request
	Advanced Power Component Technologies		1,000	
	Flexible Display Initiative: High performance displays for Military applications		3,000	
	Novel Zinc Air Power Sources for Military Applications		1,000	
	Liquid Silicone Lithium Rechargeable Battery		3,000	
20	**NIGHT VISION TECHNOLOGY**	**22,617**	**29,617**	**7,000**
	Miniaturized Sensors for Small and Tactical Unmanned Aerial Vehicles		2,000	
	Third Generation Focal Plane Array (FPA) for Army Target Acquisition		5,000	
21	**COUNTERMINE SYSTEMS**	**20,547**	**28,547**	**8,000**
	Acoustic Technology for Landmine Detection		4,000	
	Polymer Based Landmine Detection		4,000	
22	**HUMAN FACTORS ENGINEERING TECHNOLOGY**	**16,899**	**22,399**	**5,500**
	MANPRINT		5,500	
24	**COMMAND, CONTROL, COMMUNICATIONS TECHNOLOGY**	**18,604**	**33,104**	**14,500**
	Portable Flexible Communication Display Device		3,000	
	Enhanced Wireless Digital Communications for Urban First Responders		7,000	
	Integrated Emergency Operations Capabilities (IEOC)		2,000	
	All Digital Transceiver (ADT) Development		2,500	
26	**MILITARY ENGINEERING TECHNOLOGY**	**47,152**	**49,152**	**2,000**
	Distribute Transportable Synthetic Fuel Manufacturing Modules		1,000	
	Modeling and Analysis of the Response of Structures		1,000	
28	**WARFIGHTER TECHNOLOGY**	**21,131**	**38,131**	**17,000**
	Soldier Systems Center		1,000	
	Smart Apparel for Warriors		2,000	
	Special Operations Precision Airdrop Technology		1,000	
	Field Evaluation and Manufacturing Improvements on Flexible Monolithically Integrated Solar Panels		2,000	
	US Army Center of Excellence: Advanced Structures and Composites in Construction		2,000	
	Advanced Antimicrobial Technology		3,000	
	Aviation Inflatable Maintenance Shelter (AIMS) Test and Evaluation		2,000	
	Mobile Hydrogen Infrastructure (MHI)		4,000	
29	**MEDICAL TECHNOLOGY**	**60,877**	**162,877**	**102,000**
	Bioactive Products Program for Breast Cancer		2,000	
	Biomedical strategies for the prevention, treatment, assessment and predications of the health effects of ionizing radiation		1,500	
	Bone Health and Military Medical Readiness		1,000	
	Center for Advanced Surgical and Interventional Technology		1,000	
	Chitosan Hemorrhage Control Dressing		2,000	
	Clinical Trials using a Piezoelectric Dry Powder Inhalation Device		4,000	
	Collaborative Program in Rehabilitation and Engineering Research		1,000	
	Diabetes Research Project (Note: only for Type I Diabetes Research)		7,000	

R-1		Budget Request	Committee Recommended	Change From Request
	Diagnostics in Traumatic Brain Injury-Blood Based		1,000	
	Elgen Gene Delivery Technology		2,000	
	Enhanced Research in Trauma Prevention, Treatment and Rehabilitation		4,000	
	High-Speed MEMS Electromagnetic Cell Sorter		3,000	
	Improving Soldier Performance		3,000	
	Maternal-Fetal Health Informatics and Outreach Program		2,000	
	Medical Area Network for Virtual Technology (MANVT)		6,000	
	Molecular and Clinical-Based Comprehensive Cardiac Care (Integrative Cardiac Health Program) (Note: only for the continued coordination between WRAMC, a non-profit biomedical research institute, non-profit medical foundation, and a rural primary healthcare center)		6,000	
	Molecular Genetics and Musculoskeletal Research Program		10,000	
	Nanofabricated Bioartificial Kidney		3,000	
	Neutron Therapy		900	
	Non-Invasive Medical Sensors		1,000	
	Preventive Medicine Research Institute		2,000	
	Protein Hydrogel		1,000	
	Proton Treatment Center		10,000	
	Rapid Identification of Biological Agents		1,300	
	Sleep Deprivation Research at WRAMC (Note: only to continue existing program)		5,000	
	Spinal Muscular Atrophy Research Program		3,000	
	Targeted Nano-Therapeutics for Advanced Breast and Prostate Cancers		1,000	
	Texas Training and Technology for Trauma and Terrorism (T5)		11,000	
	Tissue Replacement and Repair for Battlefield Injuries		4,000	
	Transportable Pathogen Reduction & Blood Safety System		2,000	
	Veterinary Manpower Development		300	
30	**WARFIGHTER ADVANCED TECHNOLOGY**	**68,034**	**85,534**	**17,500**
	Common Navigation Interface Unit (CNIU) for Joint Precision Aerial Delivery System (JPADS)		3,000	
	Joint Precision Airdrop Systems (JPADS) - Rapid Refueling of 2k lb Resupply Requirements		3,000	
	Antimicrobial/Medical Base layer Garment Technology		1,000	
	Electro-Textiles		500	
	Ration Packaging Materials and Systems for Meals-Ready-to-Eat		6,000	
	Multifunctional Protective Packaging Technology		3,000	
	Integrated Headgear		1,000	

R-1		Budget Request	Committee Recommended	Change From Request
31	**MEDICAL ADVANCED TECHNOLOGY**	**38,404**	**271,704**	**233,300**
	Advance of Non-Invasive Glucose Monitoring		1,000	
	Advanced Image Processing Techniques for Biomedical Informatics		1,000	
	Advanced Proteomics		3,000	
	Advances in Breast Cancer Care Therapy		1,500	
	Alliance for Nanohealth		4,000	
	Battlefield Respirator and Ventilator (BRAV)		2,500	
	Behavioral Genomics Sleep Apnea Research		1,000	
	Biology, Education, Screening, Chemoprevention and Treatment (BESCT) Lung Cancer Research Program (MDACC)		9,500	
	Blood Safety and Decontamination Technology		8,000	
	Brain, Biology and Machine		2,000	
	Cancer Vaccine (Note: only for continued development of molecular switching vaccines using genetically modified Listera for cancer, infectious disease and bio-defense)		4,000	
	Center for Integration of Medicine and Innovative Technology		13,000	
	Center for Proteomics and Nanotechnologies		5,000	
	Collaborative in Advanced Emergency Medical Response with the Army Guard		2,500	
	Compact, Lightweight, Full-featured Patient Monitor with Defibrillator		3,000	
	Comparative Functional Genomics and Computational Sequencing: Novel Genetic Targets		4,000	
	Diagnostic and Therapeutic cancer care equipment		10,000	
	Emergency Eye Care Progam		2,000	
	Genomic Medicine Project and Gene Therapy (Note: only to continue the pilot clinical program targeted at cardiovascular disease and neurodegenerative disorders that gravely affect veterans)		4,000	
	Gynecologic Disease Program (Note: only for the establishment of a public/private effort, in coordination with an appropriate non-profit medical foundation, to provide programs in gynecologic diseases that will facilitate the early detection, prevention, and treatment strategies)		5,000	
	Hands Free Electronic Health Record		1,000	
	Institute for Research and Education		5,000	
	Joint US-Norwegian Telemedicine Program		2,500	
	Joslin Diabetes		5,000	
	Mapping the Human Brain for Combat Trauma Research at WRAMC		1,800	
	Medical Enterprise Management for the US Army		1,000	
	Medical Training Technology Enhancement Initiative		1,000	
	Military Low Vision Research		2,000	
	Military Surgeon Training Initiative		1,000	
	Minimally Invasive Approaches to Surgery		3,000	
	Minimally Invasive Surgery Modeling and Simulation		1,500	
	National Functional Genomics Center		11,000	
	Neurofibromatosis Research Program (NF)		25,000	
	Neurology Gallo Center-Alcoholism Research		5,000	
	Neurotoxin Exposure Treatment Research Program (NETRP) Parkinsons & neurological disorders		26,000	
	Operating Room of the Future		4,000	
	Orphan Disease Drug Discovery Program		2,000	

R-1		Budget Request	Committee Recommended	Change From Request
	Pain Management Initiative (Note: only for the public/private effort among DoD Medical Treatment Facilities, an appropriate not-for-profit medical foundation, and a rural primary health care center to provide a comprehensive program in pain management including treatment for acute pain using regional anesthesia techniques as well as a holistic approach to chronic pain)		7,000	
	Pediatric Brian Tumor and Neurological Disease Program		3,000	
	Picture Archiving and Communications System (PACS)		2,000	
	Plasma Sterilizer		2,000	
	Project Collaboration		1,000	
	Prostate Cancer Research-Gallo Center		1,000	
	Proton Beam Therapy (Note: only to continue a civilian-military collaborative proton beam therapy initiative on the East Coast of the United States in conjunction with WRAMC to provide state-of-the-art radiation treatment as well as clinical and non-clinical research)		12,000	
	Rare Blood Program		1,000	
	SEAtreat		3,500	
	SuperQR Powder Development		1,000	
	Surgical Wound Disinfection and Biological Agents Decontamination Project		2,000	
	Technologies for Metabolic Monitoring		3,000	
	Universal Medical and Surgical Product Catalog		5,000	
	Universal Vaccine Development for Bioterrorism		2,000	
	Untethered Healthcare Program		4,000	
32	**AVIATION ADVANCED TECHNOLOGY**	**69,549**	**86,549**	**17,000**
	Locust USA Heavy Fuel Burning Engines for UAVs		6,000	
	Process Technologies for Replacement Part Production (Note: only for Process Technologies for Replacement Parts Production)		6,000	
	Wideband Network Enhancement for Joint Ground Force Interoperability		5,000	
33	**WEAPONS AND MUNITIONS ADVANCED TECHNOLOGY**	**67,622**	**83,122**	**15,500**
	Rapid Prototyping for Special Projects		8,000	
	Development Mission Integration		2,000	
	Micro-electromechanical Systems Reliability Assessment Program		1,000	
	Technology Demonstration for the Prevention of Material Degradation		2,500	
	Future Laser Neutralization System (LNS)		1,000	
	Electromagnetic Gun Initiative		1,000	
34	**COMBAT VEHICLE AND AUTOMOTIVE ADVANCED TECHN**	**203,126**	**266,126**	**63,000**
	All Composite Military Vehicle		5,000	
	International Commercially Based Logistical Support Trucks		3,000	
	Secure Pervasive Computing (PvC) for Advanced Combat Vehicles		5,000	
	In-Theater Systems Development		3,500	
	Development of Logistical Fuel Processors to Meet Army TARDEC and TACOM Needs		3,000	
	Rapid Prototyping TACOM-UMD		3,000	
	Virtual Systems Integration Lab		2,000	
	Opposed Piston, Opposed Cylinder (OPOC) Engine for Use in an Auxiliary Power Unit (APU)		1,000	

R-1		Budget Request	Committee Recommended	Change From Request
	Rapid Optimization of Commercial Knowledge (ROCK) Program		2,000	
	High Strength, Powder Metal Gears for Vehicle Transmissions		2,000	
	Advanced Thermal Management System (Note: only for oil and air technologies to improve thermal management systems on additional platforms including heavy duty, medium duty, light, light armored, fuel cell, commercial auto, light truck, transit and hybrid diesel engines)		4,000	
	Advanced Army Composite Bridge		3,000	
	UAV Weaponization		1,000	
	FREEDOM Software Environment		1,000	
	Aluminum Lightweight Structures Initiative (ALSI)		6,000	
	Combat Vehicle Research		5,000	
	Battery Charging Technology (Note: only to continue development of advanced battery charging algorithms for Hybrid-Electric Vehicle applications)		1,000	
	US Army Hybrid Vehicle Test and Maintenance Infrastructure		5,000	
	N-STEP Enabled Manufacturing Cell for FCS		4,000	
	Fuel Cell Ground Support Equipment Demonstration		3,500	
36	**MANPOWER, PERSONNEL AND TRAINING ADVANCED TECHNOLOGY**	**7,288**	**8,288**	**1,000**
	Battle Command Team Training (BCTT) Program		1,000	
37	**ELECTRONIC WARFARE ADVANCED TECHNOLOGY**	**41,760**	**56,760**	**15,000**
	Applied Communications and Information Networking (ACIN) Program		10,000	
	Portable and Mobile Emergency Broadband System		2,000	
	Networking Environment for C3 Mobile Services (NECMS) facility		3,000	
39	**NEXT GENERATION TRAINING & SIMULATION SYSTEMS**	**18,072**	**21,072**	**3,000**
	Combat Trauma Patient Simulator System		3,000	
41	**EXPLOSIVES DEMILITARIZATION TECHNOLOGY**	**9,706**	**13,706**	**4,000**
	Sierra Army Depot Cryofracture/Plasma Arc Demilitarization Program		4,000	
42	**MILITARY HIV RESEARCH**	**6,641**	**16,641**	**10,000**
	Test, Treatment and Preventive Vaccines		10,000	
43	**COMBATING TERRORISM TECHNOLOGY DEVELOPMENT**	**3,383**	**8,383**	**5,000**
	Advanced Mobile Micro Grid Program		5,000	
45	**EW TECHNOLOGY**	**9,382**	**22,882**	**13,500**
	US Army Tactical ELINT for Ground Maneuver Forces		5,500	
	Multifunctional Intelligence and Remote Sensor System Advanced Technology		1,000	
	Portable Level I Fusion Tool Set		3,500	
	Aerial Canopy Sensor Delivery System (ACSDS)		3,500	

R-1		Budget Request	Committee Recommended	Change From Request
46	**MISSILE AND ROCKET ADVANCED TECHNOLOGY**	**92,800**	**106,800**	**14,000**
	Volumetrically Controlled Manufacturing (Note: only to continue existing University-based research on Volumetrically Controlled Manufacturing to expand the pre-existing basic science from mechanical applications to thermal, electro-magnetic, acoustic, and optic applications)		1,000	
	Multi-Controlled UAV Plug-n-Play Sensor		2,000	
	Persistent Protective Surveillance for the Survivability of Rotary Wing Aircraft		3,000	
	Micro-Factories for Precision Parts Program		2,000	
	Smart Energetics Architecture for Missile Systems		2,000	
	Compact Kinetic Energy Missile (CKEM) Stabilized Mobile Launcher (Note: only to demonstrate CKEM launch capabilities off a Light Combat Vehicle)		1,000	
	Waterside Wide Area Tactical Coverage & Homing (WaterWATCH)		3,000	
48	**LANDMINE WARFARE AND BARRIER ADVANCED TECHNOLOGY**	**25,577**	**31,577**	**6,000**
	SCANJACK Mine Clearing System		1,000	
	Edit Advanced Landmine Detection		1,000	
	Forward Looking Synthetic Aperture Stepped-Frequency Ground Penetrating RADAR (FLGPSAR)		1,000	
	Landmine Detection System using Terahertz Radiation		3,000	
51	**NIGHT VISION ADVANCED TECHNOLOGY**	**50,071**	**100,071**	**50,000**
	Buster Backpack UAV		10,000	
	Wire Detection and Obstacle Avoidance for helicopters		2,000	
	Night Vision Advanced Technology (NAS Project)		5,000	
	MCAD for TUAV		2,000	
	Night Vision Fusion Research and Development		7,000	
	Virtual Event Perimeter (VEP) Digital Video Surveillance Program		2,000	
	Personal Miniature Thermal Vision System		3,000	
	Cerberus Sensor Suite Program - K70		4,000	
	Sensor Technology for Force Protection		11,000	
	Multi-Color, Multi-Function Focal Plane Array for Targeting and Fire Control		1,000	
	Camera Assisted Monitoring System (CAMS) (Note: only to continue development and transition of CAMS to a type classified standard system)		3,000	
52	**ENVIRONMENTAL QUALITY TECHNOLOGY DEMONSTRATIONS**	**14,666**	**19,166**	**4,500**
	Ft. Ord Lead Based Paint and Wood Recycling Initiative		3,000	
	Commercialization of Technologies to Lower Defense Costs		1,500	

R-1		Budget Request	Committee Recommended	Change From Request
53	**MILITARY ENGINEERING ADVANCED TECHNOLOGY**	**3,865**	**10,365**	**6,500**
	1 Megawatt Molten Carbonate Fuel Cell Demonstrator		3,000	
	Integration of Commercial GIS Capabilities into Army C4ISR (TEC) (Note: only to investigate and improve integration and exploitation of commercial Geographic Information System capabilities of the Commercial Joint Mapping Toolkit into C4ISR components of Army tactical systems, to be conducted by the Army's Topographic Engineering Center of the Engineering Research and Development Center)		3,500	
54	**ADVANCED TACTICAL COMPUTER SCIENCE AND SENSOR TECHNOLOGY**	**31,951**	**55,451**	**23,500**
	Dominant Military Operations on Urbanized Terrain (MOUT) Viewer (DMV)		2,000	
	ASAS Light RDTE Development (Note: only to provide coalition interoperability, generic sensor interfaces and IBS broadcast integration)		2,000	
	Distributed Scalable C2 Communication System		1,000	
	MVMNT Program for Simulation Based Operation		2,000	
	Digital Array Radar Technology Development		2,000	
	Weather Intelligence Sensor System		1,000	
	Blast and Damage Assessment Risk Analysis and Mitigation Application (BADARAMA)		2,000	
	PING Wideband FR Target ID System (Note: only to accelerate the development of a PING field unit for urban warfare operations)		2,500	
	Radar Tags (Note: only for the Communications and Electronics Research, Development and Engineering Center's radar tags program for combat identification)		4,000	
	LCMR-Capabilities Enhancement (LCMR-CE) (Note: only to support further development of LCMR-CE to enhance the capabilities of this manportable radar system)		5,000	
55	**ARMY MISSILE DEFENSE SYSTEMS INTEGRATION**	**53,509**	**89,509**	**36,000**
	Ultra Light UAV Sensor Platform		4,000	
	Vertical Integration for Missile Defense Data		2,000	
	DESS - Dielectric Enhanced Sensor System		2,000	
	Next Generation Passive Sensors		3,000	
	C4ISR Visualization		1,000	
	Credible Threat Prediction Capability Development		4,000	
	Advanced Laser Electric Power (ALEP) Program (Note: only to carry out a collaborative advanced laser electric power (ALEP) program initiative with the private sector and the U.S. Army Space and Missile Defense Command)		3,000	
	Composite Chassis		1,000	
	Ballute Technology Development (Note: only to address technical issues with ballute inflation loads and kill vehicle dynamics, selection of ballute materials, flight dynamics, stability and control, weight and stowed volume of the ballute system)		2,000	

R-1		Budget Request	Committee Recommended	Change From Request
	Multiple Component Army Flight Test		3,000	
	Advanced Battery Technology		3,000	
	Spectral Operations Resources Center (SORC)		3,000	
	Remote Sensor Monitoring Technology Research Program to Characterize NCB Species		5,000	
56	**ARMY MISSILE DEFENSE SYSTEMS INTEGRATION (DEM/VAL)**	**4,871**	**6,871**	**2,000**
	P3 Power System		2,000	
57	**AIR AND MISSILE DEFENSE SYSTEMS ENGINEERING**	**91,713**	**106,713**	**15,000**
	Geospatial Information Decision Support for Single Integrated Air Picture		7,000	
	SituSpace Single Integrated Space Picture (SISP)		3,000	
	ASMD Architecture Analysis (A3) Program		2,000	
	Future Army Attack and Missile Defense System (FAAMDS)		3,000	
60	**TANK AND MEDIUM CALIBER AMMUNITION**	**39,697**	**50,197**	**10,500**
	GPS Interference Suppression Unit		4,500	
	Mid-Range Munition (MRM)		6,000	
66	**ENVIRONMENTAL QUALITY TECHNOLOGY DEM/VAL**	**9,356**	**43,856**	**34,500**
	Aberdeen Proving Ground Asbestos Conversion Facility		1,500	
	Environmental Management System Demonstration		1,000	
	Transportable Detonation Chamber		7,000	
	Military Environmental Information Exchange Program		5,000	
	Vanadium Technology Partnership		3,500	
	Demonstration of Technologies to reduce the costs associated with Base Redevelopment		2,500	
	NDCEE Joint Service Initiative		8,000	
	Sustainable Installations		2,000	
	Casting Emission Reduction Program (CERP)		4,000	
69	**AVIATION - ADV DEV**	**12,113**	**14,113**	**2,000**
	Virtual Cockpit Optimization Program (VCOP)		2,000	
71	**LOGISTICS AND ENGINEER EQUIPMENT - ADV DEV**	**10,485**	**12,485**	**2,000**
	US Army/Army Reserve Performance Support System Phase II		2,000	
73	**MEDICAL SYSTEMS - ADV DEV**	**10,258**	**13,258**	**3,000**
	Portable Battery Operated Solid-State Electrochemical Oxygen Generator		2,000	
	Electrosomotic Pain Therapy System for Adjustable Rate Implantable Drug Delivery		1,000	
83	**ALL SOURCE ANALYSIS SYSTEM**	**5,346**	**7,346**	**2,000**
	All Source Analysis System (ASAS) Analysis Control Element (ACE) Light (ASAS ACE Light)		2,000	
85	**COMMON MISSILE**	**152,381**	**102,381**	**-50,000**
	Funding ahead of need		-50,000	
86	**INFANTRY SUPPORT WEAPONS**	**28,187**	**30,687**	**2,500**
	XM312 .50 Caliber Advanced Crew Served Weapon		2,500	

R-1		Budget Request	Committee Recommended	Change From Request
87	**MEDIUM TACTICAL VEHICLES**	**2,854**	**12,554**	**9,700**
	Medium Tactical Vehicle Development		9,700	
90	**FAMILY OF HEAVY TACTICAL VEHICLES**	**2,479**	**5,479**	**3,000**
	Mobile Parts Hospital Advanced Development		3,000	
93	**LIGHT TACTICAL WHEELED VEHICLES**	**0**	**12,500**	**12,500**
	PM Program for Bloc Improvement Program (HMMWV)		12,500	
94	**ARMORED SYSTEMS MODERNIZATION (ASM)-ENG DEV**	**2,700,455**	**2,376,010**	**-324,445**
	Program Overhead		-248,000	
	NLOS-LS		-76,445	
97	**NIGHT VISION SYSTEMS - ENG DEV**	**24,693**	**27,693**	**3,000**
	Multi-Platform Replacement Sight (MRS)		3,000	
98	**COMBAT FEEDING, CLOTHING, AND EQUIPMENT**	**115,093**	**99,093**	**-16,000**
	Mounted Warrior Nomad Command and Control Head Up Display (C2HUD)		4,000	
	Land Warrior/Future Force Warrior consolidation		-20,000	
105	**AUTOMATIC TEST EQUIPMENT DEVELOPMENT**	**4,713**	**7,713**	**3,000**
	Integrated Family of Test Equipment (IFTE)		3,000	
106	**DISTRIBUTIVE INTERACTIVE SIMULATIONS (DIS) - ENGINE**	**26,985**	**30,485**	**3,500**
	Rock Drill--Commander's Battlefield Planning Tool		2,000	
	Dynamic Re-Addressing and Management for Army (DRAMA)		1,500	
111	**COMBINED ARMS TACTICAL TRAINER (CATT) CORE**	**23,849**	**19,109**	**-4,740**
	Comanche IOT&E Funding		-4,740	
114	**WEAPONS AND MUNITIONS - ENG DEV**	**125,885**	**159,385**	**33,500**
	Precision Guided Mortar Munition		1,500	
	Precision Guided Mortar Munition (PGMM)		6,000	
	Mortar Anti-Personnel/Materiel (MAPAMS)		1,000	
	XM25 Air Burst Weapon System		7,500	
	Advanced Cannon Artillery Ammunition Program ACA2P		13,000	
	Hybrid Propellant for medium and large caliber ammunition		4,500	
115	**LOGISTICS AND ENGINEER EQUIPMENT - ENG DEV**	**89,151**	**165,051**	**75,900**
	Marine Oriented Logistics--Theater Support Vessel (TSV) (Note: only to provide full funding for Army R&D vessel)		75,900	
117	**MEDICAL MATERIEL/MEDICAL BIOLOGICAL DEFENSE EQUIPMENT**	**11,727**	**14,227**	**2,500**
	LSTAT Medical Technology		2,500	
118	**LANDMINE WARFARE/BARRIER - ENG DEV**	**51,045**	**61,045**	**10,000**
	Magneto Inductive Remote Activation Munition System (MI-RAMS) (Note: only to accelerate engineering and development of the MI Remote Activation Munition System)		10,000	

R-1		Budget Request	Committee Recommended	Change From Request
119	**ARTILLERY MUNITIONS - EMD**	**133,297**	**142,297**	**9,000**
	Excalibur XM982 Life Cycle Improvements		4,000	
	BONUS Compliance Program (BCP) (Note: only for development and implementation of U.S. Army (PM CAS) BONUS compliance program)		5,000	
124	**FIREFINDER**	**18,516**	**20,016**	**1,500**
	Phoenix AN/TPQ-47		1,500	
125	**ARTILLERY SYSTEMS - EMD**	**9,550**	**12,550**	**3,000**
	Paladin-Excalibur Integration		3,000	
127	**INFORMATION TECHNOLOGY DEVELOPMENT**	**95,261**	**102,261**	**7,000**
	Rock Island Arsenal Information Technology Development (Note: only for a pilot field location for Redstone Arsenal's Integrated Force Protection simulation design work to be located at the Midwest Logistics Operations Center of the Army Field Logistics Command and Joint Munitions Command)		4,000	
	Knowledge Management System		3,000	
128	**THREAT SIMULATOR DEVELOPMENT**	**22,101**	**25,101**	**3,000**
	Army Threat Signals Intelligence Program		3,000	
129	**TARGET SYSTEMS DEVELOPMENT**	**11,017**	**15,017**	**4,000**
	Unmanned Air Vehicle Improved Altitude Control		4,000	
130	**MAJOR T&E INVESTMENT**	**57,987**	**60,987**	**3,000**
	Vehicle Durability Simulator		3,000	
132	**ARMY KWAJALEIN ATOLL**	**143,921**	**146,421**	**2,500**
	Replacement Dome Housing for US Army Kwajalein Atoll		2,500	
133	**CONCEPTS EXPERIMENTATION PROGRAM**	**22,727**	**23,727**	**1,000**
	Handwritten Optical Character Recognition Software		1,000	
136	**ARMY TECHNICAL TEST INSTRUMENTATION AND TARGETS**	**52,433**	**57,433**	**5,000**
	White Sands Missile Range (WSMR) Test Modernization		5,000	
143	**SUPPORT OF OPERATIONAL TESTING**	**71,239**	**72,239**	**1,000**
	MATTRACKS - Track conversion systems for lightweight wheeled vehicles		1,000	

R-1		Budget Request	Committee Recommended	Change From Request
148	**MUNITIONS STANDARDIZATION, EFFECTIVENESS AND SAFETY**	**14,611**	**36,611**	**22,000**
	Munitions Life Cycle Pilot Processes		2,000	
	Manufacturing Research and Development for Nanotechnologies and Energetic Materials		1,500	
	Advanced Technology Center		1,500	
	MEMS Nano Consortium		2,000	
	Advanced Cluster Energetics (ACE)		2,500	
	Mid-Range Munition		1,000	
	Munitions Public Private Partnerships (Energetics, Sensors, Seekers)		3,500	
	CZT Detectors for Automated Munitions Inspections and Surveillance		1,500	
	MEMS IMU Technology Capability		3,000	
	OMEGA 60 Battle Effect Simulators		500	
	Nanoparticle Development for Energetic Materials		2,000	
	Fuel Cells for Munitions		1,000	
152	**MLRS PRODUCT IMPROVEMENT PROGRAM**	**97,422**	**112,422**	**15,000**
	GMLRS Unitary		15,000	
153	**AEROSTAT JOINT PROJECT OFFICE**	**81,514**	**84,514**	**3,000**
	MEMS Demonstration Radar System (MEMS DRS)		3,000	
154	**DOMESTIC PREPAREDNESS AGAINST WEAPONS OF MASS DESTRUCTION**	**0**	**1,000**	**1,000**
	Bioterrorism Education		1,000	
156	**COMBAT VEHICLE IMPROVEMENT PROGRAMS**	**15,952**	**23,952**	**8,000**
	Digitization Support to Ft. Hood (University XXI)		4,000	
	Combat Vehicle Electronics for Future and Current Programs (Note: only to develop next generation electronics for current and future combat vehicles, and to accelerate standardization of their vetronic architecture)		4,000	
158	**AIRCRAFT MODIFICATIONS/PRODUCT IMPROVEMENT PROGRAMS**	**242,853**	**253,853**	**11,000**
	Maintenance Analysis Safety and Training (MAST) program		5,000	
	Helicopter Autonomous Landing System (HALS) Prototype Sensor		4,000	
	Army Distributed Mission Training System		2,000	
171	**SECURITY AND INTELLIGENCE ACTIVITIES**	**0**	**14,000**	**14,000**
	Information Dominance Center-Mobile Agent Technology		6,000	
	Automated Communications Support System for WARFIGHTERS, Intelligence Community and Analysts		1,000	
	Global Anti-Terrorist Activity Analysis Capability at the INSCOM Information Dominance Center		3,000	
	Portable Iris Enrollment and Recognition (PIER) Device (Note: only for continued development of the PIER and the associated multi-modal platform)		4,000	
174	**SATCOM GROUND ENVIRONMENT (SPACE)**	**51,959**	**54,959**	**3,000**
	KaSAT		3,000	
177	**TACTICAL UNMANNED AERIAL VEHICLES**	**45,627**	**48,627**	**3,000**
	Army I-GNAT ER Unmanned Aircraft		3,000	

R-1		Budget Request	Committee Recommended	Change From Request
179	**DISTRIBUTED COMMON GROUND SYSTEMS**	**43,254**	**55,254**	**12,000**
	ASAS Light		2,000	
	Intelligence Data Exchange for Execution and Planning, Distributed Common Ground Systems		3,000	
	Joint Visualization System (JVS)		2,000	
	Automatic Target Cueing System		5,000	
181	**END ITEM INDUSTRIAL PREPAREDNESS ACTIVITIES**	**67,236**	**83,236**	**16,000**
	Laser Peening		1,000	
	Six Sigma Lean Enterprise		1,000	
	High Temperature Structural Ceramic Materials		3,000	
	Third Generation Dual Band Infrared Imagers		1,000	
	National Center for Defense Manufacturing & Machining		4,000	
	Reactive Armor Plasma (RAP) Processing		3,000	
	LEAN Munitions Program		3,000	
DCF	**Defense Language Institute**	**0**	**2,500**	**2,500**
	Satellite Communications for Learning (SCOLA)		2,500	

FUTURE COMBAT SYSTEM

The fiscal year 2005 budget request for the Future Combat System (FCS) totals $3,198,098,000, including $2,700,455,000 in program element 0604645A, Armored Systems Modernization, and $497,643,000 in 0604647A, Non Line of Sight Cannon (NLOS–C). In addition, the Army budget requests funding for nearly 150 complementary systems necessary for the successful development and fielding of FCS. In total, the funding for this program represents well over one-third of the total Army research and development budget request.

The Committee recommends a total of $2,873,653,000 for fiscal year 2005, a reduction of $324,445,000 from the requested amount. $248,000,000 of this reduction is from program overhead. The Committee notes that the budget request includes both multiple layers of management reserve, as well as over $100,000,000 for the purpose of program withholds and other "taxes" contrary to normal budget practices. The remaining $76,445,000 of the reduction is from termination of the Non Line of Sight Launch System (NLOS–LS). The Committee is aware that NLOS–LS is comprised of three elements including the Loiter Attack Munition (LAM), the Precision Attack Munition (PAM) and a Command Launch Unit (CLU). The Committee directs the Army to cease development of all aspects of this system. With respect to LAM, the Committee is aware that it is essentially an unmanned aerial vehicle (UAV) with a 30-minute dwell time. Testing thus far has proven unsuccessful, and the Committee notes that other UAV platforms are being developed elsewhere in the FCS program. Concerning PAM, the Committee notes that this system has the same mission profile as the already fielded Guided Multiple Launch Rocket System (GMLRS). The Committee also notes that GMLRS has significantly greater range and payload than PAM as well as comparable accuracy. The Committee has provided additional resources to accelerate development and fielding of the GMLRS–Unitary as described elsewhere in this report.

In the statement of the managers accompanying conference report on the fiscal year 2004 Defense Appropriations Act, the Congress recommended that the Army organize the budget request for both the FCS common elements and platforms to better justify the program. In execution of fiscal year 2004 funding, the Army developed an entirely different funding distribution—one which provided management flexibility, but failed to provide relevant information about financial requirements for FCS along the lines of the program's basic structure. In addition, the Committee recently learned that the Army and the FCS Lead System Integrator (LSI) had planned to make major revisions to funding levels within the Army-proposed structure prior to congressional action on the fiscal year 2005 budget request. In some cases, these changes were on the order of hundreds of millions of dollars, thus calling into question the validity of the materials submitted in support of the fiscal year 2005 budget request.

As expressed in fiscal year 2004, the Committee remains concerned that this program lacks adequate justification to warrant the requested funding. Accordingly, the Committee directs that the

Army adhere to the following funding structure in execution of appropriations provided for fiscal year 2005, and in preparation of the fiscal year 2006 budget request.

0604645A: Armored Systems Modernization	$2,376,010,000
—System of Systems (SoS) Program Management, Engineering, Software, Test and Evaluation	1,572,610,000
—Sustainment	53,600,000
—UAV Reconnaissance & Sensors	154,200,000
—Unmanned Ground Vehicles	137,100,000
—Non Line of Sight Launch System (NLOS–LS)	0
—Manned Ground Vehicles	429,000,000
—Unattended Ground Sensors	29,500,000
0604647A: Non Line of Sight Cannon (NLOS–C)	497,643,000
Total:	2,873,653,000

The projects identified within program element 0604645A, Armored Systems Modernization, are congressional special interest items for the purpose of prior approval reprogrammings as discussed elsewhere in this report. In addition, the Committee reminds the Army that the cumulative value of transfers into or out of these program elements are subject to the same reprogramming guidelines applicable to all other Research, Development, Test and Evaluation funded programs.

NON LINE OF SIGHT CANNON (NLOS–C)

The Committee recognizes that NLOS–C is an integral part of the Future Combat System (FCS) and is being managed on the same development timelines as FCS. While this timeline is potentially subject to change at either the Milestone B update scheduled for November 2004, or the Preliminary Design Review scheduled for April 2005, the Committee is aware that the current plan for FSC fielding, to include NLOS–C, is fiscal year 2010. Therefore, as explained in section 8100 of the Committee bill, the Committee expects that the Army will program and budget to field NLOS–C in fiscal year 2010. To this end, the Committee directs that the Army field NLOS–C in compliance with the definition of weapon system fielding as expressed in Army Regulation 700–142.

As noted elsewhere in the report, the budget request includes $497,643,000 for NLOS–C. The Committee recognizes that $93,686,000 of the funding requested in program element 0604647A is requested explicitly for the purpose of developing unique mission equipment. Accordingly, the Committee directs that this amount is a congressional special interest item for the purpose of prior approval reprogrammings.

THEATER SUPPORT VESSEL

The budget requested $89,151,000 for the Logistics and Engineering Equipment program, an increase of $763,000 over the fiscal year 2004 appropriation. The Committee recommends $165,051,000, an increase of $75,900,000 above the request. Of the amount requested within this program element, the Army includes $65,380,000 for the Theater Support Vessel (TSV) program. Fiscal year 2005 is the first year in which funding has been requested to construct such a vessel. The Committee notes that the total cost of this vessel is approximately $141,600,000, and the Army had planned to incrementally fund its construction over the course of

fiscal years 2005 through 2007. The Committee firmly believes that the Department should fully fund major investment items and accordingly has added sufficient funding in the fiscal year 2005 bill to complete this vessel.

In addition to concerns about incremental funding, the Committee is also concerned about the extent to which the Army's TSV concept has been rationalized with Navy Sealift and Afloat Basing programs, as well as Marine Corps sealift requirements. Given the Navy and Marine Corps plans in this regard, the Committee believes that the Army must ensure that the design and construction of the TSV is compatible with Navy plans and programs. Accordingly, the Committee directs that none of the funds provided for the TSV program may be obligated or expended until the Secretaries of the Army and Navy jointly provide a report to the congressional defense committees addressing the following issues:

—The Army requirements for the Theater Support Vessel (TSV) including number of vessels to be constructed;

—The relationship between the Navy Afloat Basing concept and TSV requirements including measures to ensure that these programs are compatible;

—The relationship between Army and Marine Corps requirements for intra-theater sealift; and,

—The plans for funding the TSV program including amounts included in the Future Years Defense Program, and a summary of DoD deliberations on whether to fund this program through the National Defense Sealift Fund (NDSF) or by other means in future budget submissions.

JOINT TACTICAL RADIO SYSTEM (JTRS)

The Committee recognizes that the Future Combat System (FCS) is on a very aggressive development timeline, and that this timeline is dependent upon successful development of nearly 150 complementary systems. Among the most critical of these complementary systems is the Joint Tactical Radio System (JTRS) which will provide a foundation for the C4ISR network required to link soldiers, platforms, and sensors. The Committee has concerns about the maturity of JTRS, especially about JTRS Cluster 5 which is necessary for manportable applications, and applications requiring small form/fit radios. Accordingly, the Committee directs the Secretary of Army to provide a report to the congressional defense committees, not later than February 1, 2005, listing specific FCS elements that require JTRS Cluster 5 including, but not limited to, manportable systems, and systems requiring small form/fit radios such as unmanned aerial vehicles, unmanned ground vehicles and unattended sensors. The report shall provide a detailed description of the JTRS Cluster 5 development timeline and explain how this timeline fits into the FCS development timeline. The report shall also explain the DoD mitigation strategy in the event that JTRS Cluster 5 development fails to keep pace with the FSC program schedule.

PATRIOT PAC–3/MEDIUM EXTENDED AIR DEFENSE SYSTEM (MEADS)

In April 2003, the Department of Defense Acquisition Executive signed an Acquisition Decision Memorandum (ADM) directing the

merger of the Patriot PAC–3 and MEADS programs, and assigned management, programming and budgeting responsibilities to the Army. In the statement of managers accompanying the conference report on the fiscal year 2004 Defense Appropriations Act, the Congress expressed its support for this course of action and directed the Army to submit a plan for combining these programs. In the fiscal year 2005 budget request, the programs remain separate entities. While management may reside within a single Army major command, the budget request is presented as though nothing about the programs had changed. Further, it is not clear whether the amounts requested for the PAC–3/MEADS program have been rationalized to improve either funding or programmatic efficiencies. While the Committee still supports the merged PAC–3/MEADS program under Army cognizance, the Committee believes there have been unnecessary delays in realigning program funding. Accordingly, the Committee directs the Secretary of the Army to develop a plan to merge these programs as directed by the April 2003 ADM, and provide a report to the congressional defense committees on this plan not later than February 15, 2005.

LAND WARRIOR AND FUTURE FORCE WARRIOR

In the report accompanying the House version of the fiscal year 2004 Defense Appropriations bill, the Committee expressed concern about the Land Warrior program with respect to both its failure in developmental testing, and the instability in its design. In the statement of managers accompanying the conference report on the fiscal year 2004 Defense Appropriations Act, the conferees expressed a similar view reducing overall funding for this program and providing funding in research and development rather than in procurement. In fiscal year 2005, the Committee notes that the Army proposes funding for two conceptually similar programs including Land Warrior and Future Force Warrior. The budget request includes a total of $183,127,000. The Committee believes the Army should combine the resources of these programs to better focus program requirements and development efforts. Accordingly, the Committee recommends reducing overall funding by $20,000,000 below the budget request, and directs the Army to merge the funding and management of the Land Warrior and Future Force Warrior programs.

GUIDED MULTIPLE LAUNCH ROCKET SYSTEM (GMLRS)—UNITARY

The budget requested $97,422,000 for the Multiple Launch Rocket System (MLRS) Product Improvement program, an increase of $12,853,000 over the fiscal year 2004 appropriation. The Committee recommends $112,422,000, an increase of $15,000,000. The Committee has provided an additional $15,000,000 to accelerate development and fielding of the GMLRS–Unitary munition to U.S. forces in high-risk locations by fiscal year 2006. The Committee directs that this amount is a congressional special interest item for the purpose of prior approval reprogrammings. Based on the present demonstrated capability, the Committee believes the Army should field out of the existing GMLRS–DPICM production line a limited quantity of not less than 450 GMLRS–Unitary munitions (consisting of a 200 lb. warhead and multi-mode fuze). This limited

capability would, if fielded as described above, place in the hands of both Army and Marine Corps commanders, nearly two years earlier than planned, a precision, lethal, all-weather munition that reduces collateral damage and unexploded ordnance, and is capable of engaging targets of opportunity in both urban and open terrain in a timely manner.

NUCLEAR MONITORING

In the fiscal year 2005 budget request, the Army includes funding for the Nuclear Arms Control Technology—Sensor Network Monitoring project in the same program element as the Joint Tactical Radio System (JTRS). In the Committee's view, this project represents a distinct entity for which the budget request should be presented separately; not buried in a larger, unrelated program. Accordingly, the Committee directs the Secretary of Defense to establish an appropriate account to program and budget for this program beginning with the fiscal year 2006 budget request, and report to the congressional defense committees not later than March 1, 2005 on these plans.

DEFENSE LANGUAGE INSTITUTE

In the statement of managers accompanying the conference report on the fiscal year 2004 Defense Appropriations Act, the conferees recommended the Department of Defense establish a separate program element code within Research, Development, Test and Evaluation, Army, and begin funding research and development activities related to the Defense Language Institute. The Committee notes that neither of these actions are reflected in the Army budget request for fiscal year 2005. To initiate this work, the Committee recommends an increase of $2,500,000 above the budget request, and directs that the Army establish a separate program element to program and budget for this activity.

ARIZONA TELEMEDICINE PROGRAM

The Committee is encouraged by the accomplishments of the Arizona Telemedicine Program and its multidisciplinary clinical program in conjunction with the Army, the Departments of Agriculture, Commerce, and Health and Human Services. DoD is strongly encouraged to continue its work with this program.

PROGRAM RECOMMENDED

The total program recommended in the bill will provide the following in fiscal year 2005.

(DOLLARS IN THOUSANDS)

	BUDGET REQUEST	COMMITTEE RECOMMENDED	CHANGE FROM REQUEST
RESEARCH, DEVELOPMENT, TEST & EVAL, ARMY			
BASIC RESEARCH			
IN-HOUSE LABORATORY INDEPENDENT RESEARCH	23,971	23,971	---
DEFENSE RESEARCH SCIENCES	131,206	163,706	+32,500
UNIVERSITY RESEARCH INITIATIVES	75,133	80,633	+5,500
UNIVERSITY AND INDUSTRY RESEARCH CENTERS	77,658	95,158	+17,500
FORCE HEALTH PROTECTION	9,538	21,538	+12,000
TOTAL, BASIC RESEARCH	317,506	385,006	+67,500
APPLIED RESEARCH			
MATERIALS TECHNOLOGY	15,385	34,385	+19,000
SENSORS AND ELECTRONIC SURVIVABILITY	25,629	33,629	+8,000
TRACTOR HIP	6,627	6,627	---
AVIATION TECHNOLOGY	41,629	49,029	+7,400
EW TECHNOLOGY	18,034	18,034	---
MISSILE TECHNOLOGY	51,993	55,793	+3,800
ADVANCED WEAPONS TECHNOLOGY	16,641	27,641	+11,000
ADVANCED CONCEPTS AND SIMULATION	15,041	15,041	---
COMBAT VEHICLE AND AUTOMOTIVE TECHNOLOGY	69,638	106,138	+36,500
BALLISTICS TECHNOLOGY	51,301	54,801	+3,500
CHEMICAL, SMOKE AND EQUIPMENT DEFEATING TECHNOLOGY	3,476	4,976	+1,500
JOINT SERVICE SMALL ARMS PROGRAM	5,739	16,239	+10,500
WEAPONS AND MUNITIONS TECHNOLOGY	44,666	99,066	+54,400
ELECTRONICS AND ELECTRONIC DEVICES	41,236	92,286	+51,050
NIGHT VISION TECHNOLOGY	22,617	29,617	+7,000
COUNTERMINE SYSTEMS	20,547	28,547	+8,000
HUMAN FACTORS ENGINEERING TECHNOLOGY	16,899	22,399	+5,500
ENVIRONMENTAL QUALITY TECHNOLOGY	17,026	17,026	---
COMMAND, CONTROL, COMMUNICATIONS TECHNOLOGY	18,604	33,104	+14,500
COMPUTER AND SOFTWARE TECHNOLOGY	3,982	3,982	---
MILITARY ENGINEERING TECHNOLOGY	47,152	49,152	+2,000
MANPOWER/PERSONNEL/TRAINING TECHNOLOGY	15,322	15,322	---
LOGISTICS TECHNOLOGY	21,131	38,131	+17,000
MEDICAL TECHNOLOGY	60,877	162,877	+102,000
TOTAL, APPLIED RESEARCH	651,192	1,013,842	+362,650

(DOLLARS IN THOUSANDS)

	BUDGET REQUEST	COMMITTEE RECOMMENDED	CHANGE FROM REQUEST
ADVANCED TECHNOLOGY DEVELOPMENT			
WARFIGHTER ADVANCED TECHNOLOGY	68,034	85,534	+17,500
MEDICAL ADVANCED TECHNOLOGY	38,404	271,704	+233,300
AVIATION ADVANCED TECHNOLOGY	69,549	86,549	+17,000
WEAPONS AND MUNITIONS ADVANCED TECHNOLOGY	67,622	83,122	+15,500
COMBAT VEHICLE AND AUTOMOTIVE ADVANCED TECHNOLOGY	203,126	266,126	+63,000
COMMAND, CONTROL, COMMUNICATIONS ADVANCED TECHNOLOGY	9,946	9,946	---
MANPOWER, PERSONNEL AND TRAINING ADVANCED TECHNOLOGY	7,288	8,288	+1,000
ELECTRONIC WARFARE ADVANCED TECHNOLOGY	41,760	56,760	+15,000
TRACTOR HIKE	8,035	8,035	---
NEXT GENERATION TRAINING & SIMULATION SYSTEMS	18,072	21,072	+3,000
TRACTOR ROSE	4,736	4,736	---
EXPLOSIVES DEMILITARIZATION TECHNOLOGY	9,706	13,706	+4,000
MILITARY HIV RESEARCH	6,641	16,641	+10,000
COMBATING TERRORISM, TECHNOLOGY DEVELOPMENT	3,383	8,383	+5,000
GLOBAL SURVEILLANCE/AIR DEFENSE/PRECISION STRIKE TECHN	10,721	10,721	---
EW TECHNOLOGY	9,382	22,882	+13,500
MISSILE AND ROCKET ADVANCED TECHNOLOGY	92,800	106,800	+14,000
TRACTOR CAGE	13,312	13,312	---
LANDMINE WARFARE AND BARRIER ADVANCED TECHNOLOGY	25,577	31,577	+6,000
JOINT SERVICE SMALL ARMS PROGRAM	5,968	5,968	---
NIGHT VISION ADVANCED TECHNOLOGY	50,071	100,071	+50,000
ENVIRONMENTAL QUALITY TECHNOLOGY DEMONSTRATIONS	14,666	19,166	+4,500
MILITARY ENGINEERING ADVANCED TECHNOLOGY	3,865	10,365	+6,500
ADVANCED TACTICAL COMPUTER SCIENCE & SENSOR TECHNOLOGY	31,951	55,451	+23,500
TOTAL, ADVANCED TECHNOLOGY DEVELOPMENT	814,615	1,316,915	+502,300
DEMONSTRATION & VALIDATION			
ARMY MISSILE DEFENSE SYSTEMS INTEGRATION	53,509	89,509	+36,000
ARMY MISSILE DEFENSE SYSTEMS INTEGRATION (DEM/VAL)	4,871	6,871	+2,000
AIR AND MISSILE DEFENSE SYSTEMS ENGINEERING	91,713	106,713	+15,000
LANDMINE WARFARE AND BARRIER - ADV DEV	11,634	11,634	---
SMOKE, OBSCURANT AND TARGET DEFEATING SYS-ADV DEV	6,249	6,249	---
TANK AND MEDIUM CALIBER AMMUNITION	39,697	50,197	+10,500
ADVANCED TANK ARMAMENT SYSTEM (ATAS)	51,892	51,892	---

(DOLLARS IN THOUSANDS)

	BUDGET REQUEST	COMMITTEE RECOMMENDED	CHANGE FROM REQUEST
SOLDIER SUPPORT AND SURVIVABILITY	13,810	13,810	---
TACTICAL ELECTRONIC SURVEILLANCE SYSTEM - ADV DEV	15,441	15,441	---
NIGHT VISION SYSTEMS ADVANCED DEVELOPMENT	14,047	14,047	---
ENVIRONMENTAL QUALITY TECHNOLOGY	9,356	43,856	+34,500
WARFIGHTER INFORMATION NETWORK-TACTICAL (DEM/VAL)	99,645	99,645	---
NATO RESEARCH AND DEVELOPMENT	4,801	4,801	---
AVIATION - ADV DEV	12,113	14,113	+2,000
WEAPONS AND MUNITIONS - ADV DEV	2,382	2,382	---
LOGISTICS AND ENGINEER EQUIPMENT - ADV DEV	10,485	12,485	+2,000
COMBAT SERVICE SUPPORT CONTROL SYSTEM EVALUATION	6,366	6,366	---
MEDICAL SYSTEMS - ADV DEV	10,258	13,258	+3,000
INTEGRATED BROADCAST SERVICE (JMIP/DISTP)	4,356	4,356	---
SCAMP BLOCK II (DEM/VAL)	10,221	10,221	---
MEDIUM EXTENDED AIR DEFENSE SYSTEM (MEADS) CONCEPTS	264,527	264,527	---
TOTAL, DEMONSTRATION & VALIDATION	737,373	842,373	+105,000
ENGINEERING & MANUFACTURING DEVELOPMENT			
AIRCRAFT AVIONICS	68,857	68,857	---
ARMED, DEPLOYABLE OH-58D	20,000	20,000	---
EW DEVELOPMENT	16,879	16,879	---
JOINT TACTICAL RADIO	121,400	121,400	---
ALL SOURCE ANALYSIS SYSTEM	5,346	7,346	+2,000
TRACTOR CAGE	14,149	14,149	---
COMMON MISSILE	152,381	102,381	-50,000
INFANTRY SUPPORT WEAPONS	28,187	30,687	+2,500
MEDIUM TACTICAL VEHICLES	2,854	12,554	+9,700
SMOKE, OBSCURANT AND TARGET DEFEATING SYS-ENG DEV	3,798	3,798	---
JAVELIN	944	944	---
FAMILY OF HEAVY TACTICAL VEHICLES	2,479	5,479	+3,000
AIR TRAFFIC CONTROL	2,088	2,088	---
LIGHT TACTICAL WHEELED VEHICLES	---	12,500	+12,500
ARMORED SYSTEMS MODERNIZATION (ASM)-ENG DEV	2,700,455	2,376,010	-324,445
NON-LINE OF SIGHT CANNON	497,643	497,643	---
NIGHT VISION SYSTEMS - ENG DEV	24,693	27,693	+3,000

(DOLLARS IN THOUSANDS)

	BUDGET REQUEST	COMMITTEE RECOMMENDED	CHANGE FROM REQUEST
COMBAT FEEDING, CLOTHING, AND EQUIPMENT	115,093	99,093	-16,000
NON-SYSTEM TRAINING DEVICES - ENG DEV	51,694	51,694	---
TERRAIN INFORMATION - ENG DEV	3,199	3,199	---
INTEGRATED METEOROLOGICAL SUPPORT SYSTEM	2,485	2,485	---
AIR DEFENSE COMMAND, CONTROL AND INTELLIGENCE -ENG DEV	27,376	27,376	---
CONSTRUCTIVE SIMULATION SYSTEMS DEVELOPMENT	42,869	42,869	---
AUTOMATIC TEST EQUIPMENT DEVELOPMENT	4,713	7,713	+3,000
DISTRIBUTIVE INTERACTIVE SIMULATIONS (DIS) -ENGINEER	26,985	30,485	+3,500
TACTICAL SURVEILLANCE SYSTEMS - ENG DEV	21,821	21,821	---
ARMY TACTICAL MISSILE SYSTEM (ATACMS)	21	21	---
POSITIONING SYSTEMS DEVELOPMENT (SPACE)	2,048	2,048	---
COMBINED ARMS TACTICAL TRAINER (CATT) CORE	23,849	19,109	-4,740
JOINT NETWORK MANAGEMENT SYSTEM	10,726	10,726	---
AVIATION - ENG DEV	2,378	2,378	---
WEAPONS AND MUNITIONS - ENG DEV	125,885	159,385	+33,500
LOGISTICS AND ENGINEER EQUIPMENT - ENG DEV	89,151	165,051	+75,900
COMMAND, CONTROL, COMMUNICATIONS SYSTEMS - ENG DEV	219,790	219,790	---
MEDICAL MATERIEL/MEDICAL BIOLOGICAL DEFENSE EQUIPMENT	11,727	14,227	+2,500
LANDMINE WARFARE/BARRIER - ENG DEV	51,045	61,045	+10,000
ARTILLERY MUNITIONS - EMD	133,297	142,297	+9,000
COMBAT IDENTIFICATION	6,994	6,994	---
ARMY TACTICAL COMMAND & CONTROL HARDWARE & SOFTWARE	68,110	68,110	---
LOSAT	22,628	22,628	---
RADAR DEVELOPMENT	6,107	6,107	---
FIREFINDER	18,516	20,016	+1,500
ARTILLERY SYSTEMS - EMD	9,550	12,550	+3,000
PATRIOT PAC-3 THEATER MISSILE DEFENSE ACQUISITION	64,178	64,178	---
INFORMATION TECHNOLOGY DEVELOPMENT	95,261	102,261	+7,000
TOTAL, ENGINEERING & MANUFACTURING DEVELOPMENT	4,919,649	4,706,064	-213,585

(DOLLARS IN THOUSANDS)

	BUDGET REQUEST	COMMITTEE RECOMMENDED	CHANGE FROM REQUEST
RDT&E MANAGEMENT SUPPORT			
THREAT SIMULATOR DEVELOPMENT	22,101	25,101	+3,000
TARGET SYSTEMS DEVELOPMENT	11,017	15,017	+4,000
MAJOR T&E INVESTMENT	57,987	60,987	+3,000
RAND ARROYO CENTER	20,012	20,012	---
ARMY KWAJALEIN ATOLL	143,921	146,421	+2,500
CONCEPTS EXPERIMENTATION PROGRAM	22,727	23,727	+1,000
ARMY TEST RANGES AND FACILITIES	181,114	181,114	---
ARMY TECHNICAL TEST INSTRUMENTATION AND TARGETS	52,433	57,433	+5,000
SURVIVABILITY/LETHALITY ANALYSIS	44,648	44,648	---
DOD HIGH ENERGY LASER TEST FACILITY	15,725	15,725	---
AIRCRAFT CERTIFICATION	3,485	3,485	---
METEOROLOGICAL SUPPORT TO RDT&E ACTIVITIES	8,711	8,711	---
MATERIEL SYSTEMS ANALYSIS	18,000	18,000	---
EXPLOITATION OF FOREIGN ITEMS	4,740	4,740	---
SUPPORT OF OPERATIONAL TESTING	71,239	72,239	+1,000
ARMY EVALUATION CENTER	62,209	62,209	---
SIMULATION & MODELING FOR ACQ, RQTS, & TNG (SMART)	1,935	1,935	---
PROGRAMWIDE ACTIVITIES	59,368	59,368	---
TECHNICAL INFORMATION ACTIVITIES	27,713	27,713	---
MUNITIONS STANDARDIZATION, EFFECTIVENESS AND SAFETY	14,611	36,611	+22,000
ENVIRONMENTAL QUALITY TECHNOLOGY MGMT SUPPORT	4,527	4,527	---
MANAGEMENT HEADQUARTERS (RESEARCH AND DEVELOPMENT)	11,575	11,575	---
TOTAL, RDT&E MANAGEMENT SUPPORT	859,798	901,298	+41,500

(DOLLARS IN THOUSANDS)

	BUDGET REQUEST	COMMITTEE RECOMMENDED	CHANGE FROM REQUEST
OPERATIONAL SYSTEMS DEVELOPMENT			
MLRS PRODUCT IMPROVEMENT PROGRAM	97,422	112,422	+15,000
AEROSTAT JOINT PROJECT OFFICE	81,514	84,514	+3,000
DOMESTIC PREPAREDNESS AGAINST WEAPONS OF MASS DESTRUCT	---	1,000	+1,000
ADV FIELD ARTILLERY TACTICAL DATA SYSTEM	17,994	17,994	---
COMBAT VEHICLE IMPROVEMENT PROGRAMS	15,952	23,952	+8,000
MANEUVER CONTROL SYSTEM	24,753	24,753	---
AIRCRAFT MODIFICATIONS/PRODUCT IMPROVEMENT PROGRAMS	242,853	253,853	+11,000
AIRCRAFT ENGINE COMPONENT IMPROVEMENT PROGRAM	2,427	2,427	---
DIGITIZATION	24,506	24,506	---
FORCE XXI BATTLE COMMAND, BRIGADE AND BELOW (FBCB2)	23,510	23,510	---
MISSILE/AIR DEFENSE PRODUCT IMPROVEMENT PROGRAM	31,690	31,690	---
OTHER MISSILE PRODUCT IMPROVEMENT PROGRAMS	4,863	4,863	---
TRACTOR RUT	3,321	3,321	---
TRACTOR CARD	9,023	9,023	---
JOINT TACTICAL COMMUNICATIONS PROGRAM (TRI-TAC)	18,177	18,177	---
JOINT TACTICAL GROUND SYSTEM	9,967	9,967	---
SECURITY AND INTELLIGENCE ACTIVITIES	---	14,000	+14,000
INFORMATION SYSTEMS SECURITY PROGRAM	24,725	24,725	---
GLOBAL COMBAT SUPPORT SYSTEM	94,215	94,215	---
SATCOM GROUND ENVIRONMENT (SPACE)	51,959	54,959	+3,000
WWMCCS/GLOBAL COMMAND AND CONTROL SYSTEM	19,204	19,204	---
TACTICAL UNMANNED AERIAL VEHICLES	45,627	48,627	+3,000
AIRBORNE RECONNAISSANCE SYSTEMS	5,128	5,128	---
DISTRIBUTED COMMON GROUND SYSTEMS	43,254	55,254	+12,000
AVIONICS COMPONENT IMPROVEMENT PROGRAM	997	997	---
END ITEM INDUSTRIAL PREPAREDNESS ACTIVITIES	67,236	83,236	+16,000
NATO JOINT STARS	595	595	---
DEFENSE LANGUAGE INSTITUTE FOREIGN LEARNING CENTER	---	2,500	+2,500
TOTAL, OPERATIONAL SYSTEMS DEVELOPMENT	960,912	1,049,412	+88,500
CLASSIFIED PROGRAMS	5,213	5,213	---
TOTAL, RESEARCH, DEVELOPMENT, TEST & EVAL, ARMY	9,266,258	10,220,123	+953,865

RESEARCH, DEVELOPMENT, TEST AND EVALUATION, NAVY

Fiscal year 2004 appropriation	$15,146,383,000
Fiscal year 2005 budget request	16,346,391,000
Committee recommendation	16,532,361,000
Change from budget request	+185,970,000

The appropriation provides funds for the research development, test and evaluation activities of the Department of the Navy, which includes the Marine Corps.

COMMITTEE RECOMMENDATION

The Committee recommends an appropriation of $16,532,361,000 for Research, Development, Test and Evaluation, Navy. The following report and project level tables provide a summary of the Committee recommendation.

EXPLANATION OF PROJECT LEVEL ADJUSTMENTS
(In thousands of dollars)

R-1		Budget Request	Committee Recommended	Change from Request
1	**UNIVERSITY RESEARCH INITIATIVES**	**83,508**	**95,008**	**+11,500**
	Defense Commercialization Research Initiative (Note: only for the continued development of the Technology Research, Education and Commercialization Center)		4,000	
	Center for microwave ferrites and multi-functional integrated circuits		1,000	
	National Security Training		1,500	
	Center for Southeastern Tropical Advanced Remote Sensing (CSTARS)		5,000	
3	**DEFENSE RESEARCH SCIENCES**	**375,812**	**385,812**	**+10,000**
	Facial recognition technology research and development		3,000	
	Intelligent Autonomous Networks & Systems (AINS) (Note: only for Phase III STTR (N02-T015) demonstration and validation of the ad-hoc data communications system for the AINS program)		1,000	
	Brain-based intelligent system (Note: only for the development of an embedded low-power self-instructive computer system)		4,000	
	Hydrogen for fuel cells		2,000	
4	**POWER PROJECTION APPLIED RESEARCH**	**98,831**	**125,831**	**+27,000**
	Firelider- a non-thermal means of seeing through fire and smoke		2,000	
	Kill Assist Adverse-Weather Targeting System (KAATS)		2,000	
	Device integration of WBG semiconductors and crystalline oxides		2,000	
	Millimeter/terahertz imaging arrays		2,500	
	Advanced reactive-material-enhanced nanocomposite warheards (ARMENW)		3,000	
	Advanced high-energy thermobaric warhead development		1,000	
	Unattended imaging sensor network (UISN)		1,000	
	Interrogator for high-speed retro-reflector covert communications		4,000	
	Advanced hybrid stored energy devices for affordable air weaponry		3,000	
	Hypersonic weapons enabling capability		2,000	
	Advanced smart optical sensor payload technology for surveillance		2,000	
	Integrated personnel protection system		2,500	

R-1		Budget Request	Committee Recommended	Change from Request
5	**FORCE PROTECTION APPLIED RESEARCH**	**96,269**	**113,769**	**+17,500**
	Battery charging technology (Note: only to continue and expand the existing program to develop advanced battery charging algorithms)		2,500	
	Lightweight Ship Structures (LSS) (Note: only for an initiative to focus on optimizing and qualifying a family of high strength scandium containing marine grade aluminum alloys.)		1,000	
	Composite repair of metal structures		1,000	
	High efficiency quiet electric drive		1,000	
	Blast resistant anechoic sprayable elastomeric coatings for Navy ships		2,000	
	Low-cost rapid prototype/production technology for polymeric aircraft components initiative (Note: only for completion of this initiative)		2,000	
	Center for critical infrastructure protection		8,000	
6	**MARINE CORPS LANDING FORCE TECHNOLOGY**	**35,398**	**36,398**	**+1,000**
	Expeditionary Force Infrastructure Initiative (EFI)		1,000	
8	**HUMAN SYSTEMS TECHNOLOGY**	**0**	**2,000**	**+2,000**
	Human Systems Integration/SEAPRINT		2,000	
9	**MATERIALS, ELECTRONICS AND COMPUTER TECHNOLOGY**	**0**	**5,500**	**+5,500**
	Porous materials (Note: only to continue ongoing research into porous material characterization)		1,500	
	DoD Agile Manufacturing Center for Castings Technology at NUWC Keyport		1,000	
	Formable aligned carbon thermosets (FACTS)		3,000	
10	**COMMON PICTURE APPLIED RESEARCH**	**60,134**	**72,634**	**+12,500**
	National Center for Advanced Secure Systems Research		5,000	
	SEAdeep		3,500	
	Web-based technology insertion (Note: only for the Expeditionary Warfare Testbed, NSWC, Panama City)		1,000	
	Common Sensor Module (COSM)		3,000	

R-1		Budget Request	Committee Recommended	Change from Request
11	**WARFIGHTER SUSTAINMENT APPLIED RESEARCH**	**63,726**	**117,926**	**+54,200**
	Hydrate desalination technology		2,500	
	Atmospheric water harvesting		1,000	
	Novel materials synthesis and characterization		5,000	
	National Unmanned Undersea Vehicle (UUV) Test and Evaluation Center		9,000	
	Aluminum fabrication utilizing three-dimensional printing		2,000	
	Integrated WMD detection and collection system (Note: only to perform applied research, development, test and evaluation to integrate a nuclear, chemical and bio-detection system for multiple mobile applications associated with the Dragon Eye-Advanced Tactical Reconnaissance Program)		1,000	
	Naval training, performance and expertise		1,000	
	High performance long lasting LO materials for Navy stealth applications		5,000	
	Marine Mammal research program		2,200	
	Cutting tools for aerospace materials		4,000	
	Autonomous sensor platforms for biosensing		2,000	
	Advanced reinforced materials and new materials research for aircraft tires		1,000	
	Human systems technology		2,000	
	Advanced fouling and corrosion control coatings for Naval vessels		2,000	
	SensorNet- common data highway for comprehensive incident management for CBRNE threats		3,000	
	Durability of composite materials and structures		2,500	
	Partnership Simulation Lab for health professions education		5,000	
	Virtual Clinical Learning Lab (VCLL) for Nursing and other health professions		4,000	
12	**RF SYSTEMS APPLIED RESEARCH**	**49,151**	**56,651**	**+7,500**
	Wide bandgap materials for power electronics		2,000	
	Novel silicon carbide technology development		2,000	
	RF vacuum electronics power amplifiers		2,000	
	Radar/video fusion vessel and port security demonstration		1,500	

R-1		P/E	Budget Request	Committee Recommended	Change from Request
	OCEAN WARFIGHTING ENVIRONMENT APPLIED				
13	**RESEARCH**	**0602435N**	**48,482**	**73,982**	**+25,500**
	Carbon Nanotube-based radiation hard non-volatile RAM			6,000	
	Coastal environmental effects (Note: only for the development of a program for the exploitation of basic research in marine biosciences, molecular sciences and proteomics to evolve and field a new generation of hypersensitive detectors for deployment as a part of a wide area environmental signatures collection strategy)			6,000	
	South-East Atlantic Coastal Ocean Observing Systems (SEACOOS) (Note: only to continue the development of an integrated sustained ocean observing system to support safe navigation, maritime operations, and characterization of environmental conditions for training exercises and homeland security)			5,000	
	Oceanographic Sensors for Mine Countermeasures/ Autonomous Marine Sensors (Note: only for continuation of applied research in autonomous marine sensors)			5,000	
	Bioluminescence Truth Data Management and Signature Detection - expansion of the database of bioluminescence measurements			1,500	
	Extended Capability Underwater Optic Imaging (Note: only to provide an innovative capability that will support underwater Intelligence, Surveillance and Reconnaissance, Homeland Defense, and environmental assessment)			2,000	
14	**UNDERSEA WARFARE APPLIED RESEARCH**	**0602747N**	**64,060**	**73,560**	**+9,500**
	Anti-torpedo Torpedo (6.75 inch diameter) multi-mission undersea weapon			6,000	
	Micro-detonics for miniature weapons			1,500	
	Galfenol alloys			2,000	

R-1		Budget Request	Committee Recommended	Change from Request
16	**POWER PROJECTION ADVANCED TECHNOLOGY**	**92,359**	**125,859**	**+33,500**
	Advanced thin film coatings		2,000	
	LADAR- Laser Radar		2,500	
	High operating temperature midwave infrared sensors		2,000	
	Ultra-short pulse laser micromachining		2,000	
	Multi-functional, high-performance dual band imaging		2,000	
	Advanced technologies for printed wiring assembly fabrication (PWB-HVPC)		4,000	
	Low-power mega-performance UAV processing engines		4,000	
	Low cost terminal imaging seeker (Note: only to develop and test guidance and control strategies and seeker signal processing algorithms in a simulation environment)		5,000	
	DP-2 vectored thrust aircraft program		10,000	
17	**FORCE PROTECTION ADVANCED TECHNOLOGY**	**82,130**	**166,230**	**+84,100**
	Dock Shock -- a ship shock test system (Note: only to mature the Dock Shock concept to conduct near shore ship shock testing)		5,000	
	Strategic mobility-21 deployment technology (Note: only for the Agile Port and High Speed Ship technology)		5,000	
	TADIRCM-- antimissile technology		8,000	
	Unmanned force augmentation system		1,000	
	Non-line of sight (NLOS) for unmanned systems		5,000	
	Unmanned systems technologies for explosive ordnance disposal		5,000	
	Extreme terrain medical evacuation vehicle pilot (Note: only for the development and testing of the Zeus-MEV)		2,000	
	Missile warning sensor		3,000	
	Aviation ground navigation system (AGNAS)		1,000	
	Future Naval capabilities- crew modeling and simulation (FNC-CMS)		3,000	
	Technologies for future naval capabilities		1,500	
	Electromagnetic (EM) rail gun test munition (Note: only for the development of an instrumented test munition that will characterize the test projectile designs being developed for the EM rail gun)		1,500	
	Smart Sensor Web Advanced Technology (Note: only for Phase III of the Smart Sensor Web Advanced Technology Program)		2,500	
	Superconducting DC homopolar motor		5,000	
	Project M		2,500	
	Multi-mission warhead for ultra-light torpedo		3,000	

R-1		Budget Request	Committee Recommended	Change from Request
	Sandwich panel construction		5,000	
	Development of sulfer tolerant copper-based solid oxide fuel cell (SOFC) auxiliary power unit prototype that operates with current military logistics fuel		2,000	
	Deployable fiber optic force protection system		3,000	
	High speed permanent magnet generator		1,000	
	AC synchronous high-temperature superconductor (HTS) electric motor (Note: to design, fabricate, and deliver one 36.5 MW HTS motor as a key component of an integrated HTS based propulsion system)		3,000	
	Advanced development and demonstration of electric actuator technology (Note: only for the development of shipboard-qualified prototype electric actuators and demonstrate their satisfactory performance in shipboard applications)		1,000	
	At-sea decontamination platform development and conceptual design		1,000	
	Affordable, intermediate modulus commercial off the shelf carbon fiber qualification program for aircraft and missiles		2,000	
	Integrated advanced communications terminal (iACT)		1,000	
	Littoral Support Craft- Experimental (Note: only to complete X-Craft fabrication, at-sea 50-knot demonstration, and at-sea LCS mission module demonstration)		11,100	
18	**COMMON PICTURE ADVANCED TECHNOLOGY**	**79,521**	**80,521**	**+1,000**
	Dynamic brokering in the expeditionary warfare testbed		1,000	

R-1		Budget Request	Committee Recommended	Change from Request
19	**WARFIGHTER SUSTAINMENT ADVANCED TECHNOLOGY**	**61,103**	**83,603**	**+22,500**
	Intelligence work management (Note: that these funds shall support the transition of this technology to Navy and joint forces operational use)		2,000	
	Low Volume Productivity		1,500	
	Asphalt reconditioner (Note: only to facilitate GSB-88 pilot application programs)		2,000	
	Online web-based learning development program		3,000	
	Mine warfare technology solutions (MWTS)		3,000	
	Human Systems Integration/SEAPRINT		2,000	
	Precision fabrication of large curved steel navy ship structures		4,000	
	Defense modernization and sustainment imitative		4,000	
	NADEP Cherry Point Center for vertical lift aircraft repair and maintenance technology program		1,000	
20	**RF SYSTEMS ADVANCED TECHNOLOGY**	**44,046**	**60,046**	**+16,000**
	C Band active array radar		7,500	
	Highly mobile tactical communications (HMTC)		3,500	
	Horizon Extension Surveillance System (HESS) (Note: only for use in accelerating the HESS program to provide for increased fleet protection)		3,000	
	Remote Ocean Surveillance System (ROSS)		2,000	
21	**MARINE CORPS ADVANCED TECHNOLOGY DEMONSTRATION (ATD)**	**58,222**	**77,222**	**+19,000**
	Advanced mine detector system		3,500	
	Mobile fire support system 120mm Morar "Dragon Fire"		2,000	
	Transportable transponder landing system (TTLS)		4,000	
	Craft Integrated Electronic suite (CIES)		1,000	
	Telepresent rapid aiming platform (TRAP)		1,000	
	Rapid deployment fortification wall (RDFW)		1,000	
	C3RP		5,500	
	Portable Methanol fuel cell		1,000	
23	**NAVY TECHNICAL INFORMATION PRESENTATION SYSTEM**	**167,626**	**170,626**	**+3,000**
	Location specific digital fingerprinting (LSDF)		3,000	

R-1		Budget Request	Committee Recommended	Change from Request
24	**WARFIGHTER PROTECTION ADVANCED TECH**	**16,719**	**70,719**	**+54,000**
	National Bone Marrow Program		34,000	
	Navy Medical System Configuration and Test Bed (NMSCTB)		6,000	
	Nursing telehealth research		3,000	
	Individual water purification (IWP) program		4,000	
	Implantable middle-ear hearing system		3,000	
	Organ transplant technology		4,000	
25	**UNDERSEA WARFARE ADVANCED TECHNOLOGY**	**26,515**	**28,515**	**+2,000**
	Littoral AWS Mission for Rigid Hull-Inflatable Boat (RHIB) (Note: only for adaptation and testing of a Variable Depth Sonar system ASW mission package payload for the RHIB)		2,000	
28	**MINE AND EXPEDITIONARY WARFARE ADVANCED TECHNOLOGY**	**32,899**	**34,899**	**+2,000**
	Modeling the warrior as a cognitive system - Phase II		2,000	
30	**AIR/OCEAN TACTICAL APPLICATIONS**	**24,431**	**25,931**	**+1,500**
	Marine mammal tracking and mitigation (Note: only to develop and deploy technologies to mitigate marine mammal presence and allow the Navy to safely operate active sonar systems in regions of interest to national security)		1,500	
31	**AVIATION SURVIVABILITY**	**10,820**	**34,020**	**+23,200**
	Modular Advanced Vision System (Note: to decrease logistics costs by pilots retaining the same basic helmet inner module for use with various outer modules)		4,200	
	Airbag attenuated troop seat		2,500	
	Rotocraft External Airbag Protection (REAPS)		1,000	
	Advanced maritime technology center at Patuxent River NAS		2,500	
	Silver Fox UAV (NAVAIR)		5,000	
	Intelligent Autonomy Technology Transition Program		5,000	
	Equipment Life Extension Program		3,000	

R-1		Budget Request	Committee Recommended	Change from Request
33	**ASW SYSTEMS DEVELOPMENT**	**4,541**	**12,541**	**+8,000**
	Tactical E-Field Buoy Development Program (Note: only for Air ASW Technology Development program to support the design, fabrication and testing of a tactical E-field buoy for littoral anti-submarine warfare)		5,000	
	Claymore Marine		1,000	
	Shallow water sensor buoy technology (Note: only for developmental efforts to assess the shallow water environment by measuring the sound velocity profile, ambient noise, acoustic transmission loss and reverberation, with a buoy signal processing and satellite communications)		2,000	
36	**SURFACE AND SHALLOW WATER MINE COUNTERMEASURES**	**103,308**	**104,308**	**+1,000**
	Battlespace preparation autonomous undersea vehicles for mine countermeasures		1,000	
37	**SURFACE SHIP TORPEDO DEFENSE**	**46,896**	**54,896**	**+8,000**
	AN/SLQ-25 torpedo countermeasure set upgrades		4,000	
	Anti-torpedo torpedo (ATT) (Note: only for continued development of low cost ATT components)		4,000	
38	**CARRIER SYSTEMS DEVELOPMENT**	**157,479**	**164,979**	**+7,500**
	Sentinel Net for anti-terrorism and force protection forces		1,500	
	Surface ship composite moisture separators (Note: only for the design, development, testing and manufacture of composite radar absorbing moisture separators)		4,000	
	Aviation ship integration center		2,000	
39	**SHIPBOARD SYSTEM COMPONENT DEVELOPMENT**	**18,993**	**33,493**	**+14,500**
	Automated maintenance environment (AME)		3,000	
	Shipboard use of alternative composition pipes		2,000	
	Shipboard personal locator beacon		3,500	
	Electromagnetic Launcher Railgun program (Note: to build and demonstrate the EML)		3,000	
	Intelligent systems consortium initiative		3,000	

R-1		Budget Request	Committee Recommended	Change from Request
46	**ADVANCED SUBMARINE SYSTEM DEVELOPMENT**	**81,160**	**78,160**	**-3,000**
	MK-98 ADCAP torpedo improvement program		3,000	
	Fiber optic TB-16 towed array		3,000	
	Improved tactical control in submarine systems (Note: only for incorporation of Submarine Combat System improvements into the APB(T) build process)		1,000	
	Development and demonstration of UUV in submarine operations		-10,000	
48	**SHIP CONCEPT ADVANCED DESIGN**	**3,723**	**10,723**	**+7,000**
	Total Fleet Support (TFS)		2,000	
	SEALION Cascading Vehicles (Note: only to initiate a demonstration of advanced capabilities for covert insertion of manned and unmanned assets from a medium-range maritime platform.)		5,000	
51	**ADVANCED SURFACE MACHINERY SYSTEMS**	**0**	**4,000**	**+4,000**
	Metallic materials advanced development and certification		4,000	
53	**LITTORAL COMBAT SHIP (LCS)**	**352,089**	**409,089**	**+57,000**
	Phase I design for Flight 1 ship		-50,000	
	Fully fund first ship		107,000	
54	**COMBAT SYSTEM INTEGRATION**	**80,840**	**81,340**	**+500**
	Laser augmented ship self-defense		2,000	
	High energy laser application effects		2,000	
	Application of novel laser systems on optical seekers		1,000	
	Battleforce interoperability (Note: only for assessment activities of the Joint Warfare Assessment Laboratory of the Naval Surface Warfare Center)		2,500	
	Advanced laser diode arrays (ALDA) (Note: only for the continued development of the ALDA in support of the Navy's High Energy Laser program)		3,000	
	Re-alignment of advance processor builds (see R-1 line 108)		-10,000	

R-1		Budget Request	Committee Recommended	Change from Request
56	**MARINE CORPS ASSAULT VEHICLES**	**236,969**	**237,969**	**+1,000**
	Expeditionary Fighting Vehicle (EFV) MK46 stabilized weapon system, FLIR upgrade		1,000	
58	**MARINE CORPS GROUND COMBAT/SUPPORT SYSTEM**	**22,440**	**27,440**	**+5,000**
	ITAS (Tow Missile Rods)		5,000	
61	**OCEAN ENGINEERING TECHNOLOGY DEVELOPMENT**	**26,232**	**29,732**	**+3,500**
	SURA Coastal Ocean Observation Program (SCOOP)		3,500	
62	**ENVIRONMENTAL PROTECTION**	**24,641**	**26,891**	**+2,250**
	Anoxia research in Puget Sound		2,000	
	COMNAVMAR Invasive Species demonstration program		250	
63	**NAVY ENERGY PROGRAM**	**1,494**	**3,494**	**+2,000**
	1 Megawatt Molten Carbonate Fuel Cell Demonstrator		2,000	
65	**CHALK CORAL**	**58,467**	**49,367**	**-9,100**
66	**NAVY LOGISTIC PRODUCTIVITY**	**7,421**	**26,921**	**+19,500**
	Collaborative logistics productivity		5,000	
	Navy Logistics Research Readiness Center (NLRRC) (Note: only to establish a NLRRC to focus government, academic and industry expertise toward developing and instituting Readiness Based Sparing (RBS) tools and processes)		1,500	
	Joint Engineering Data Management Information and Control System (JEDMICS)		3,000	
	Life cycle savings through machinery health monitoring (Note: only to continue the development of technologies needed to implement condition-based maintenance practices)		4,000	
	Service-Life Extension of Avionics Legacy Equipment with Guaranteed System (SEALEGS) software (Note: only for technology based on a successful Navy Dual Use Science and Technology Program for SEALEGS compatible mission computer)		4,000	
	Defense Integrated Technical Data Center (DITCDC)		2,000	
67	**RETRACT MAPLE**	**275,407**	**262,407**	**-13,000**
68	**LINK PLUMERIA**	**112,997**	**104,097**	**-8,900**

R-1		Budget Request	Committee Recommended	Change from Request
74	**LAND ATTACK TECHNOLOGY**	**82,049**	**88,586**	**+6,537**
	Advanced XLR medium caliber gun demonstrator		4,000	
	Affordable Weapon System (Note: only to complete AWS development and preparation for production)		23,000	
	Extended Range Guided Munition (ERGM)		-11,800	
	Realign JFN/JSIPS-N (see R-1 line 201)		-8,663	
75	**NONLETHAL WEAPONS - DEM/VAL**	**43,321**	**46,321**	**+3,000**
	National Center for Excellence for Non-Lethal Technology Research, Development, Testing and Training		3,000	
80	**TACTICAL AIR DIRECTIONAL INFRARED COUNTERMEASURES (TADIRCM)**	**0**	**3,000**	**+3,000**
	For additional assets and spares to accomplish testing in a flight scenario		3,000	
79	**DISRUPTIVE TECHNOLOGY OPPORTUNITIES FUND (DTOF)**		**6,000**	**+6,000**
84	**AV-8B AIRCRAFT - ENG DEV**	**12,284**	**13,284**	**+1,000**
	Litening pod downlink development program (LPDD) to design, build, test and field video downlink upgrades.		1,000	
85	**STANDARDS DEVELOPMENT**	**57,675**	**66,175**	**+8,500**
	Navy/Marine Corps advanced measurement standards R&D (Note: only for the development of advanced measurement standards and metrology systems to support the Navy and Marine Corps testing needs)		8,500	
86	**MULTI-MISSION HELICOPTER UPGRADE DEVELOPMENT**	**78,757**	**82,757**	**+4,000**
	Multi-mission helicopter legacy subsystems improvement program		2,000	
	AQS-22 Airborne Low-Frequency Sonar (ALFS)		2,000	
89	**P-3 MODERNIZATION PROGRAM**	**9,554**	**15,554**	**+6,000**
	ALR-95 electronic support measures (ESM) system specific emitter identification (SEI) networking & performance enhancement upgrade		3,000	
	ALR-95 Radar Frequency Distribution (RFD) upgrade		3,000	

R-1		Budget Request	Committee Recommended	Change from Request
91	**TACTICAL COMMAND SYSTEM**	**49,180**	**65,180**	**+16,000**
	Tactical 3D common operational picture (T3DCOP)		3,000	
	AN/UYQ-70 based IT-21 C4ISR upgrades		5,000	
	Joint Mission Planning System (JMPS)		6,000	
	Nonlinear Systems Research Center		2,000	
93	**H-1 UPGRADES**	**90,389**	**132,389**	**+42,000**
	AH-1/UH-1 Tailboom		42,000	
94	**ACOUSTIC SEARCH SENSORS**	**13,363**	**15,363**	**+2,000**
	Littoral acoustic anti-submarine warfare acoustics (Note: only for P-3 controller software upgrades to exploit ASW enhancements)		2,000	
95	**V-22A**	**304,164**	**253,164**	**-51,000**
	Test schedule delays		-51,000	
96	**AIR CREW SYSTEMS DEVELOPMENT**	**8,838**	**18,838**	**+10,000**
	Night vision tube technology development		2,000	
	Light weight armored troop seat (SWATS) for H-60		2,000	
	Joint helmet mounted cueing system (JHCMS)		6,000	
99	**VHXX EXECUTIVE HELO DEVELOPMENT**	**777,398**	**557,398**	**-220,000**
	Program schedule revision		-220,000	
100	**JOINT TACTICAL RADIO SYSTEM - NAVY (JTRS-NAVY)**	**78,624**	**83,624**	**+5,000**
	Web-based technology insertion for expeditionary warfare testbed		1,000	
	Digital modular radio (DMR) (Note: only for the JTRS-M/F Block 1 DMR transition)		4,000	

R-1		Budget Request	Committee Recommended	Change from Request
101	**SC-21 TOTAL SHIP SYSTEM ENGINEERING**	**1,431,585**	**1,182,785**	**-248,800**
	DD(X) alternative engine- for completion of engine construction and delivery for testing		13,000	
	Floating area network (FAN)- installation of wireless communication equipment		1,000	
	Naval smartships that anticipate and manage (Note: for research activity at the Crane Surface Warfare Center for Joint Distance Support and Response and Integrated Fleet Support)		2,000	
	DD(X) construction		-221,000	
	Anticipated delay in CDR based on direction to complete EDM testing of IPS and AGS.		-43,800	
102	**SURFACE COMBATANT COMBAT SYSTEM ENGINEERING**	**146,463**	**162,963**	**+16,500**
	Silicon carbide MMIC producability program		3,500	
	AN/SPY-1 Radar system readiness improvement		4,000	
	Integrated display and enhanced architecture for a family of displays		5,000	
	Smart Integrated Data Environment (SIDE) (Note: only for development of a prototype)		1,000	
	AEGIS traveling wave tube circuit (Note: only to pursue competitive suppliers of critical material for circuits)		3,000	
106	**STANDARD MISSILE IMPROVEMENTS**	**99,022**	**110,022**	**+11,000**
	Insensitive munition improvements, leveraging government and industry investments		5,000	
	Real time image processing - Silicon Brain - for developing a high-performance, vision-based processor for missile interceptors		3,000	
	MK41 VLS open architecture upgrades		3,000	

R-1		Budget Request	Committee Recommended	Change from Request
108	**SSN-688 AND TRIDENT MODERNIZATION**	**75,359**	**103,359**	**+28,000**
	Re-alignment of advance processor builds (see R-1 line 54)		10,000	
	Common Submarine Radio Room		8,000	
	Littoral Tactical Array System (Note: only to leverage investment made in towed sensor technology, COTS electronics and APB process to complete the Littoral Tactical Array System development)		1,000	
	SSN-668 & TRIDENT modernization (Note: only to continue the MPP/APB SBIR phase 3 technology insertion.)		8,000	
	Littoral TB-23 towed array		1,000	
112	**COMBAT INFORMATION CENTER CONVERSION**	**8,228**	**11,228**	**+3,000**
	Integrated display and enhanced architecture for integrated tactical command and control cell (ITC3)		3,000	
113	**NEW DESIGN SSN**	**143,270**	**141,270**	**-2,000**
	Shipboard wireless mobile computing environment (Note: only for the continued development of shipboard wireless mobile computing environment initiated under SBIR N99-106)		2,000	
	Submarine common electronics equipment replacement		7,000	
	Virginia Class SSN Combat System Technology Insertion SBIR(S) N96-278 and N03-049		2,000	
	HM&E automation and manning reduction technology insertion (SBIR N03-049)		2,000	
	Virginia Class SSN Combat System Technology Insertion (Note: only for VA Class SSN MPP SBIR phase 3)		5,000	
	Non-tactical data processing system (Note: only for the maintenance, adminstrative, training, education and supply proceesing system- MATES- project)		4,000	
	Enhanced submarine open architecture model		3,000	
	Multi-mission modules for additional payload capacity and flexibility		5,000	
	Re-align base funding to fiscal year 2004 level		-32,000	
115	**SUBMARINE TACTICAL WARFARE SYSTEM**	**43,404**	**46,904**	**+3,500**
	Submarine maintenance free operating periods (MFOP) (Note: only for the application of MFOP concepts as the supportability strategy for the Tactical Control System)		1,000	
	Submarine warfare system (SWS) weapon status control, remote maintenance and FORCEnet integration		2,500	

R-1		Budget Request	Committee Recommended	Change from Request
116	**SHIP CONTRACT DESIGN/LIVE FIRE T&E**	**130,908**	**86,728**	**-44,180**
	LHA Replacement		-44,180	
117	**NAVY TACTICAL COMPUTER RESOURCES**	**2,381**	**13,381**	**+11,000**
	AN/UYQ-70(V) system technology improvements		7,000	
	Compact ultra-fast laser system development		4,000	
122	**JOINT SERVICE EXPLOSIVE ORDNANCE DEVELOPMENT**	**8,081**	**12,081**	**+4,000**
	Magneto Inductive Signaling Device (MISC)		4,000	
125	**BATTLE GROUP PASSIVE HORIZON EXTENSION SYSTEM**	**17,981**	**32,481**	**+14,500**
	Shipboard information warfare exploit		5,000	
	Airborne communications intercept pod (ACIP)		2,000	
	Smart Signal Parser and actionable intelligence extractor (SSP AIE)		4,500	
	Ships Signal Exploitation Equipment (SSEE)		1,000	
	Anti-Terrorism Technology Surveillance System (ATTSS)		1,000	
	Navy Intelligent Agent Security Module- for research and development of offensive capabilities		1,000	
126	**JOINT STANDOFF WEAPON SYSTEMS**	**9,531**	**11,531**	**+2,000**
	Joint Standoff Weapon (JSOW), AGM-154		2,000	
127	**SHIP SELF DEFENSE (DETECT CONTROL)**	**48,154**	**53,154**	**+5,000**
	Integrated display and enhanced architecture for Carrier and LH Class based combat systems		4,000	
	Underwater intrusion detection sonar		1,000	
129	**SHIP SELF DEFENSE (ENGAGE: SOFT KILL/EW)**	**28,233**	**40,233**	**+12,000**
	Surface ship electronic warfare (EW) R&D improvements		12,000	

R-1		Budget Request	Committee Recommended	Change from Request
130	**MEDICAL DEVELOPMENT**	**6,942**	**52,042**	**+45,100**
	Somatic Cell Processing Program (Diabetes research)		1,600	
	Military dental research		4,000	
	Health Query and Analysis System		4,000	
	Discovery, early detection, evaluation, treatment and prevention in Cancer research (Note: only for the continued coordinated efforts among the National Naval Medical Center and a medical academic/research institute to conduct basic and clincal research to detect, evaluate, treat and prevent multiple types of cancer)		7,000	
	Medical Procedures Reference Tool (MPRT)		4,000	
	Room-elevated-temperature-stable Hemoglobin-based oxygen carrier		4,000	
	Acceleration of clinical trial for hemostatic therapeutic		3,000	
	Antioxidant micronutrient research		1,000	
	Biomedical research imaging core related to bone marrow transplantation, breast and prostate cancer		5,000	
	Community hospital telehealth consortium		1,500	
	Hemocellular therapeutics		1,000	
	Minimally Invasive Surgical Technology Institute (MISTI) (Note: only to continue the ongoing CSMC Program)		3,500	
	Non-invasive vectored vaccine research		2,500	
	See/Rescue distress streamer		3,000	
132	**DISTRIBUTED SURVEILLANCE SYSTEM**	**7,776**	**9,776**	**+2,000**
	CENTURION surveillance prototype demonstration		1,000	
	Network centric warfare enabled off-board sensor		1,000	
133	**JOINT STRIKE FIGHTER (JSF) - EMD**	**2,264,507**	**2,168,507**	**-96,000**
	Align engine development with SDD schedule		-49,000	
	FY 2003/04 reprogramming activity		-25,000	
	Manufacturing, Tooling, Materials		-60,000	
	Engineering activities		26,000	
	Future weight reduction initiatives		12,000	

R-1		Budget Request	Committee Recommended	Change from Request
136	**INFORMATION TECHNOLOGY DEVELOPMENT**	**109,543**	**113,043**	**+3,500**
	Continuation of software development for Military and Civilian applications		2,500	
	Information technology development-- Distance Learning IT Center		8,000	
	WeCan: Web centric ASW net		5,000	
	Navy Readiness Response Center (RRC)		3,000	
	Fiber optic components for military applications		2,500	
	Fiber optic interconnect technology		2,000	
	Navy law enforcement information exchange (LiNX) (Note: only for the Navy Law Enforcement Exchange System for force protection at Pearl Harbor, Hampton Roads, and Puget Sound)		5,000	
	NAVAIR maintenance data warehouse		3,000	
	Enterprise resource planning		-27,500	
142	**MAJOR T&E INVESTMENT**	**39,787**	**43,287**	**+3,500**
	Adapting Fleet support and readiness training for a transforming Fleet		2,000	
	Upgrade and enhance instrumentation and integrated range support at Patuxant River Naval Air Station and Webster Field in support of UAV and UCAV testing		1,500	
147	**TECHNICAL INFORMATION SERVICES**	**696**	**12,196**	**+11,500**
	Illinois Technology Transition Center		1,500	
	Center for Commercialization of Advanced Technology		8,000	
	Supply chain practices for affordable Navy systems (SPANS)		2,000	
153	**TEST AND EVALUATION SUPPORT**	**255,926**	**258,426**	**+2,500**
	Protective pumice technology (Note: only to accelerate further development and testing of pumice walls)		2,500	
156	**SEW SURVEILLANCE/RECONNAISSANCE SUPPORT**	**12,160**	**13,160**	**+1,000**
	Radiant Sunrise development, integration, deployment		1,000	
157	**MARINE CORPS PROGRAM WIDE SUPPORT**	**19,701**	**28,101**	**+8,400**
	Marine Corps Corrosion Center of Excellence		2,000	
	Expeditionary Warfare Logistics Testbed (EWLT)		3,000	
	USMC Cost of Readiness (COR) Initiatives		1,000	
	Multi-Sensor Analyzer-Detector (MSAD) III		2,000	
	Odor Signature Reduction Baselayer Garment evaluation		400	

R-1		Budget Request	Committee Recommended	Change from Request
161	**STRATEGIC SUB & WEAPONS SYSTEM SUPPORT**	**108,782**	**96,782**	**-12,000**
	Trident II (D-5) - excessive growth; reduce level of effort		-22,000	
	Advanced conventional strike capability demonstration		10,000	
163	**SUBMARINE ACOUSTIC WARFARE DEVELOPMENT**	**8,453**	**13,453**	**+5,000**
	Submarine littoral warfare weapon		5,000	
166	**F/A-18 SQUADRONS**	**134,580**	**136,580**	**+2,000**
	Screen display system (Note: only to support continued development, integration and qualification testing of a screen display system)		1,000	
	Military flight operations quality assurance/flight data analysis		1,000	
167	**E-2 SQUADRONS**	**6,055**	**9,555**	**+3,500**
	Non-cooperative combat identification capability		2,000	
	E-2C Program Support Activity (Note: only for expanding planned Product Support Activity in order to facilitate the development of Open Architecture software techniques)		1,500	
168	**FLEET TELECOMMUNICATIONS (TACTICAL)**	**19,784**	**22,784**	**+3,000**
	Programmable Integrated Communications Terminals (PICTS)		2,000	
	MRC-105 emergency radio (Note: for engineering and development of a complete portable emergency communications system)		1,000	
169	**TOMAHAWK AND TOMAHAWK MISSION PLANNING CENTER (TMPC)**	**28,776**	**31,776**	**+3,000**
	Precision Terrain Aided Navigation (PTAN)		3,000	
170	**INTEGRATED SURVEILLANCE SYSTEM**	**16,965**	**23,965**	**+7,000**
	MSS Mission planning, automation and adaptive bandwidth management		7,000	
171	**AMPHIBIOUS TACTICAL SUPPORT UNITS**	**2,604**	**4,104**	**+1,500**
	Improved Navy lighterage system Causeway Ferry, extended capability (INLS CF-X)		1,500	
172	**CONSOLIDATED TRAINING SYSTEMS DEVELOPMENT**	**21,644**	**24,644**	**+3,000**
	Total ship training system (TSTS) - Training Exercise and Management System (TEAMS)		1,000	
	SH-60B Hellfire Sea Target Laser Aim Scoring System (STLASS)		2,000	

R-1		Budget Request	Committee Recommended	Change from Request
175	**HARM IMPROVEMENT**	**163,371**	**168,371**	**+5,000**
	Spectral beam combining fiber lasers		1,000	
	AARGM Development		2,500	
	Embedded National Tactical Receiver Integration with Advanced Anti-Radiation Guided Missile (AARGM)		1,500	
177	**SURFACE ASW COMBAT SYSTEM INTEGRATION**	**10,612**	**22,612**	**+12,000**
	Surface ship ASW R&D improvements (SQQ-89)		10,000	
	Common surface and undersea warfare - standardize essential undersea warfare functionality and performance capabilities		2,000	
179	**AVIATION IMPROVEMENTS**	**62,635**	**82,635**	**+20,000**
	Automated wire analysis (AWA)		5,000	
	Nano-composite hard-coat for aircraft canopies (Note: only to support the development of nano-composite hard-coat materials for use on aircraft windscreens and canopies)		3,000	
	Center for Defense Sustainment Technology		1,000	
	Development of next generation technology for the inspection of aircraft engines, diagnostics and repair		5,000	
	Age exploration model validation and enhancement (Note: only to provide full functionality and rigorous validation of an Age Exploration Model for Naval aircraft platforms to ascertain the relationship between aging characteristic and reliability, maintainability, and readiness issues)		4,000	
	Digital integrated cockpit display system for the TH-57		2,000	
182	**MARINE CORPS COMMUNICATIONS SYSTEMS**	**268,638**	**297,638**	**+29,000**
	Metamodel		3,000	
	Advanced Ferrite Antenna		1,000	
	Miniaturized Combat Identification System		1,000	
	Marine Corps Communication Systems - AN/TPS-59		4,000	
	Marine Corps Wideband Communications		5,000	
	Next Generation Mobile Electronic Warfare Support		4,000	
	USMC Hitchhiker		2,000	
	Display Technology Program (Note: only to continue ongoing Display Technology Program)		2,000	
	Marine Airborne Re-Transmission System (MARTS)		4,000	
	Covert SIGINT for Urban Warfare (XR-2000 Receiving System)		3,000	

R-1		Budget Request	Committee Recommended	Change from Request
	MARINE CORPS GROUND COMBAT/SUPPORTING			
183	**ARMS SYSTEMS**	**44,828**	**48,828**	**+4,000**
	Advanced Integrated Digital Camera Rifle Scope (ADCRS)		1,000	
	USMC LAV integrated digital and collaboration environment service net		2,000	
	Complimentary Medal Oxide Semiconductor (CMOS) Machine Vision Readout		1,000	
185	**TACTICAL AIM MISSILES**	**4,061**	**1,561**	**-2,500**
	Integration of AIM9(X) on F-35 premature		-2,500	
190	**SATELLITE COMMUNICATIONS (SPACE)**	**573,092**	**470,592**	**-102,500**
	SPAWAR Covert Com and Info Transfer (CCIT)		1,000	
	Joint Integrated Systems for Advanced Digital Networking (JIST-NET)		6,500	
	MUOS - fund to CAIG estimate		-110,000	
197	**TACTICAL UNMANNED AERIAL VEHICLES**	**53,439**	**65,439**	**+12,000**
	Center for Coastline Security Technology (Note: only to continue a coastline security technology program, including an advanced acoustics sensor and mobile acoustic platform technology system initiative)		5,000	
	Joint Operational Test Bed (JOTBS)		7,000	
198	**ENDURANCE UNMANNED AERIAL VEHICLES**	**113,438**	**83,438**	**-30,000**
	Broad Area Maritime Development - schedule slip due to competition		-30,000	
199	**AIRBORNE RECONNAISSANCE SYSTEMS**	**10,191**	**11,191**	**+1,000**
	Passive collision avoidance and reconnaissance (PCAR) for Unmanned Aerial Vehicles		1,000	
200	**MANNED RECONNAISSANCE SYSTEMS**	**20,203**	**28,203**	**+8,000**
	Shared Reconnaissance Pod (SHARP) (Note: only for SHARP sensor P3I including CMOS, imaging modules, hyperspectral insertion and Advanced Airborne Image Processor modules)		8,000	

R-1		Budget Request	Committee Recommended	Change from Request
201	**DISTRIBUTED COMMON GROUND SYSTEMS**	**3,635**	**21,298**	**+17,663**
	Enterprise targeting and strike system (eTSS)		4,000	
	TES-N/DCGS-N node at Patuxant River Naval Air Station		5,000	
	Realign JFN/JSIPS-N (see R-1 line74)		8,663	
206	**INDUSTRIAL PREPAREDNESS**	**56,565**	**61,565**	**+5,000**
	Nano-imprint at a Manufacturing Scale		4,000	
	Improve manufacturability demonstration of exhaust components for military aircraft		1,000	

BONE MARROW REGISTRY

The Committee provides $34,000,000 to be administered by the C. W. Bill Young Marrow Donor Recruitment and Research Program, also known, and referred to, within the Naval Medical Research Center, as the Bone Marrow Registry. This DoD donor center has recruited more than 330,000 DoD volunteers, and provides more marrow donors per week than any other donor center in the Nation. Over 1,500 service members and other DoD volunteers from this donor center have provided marrow to save the lives of patients. The Committee is aware of the continuing success of this national and international life saving program for military contingencies and civilian patients, which now includes over 5,300,000 potential volunteer donors, and encourages agencies involved in contingency planning to continue to include the C. W. Bill Young Marrow Donor Recruitment and Research Program in the development and testing of their contingency plans. DD Form 1414 shall show this as a special congressional interest item, and the Committee directs that all of the funds appropriated for this purpose be released to the C. W. Bill Young Marrow Donor Recruitment and Research Program within 60 days of enactment of the fiscal year 2005 Defense Appropriations Act.

NAVAL HOSPITAL GREAT LAKES AND NORTH CHICAGO VETERANS AFFAIRS MEDICAL CENTER

The Committee is pleased with the progress made in developing a comprehensive resource sharing initiative between Naval Hospital Great Lakes and the North Chicago Veterans Affairs Medical Center. The Committee continues to expect a proposal for design planning and construction of a new joint ambulatory care center in fiscal year 2006. The Committee also expects the design proposal to include a physical connection between the new joint ambulatory care center and the existing VA Medical Center.

DD(X)

The budget included a request of $1,431,585,000 for the next generation guided missile destroyer, the DD(X) program, an increase of $367,198,000 over the 2004 appropriated level. The Committee recommends an appropriation of $1,182,785,000 for the DD(X), a reduction of $248,800,000 from the fiscal year 2005 request and an increase of $118,398,000 over the fiscal year 2004 appropriated level.

The Committee believes the DD(X) development schedule does not provide sufficient time for the proper maturation and testing of transformational technologies prior to initiating construction of the first ship, presenting a potential "rush to failure." According to the Navy's schedule, detailed design drawings necessary for the construction of the ship will not be completed prior to the award of this initial construction contract. It is the Committee's view that it is not prudent to proceed with the construction of a ship without first completing detailed design drawings and concluding basic testing of the technologies that will be integrated into the ship. According to the General Accounting Office, none of the twelve critical technologies for DD(X) will reach maturity prior to entering prod-

uct development. Further, based on the Navy's schedule, land-based testing of two critical technologies will not be complete prior to the conclusion of the Critical Design Review (CDR).

Accordingly, the Committee recommends eliminating the $221,000,000 requested for the first increment for construction of the first DD(X) ship. This recommendation is based on the Committee's judgment that the highly concurrent, extremely aggressive DD(X) development program does not support a fully informed acquisition decision in fiscal year 2005, making a request for construction funding premature. The Committee believes that additional time for development prior to the construction contract award will provide time for the program to stabilize and for the maturation and testing of critical technologies.

The Committee also recommends a reduction of $43,800,000 from the $191,400,000 requested for Critical Design Review (CDR), scheduled for the last quarter of fiscal year 2005. This recommendation reflects the Committee's conclusion that the CDR schedule must slip in order to complete land-based testing of critical components of the leading technologies prior to completion of CDR. The Committee directs the Navy to extend the time frame for the CDR to ensure that land-based testing has been completed on all twelve DD(X) critical technologies prior to the completion of CDR.

Finally, the Committee recommends an increase of $13,000,000 only for the completion of the DD(X) alternative engine construction and its delivery to the Navy for testing, an increase of $1,000,000 for Floating Area Networks, and an increase of $2,000,000 for smart ships that anticipate and manage.

LITTORAL COMBAT SHIP (LCS)

The budget included a request of $352,089,000 for the Littoral Combat Ship (LCS) program, an increase of $187,018,000 over the 2004 appropriated level. The Committee recommends an appropriation of $409,089,000 for the LCS, an increase of $57,000,000 over the fiscal year 2005 request and an increase of $241,018,000 over the fiscal year 2004 appropriated level.

The Committee remains impressed with the Navy's initiative in pursuing the LCS program, which promises to address significant operational gaps in Navy capability while presaging new ways of developing and fielding technology to the Fleet. The Committee has agreed to the Navy's request to fund construction of LCS in the research, development, test and evaluation appropriation, recognizing the Navy's desire to more readily accommodate potential changes to the program. The Committee approves this request because it views the Flight 0 ship as a prototype of a completely new class of ship. Once the Navy has completed and tested the prototype, it should proceed with the preliminary design and construction of the first Flight 1 ship.

The Committee recommendation includes increasing the budget request for the construction of the first Flight 0 LCS by $107,000,000, fully funding this construction effort at $214,000,000. The fiscal year 2005 request included only $107,000,000 for the first increment of the LCS construction. Budget documentation indicates the Navy plans to request an additional $107,000,000 for

the second and final increment for the first ship in fiscal year 2006. The Committee strongly opposes incremental funding of ship construction and therefore has provided a total of $214,000,000 in 2005 for construction of the first LCS, fully funding the construction requirement in one year.

The Committee recommendation reduces the LCS request by $50,000,000 for Phase I pre-design/concept studies for the development of a request for proposal for the preliminary design of the Flight 1 ship. This recommendation is based on the Committee's judgment that the preliminary design of the first Flight 1 ship should commence after test and evaluation of the Flight 0 prototype to avoid potential costly re-design efforts.

AMPHIBIOUS ASSAULT SHIP—LHA REPLACEMENT

The budget includes a request of $44,180,000 for the amphibious assault ship (LHA) replacement, the LHA(R) program. The Committee recommends no appropriation for the LHA(R), a reduction of $44,180,000 from the fiscal year 2005 request based on the uncertainty of proceeding with the LHA(R) program of record.

In its fiscal year 2004 recommendations, the Committee eliminated funding for LHA(R), only to be persuaded by the Navy that the program of record was achievable. However, after submission of the fiscal year 2005 budget, the Navy determined that the LHA(R) program required a major restructure. Owing to the overall cost of the LHA(R) program, coupled with relatively little gain in capability, the Navy now apparently advocates an alternative option based on modifications to the LHD–8 configuration. Funding and justification for this option has not been included in the President's request, nor has a budget amendment been submitted which formally changes the program of record and the amounts requested for fiscal year 2005. Moreover, the Navy's new plan presumes designing a ship that would alter the amphibious nature of the LHA, and then, proposing an incrementally funded construction program. It is unclear at this time whether this option would be the design and construction of the first in a new class of ships, or a single ship for this mission.

While the Committee supports Marine Corps requirements for a new amphibious assault ship, the Committee strongly believes that more time is required to fully assess the appropriate way ahead, including a thorough review of requirements and the likely availability of funding. This review should emphasize fielding operational capability—not just the development and construction of a new ship—consistent with projected warfighting requirements and the availability of budget resources.

Should the Navy and Marine Corps determine that the re-structure of the LHA(R) program is the way ahead for the future, a fully funded program for design and construction of a ship to meet this requirement should be included in a future budget request. The Committee will not support a proposal which suggests that construction be incrementally funded.

The Committee notes that Congress provided $64,100,000 in fiscal year 2004 for the LHA(R) program of record, that will potentially be replaced by the alternative option of a modified LHD–8. Since these funds remain available through fiscal year 2005, the

Navy may use the funds appropriated in fiscal year 2004 for the LHA(R) for costs associated with the development and design of an alternative option.

ADVANCED HYBRID STORED ENERGY DEVICES

The Committee recommends an additional $3,000,000 for the development and demonstration of advanced rechargeable hybrid stored energy devices using the MDA SBIR/STTR developed nanocomposite carbide, nitride and metal alloy materials technologies. These materials are considerably lighter, more capable, safer, and more affordable than current state-of-the-art thermal batteries used on most naval munitions. Application of these technologies could significantly increase the operational capability and reduce the life cycle costs of all current and future naval air weaponry.

BLAST RESISTANT ANECHOIC SPRAYABLE ELASTOMERIC COATINGS

The Committee recommends an additional $2,000,000 to develop new blast resistant materials for coating ship hulls. The Committee supports the Navy's recommendation to improve platform protection for naval vessels by improving the capability to suppress explosions and control damage through the development of a liquid spray applied unique material with blast mitigation properties.

CUTTING TOOLS FOR AEROSPACE MATERIALS

The Committee recommends an additional $5,000,000 for a multi-phased program to develop, produce, and test several new monolithic and composite ceramic materials for aerospace fabrication. The Committee believes this will help the Department address the manufacturing difficulties and machining problems of composite materials for aerospace platforms.

LOW-POWER MEGA PERFORMANCE UAV PROCESSING ENGINES

The Committee recommends an additional $4,000,000 for an advanced processor suitable for the mission requirements of unmanned aerial vehicles. Specifically, the Committee believes that mission requirements require the need to address the overwhelming data throughput requirements of UAV and the need to enhance on-board sensor processing capabilities. Recent technology advances in sensor processing platforms include advances in multithreaded, massively parallel processing systems on chips, enabling low-power, affordable commercial-off-the-shelf engines to provide a computing platform for advanced processing requirements.

CENTER FOR CRITICAL INFRASTRUCTURE PROTECTION

The Committee recommends an additional $8,000,000 for the Center for Critical Infrastructure Protection (CCIP) to develop for the Unified Combatant Commands, particularly the U.S. Northern Command (NORTHCOM) and the Joint Forces Command (JFCOM), innovative technology solutions and methodologies for protecting critical infrastructure including the sustained operation of our nation's ports, protection of our merchant shipping systems, and assured access to the national industrial base.

The CCIP will investigate mission critical elements of protection from risk assessment, surveillance and communications techniques, and security technologies addressing the unique threats associated with critical infrastructure protection. The technologies developed by CCIP will create innovative security solutions such as sensors, intelligent cargo containers, visualization, and other situational awareness mechanisms for securing the nation's critical infrastructure that supports uninterrupted joint force protection.

HIGH PERFORMANCE SANDWICH PANEL CONSTRUCTION TECHNIQUES

The Committee recommends an additional $5,000,000 to promote the development and qualification of advanced steel sandwich panels for the construction of U.S. Navy ships. The Committee supports the Navy's effort to design, develop, and implement high-performance steel sandwich panel construction techniques in order to improve quality and performance and to lower procurement costs for U.S. Navy ships.

PROJECT M

The Committee recommends an additional $2,500,000 for Project M, a shock and vibration mitigation technology program. The Committee believes that this shock and vibration mitigation technique could transition to shock mitigating systems aboard high-speed ships and crafts, including those employed by Navy Special Warfare forces. The additional funds will enable the Navy to complete the producibility engineering of the new shock mitigation system, address interface requirements and investigate technology applications to naval aviation and other platforms.

INTELLIGENT SYSTEMS CONSORTIUM (ISC) INITIATIVE

The Committee recommends an additional $3,000,000 only to accelerate the Intelligent Systems Consortium (ISC) Initiative. The Committee understands that the Navy has identified a requirement to focus on the development of intelligent shipboard electro-mechanical devices in support of the all-electric ship concept, reduced manning requirements, and future sea-basing requirements. The ISC Initiative is a consortium of Navy, academic, Federal laboratory, and industry partners formed to pursue development of product concepts and design to meet these naval requirements.

CASCADING VEHICLES CONCEPT FOR ADVANCED LITTORAL OPERATIONS

The Committee recommends an additional $5,000,000 to initiate the Cascading Vehicles Concept for Advanced Littoral Operations from the SEALION medium-range maritime platform. The Committee believes that this initiative is not an alternative to the Littoral Combat Ship (LCS) envisioned by the Navy to conduct littoral operations, but rather a supporting technology demonstration initiative.

REVIEW OF MULTIPLE MISSILE SYSTEMS

The Committee believes that the Navy should conduct a review of its requirement for maintaining multiple attack missile systems. For example, it is unclear to the Committee why the Navy is devel-

oping and acquiring both the Tactical Tomahawk and the Joint Air-to-Surface Standoff Missile (JASSM), both of which have essentially the same stated mission and capability for nearly identical cost.

Furthermore, the Committee is concerned that the Navy has multiple "improvement" plans underway for its varied inventory of attack missile systems. It appears that a program barely completes testing and evaluation before an improvement is already in development. The Committee is concerned that there is a potential for too much time and money to be spent on developing new technologies, delaying the introduction of the missile to the inventory in sufficient numbers.

This situation has led to an inventory of smaller numbers of one kind of missile per mission rather than a large inventory of missiles for multiple missions. The Navy should consider a "neck down" strategy to reduce the number of different missiles and concentrate resources on increasing the overall number of missiles in the inventory.

DISRUPTIVE TECHNOLOGY OPPORTUNITIES FUND (DTOF)

The Committee recommends $6,000,000 to establish a Disruptive Technology Opportunities Fund (DTOF). This Fund, managed by the N6/N7 organization, will support a Navy partnership with the Defense Advanced Research Projects Agency (DARPA) on a portfolio of high-risk, high-payoff projects to address pressing naval challenges.

The Committee is supportive of this concept because the projects identified for advancement through the DTOF are those designed to transition quickly to meet Fleet requirements. The Committee notes there are a significant number of ongoing science and laboratory projects that support several institutional organizations, but do not support requirements identified by the Fleet and rarely, if ever, transition to operational use. The Committee believes that research and development projects must be able to support current or future operational requirements of the Navy and must transition to operational use.

The Committee directs the Navy to submit by January 15, 2005, a report on the projects to be considered under the DTOF and the fiscal year 2006 and future budgetary requirements of this initiative. Future reports of projects should be submitted with the budget request, and should identify those projects that have transitioned to operational use in the Fleet or have been abandoned if not able to transition.

SUPPLY CHAIN PRACTICES FOR AFFORDABLE NAVY SYSTEMS (SPANS)

The Committee recommends an additional $2,000,000 for the development and adoption of industrial and logistical best business and management practices among government and industry in support of Department of Defense systems. The Committee is aware of the significantly higher costs for supply chain management in the Defense sector than that for commercial electronics companies, and recognizes the significant savings that the SPANS program has already demonstrated by gains in efficiency and cycle time reduction.

The Committee encourages the Office of Naval Research to fully fund this program in future budget requests.

CENTER FOR COASTLINE SECURITY TECHNOLOGY

The Committee recommends an additional $5,000,000 to continue research on tactical unmanned aerial vehicles at the Center for Coastline Security Technology. These funds will be used by the Center to continue research, simulation, and evaluation of coastal defense and marine domain awareness equipment, sensors, and components.

JOINT OPERATIONAL TEST BED (JOTBS)

The Committee recommends an additional $7,000,000 only for the Joint Operational Test Bed (JOTBS). Of these funds, $1,500,000 is to ensure Predator ground control viability, $2,000,000 is to enhance the JOTBS Joint Mission Support Module, and $3,500,000 is to lease (annually) or procure UAV suites for experimentation. JOTBS is a Congressional interest item. Funds may not be moved into or out of this program without prior Congressional approval.

NANO-IMPRINT AT MANUFACTURING SCALE (NIMS)

The Committee recommends an additional $4,000,000 for the development of a Nano-Imprint at Manufacturing Scale (NIMS) tool.

The Committee is concerned that this nation faces shrinking advantages across all technology areas due to the rapid decline of the U.S. based semiconductor industry and the movement of intellectual property and industrial capability to foreign nations. In addition, the United States is losing the capability to conduct research and development for next generation lithography machines to produce integrated circuits used in Defense applications.

Nano-lithography is one of the key technologies with the potential to revitalize the domestic semiconductor industry. The additional funds provided by the Committee will advance the development of Nano-Lithography technology to enable the Department of Defense to build ultra-high speed circuits critical to the development of smart weapon systems.

COMPOSITE CERAMIC UNMANNED UNDERWATER VEHICLE

The Committee supports the initiative to develop high-performance, low cost, modular UUVs using advanced composite technology, ceramic component technology, and water-soluble tooling. The Committee believes the Navy should pursue this technology and include funding in future requests for applied research on composite ceramic UUVs.

AH–1Y/UH–1Z TAILBOOM

The budget requested $90,389,000 for the H–1 Upgrade program, an increase of $1,600,000 over the fiscal year 2004 appropriation. The Committee recommends $132,389,000, an increase of $42,000,000 over the fiscal year 2005 request. The Committee understands that the Marine Corps has identified a technical issue in the current design of these aircraft which involves the venting of

engine exhaust onto the tailboom. The Committee further understands that an additional $12,000,000 is required for the engineering and tooling necessary to resolve this problem, and an additional $30,000,000 is required for testing. Accordingly, the Committee recommends an increase of $42,000,000 for this program.

CV–22 OSPREY

The budget requested $304,164,000 for the V–22 Osprey flight test program, a reduction of $102,978,000 below the fiscal year 2004 appropriation. The Committee recommends $253,164,000, a reduction of $51,000,000 from the fiscal year 2005 request. The Committee is aware that the test flight schedule for the CV–22 variant of the Osprey has experienced a delay of approximately six months. This delay is technical in nature having to do with the intensity of inspections and maintenance that accompany V–22 flight testing, and a lack of suitable environmental conditions for test flights, among other things. As a result of this delay, the Committee recommends a reduction of $51,000,000 from the budget request for the V–22 test flight program. The Committee also recognizes the delayed test events will have to be rescheduled, and associated costs must be supported in future budget requests. Accordingly, the Committee directs the Secretary of the Navy to provide a report to the congressional defense committees not later than February 1, 2005, indicating revisions to the test flight schedule to compensate for this delay, and indicating how this delay will be funded over the Future Years Defense Program.

VXX HELICOPTER PROGRAM

The budget requested $777,398,000 for the VXX Executive Helicopter Development program, an increase of $579,967,000 over the fiscal year 2004 appropriation. The Committee recommends $557,398,000, a reduction of $220,000,000 from the fiscal year 2005 request. The Committee understands that the Department of Defense has deferred selection of the contractor team that will produce this aircraft because of the immaturity of the mission equipment to be incorporated into the aircraft.

NAVY CONVERGED ENTERPRISE RESOURCE PLANNING

The budget requested $100,000,000 for Navy Converged Enterprise Resource Planning (ERP), an increase of $100,000,000 over the fiscal year 2004 appropriation. The Committee recommends $65,000,000, a reduction of $35,000,000 from the fiscal year 2005 request. Based on concerns discussed in the Information Technology section of this report, the Committee has adjusted amounts available for ERP to be applied as follows:

[In thousands of dollars]

Operation and Maintenance, Navy, 1A6A	−$7,500
Research, Development, Test and Evaluation, Navy	−27,500

PROGRAM RECOMMENDED

The total program recommended in the bill will provide the following in fiscal year 2005.

(DOLLARS IN THOUSANDS)

	BUDGET REQUEST	COMMITTEE RECOMMENDED	CHANGE FROM REQUEST
RESEARCH, DEVELOPMENT, TEST & EVAL, NAVY			
BASIC RESEARCH			
UNIVERSITY RESEARCH INITIATIVES	83,508	95,008	+11,500
IN-HOUSE LABORATORY INDEPENDENT RESEARCH	17,664	17,664	---
DEFENSE RESEARCH SCIENCES	375,812	385,812	+10,000
TOTAL, BASIC RESEARCH	476,984	498,484	+21,500
APPLIED RESEARCH			
POWER PROJECTION APPLIED RESEARCH	98,831	125,831	+27,000
FORCE PROTECTION APPLIED RESEARCH	96,269	113,769	+17,500
MARINE CORPS LANDING FORCE TECHNOLOGY	35,398	36,398	+1,000
HUMAN SYSTEMS TECHNOLOGY	---	2,000	+2,000
MATERIALS, ELECTRONICS AND COMPUTER TECHNOLOGY	---	5,500	+5,500
COMMON PICTURE APPLIED RESEARCH	60,134	72,634	+12,500
WARFIGHTER SUSTAINMENT APPLIED RESEARCH	63,726	117,926	+54,200
RF SYSTEMS APPLIED RESEARCH	49,151	56,651	+7,500
OCEAN WARFIGHTING ENVIRONMENT APPLIED RESEARCH	48,482	73,982	+25,500
UNDERSEA WARFARE APPLIED RESEARCH	64,060	73,560	+9,500
MINE AND EXPEDITIONARY WARFARE APPLIED RESEARCH	48,016	48,016	---
TOTAL, APPLIED RESEARCH	564,067	726,267	+162,200
ADVANCED TECHNOLOGY DEVELOPMENT			
POWER PROJECTION ADVANCED TECHNOLOGY	92,359	125,859	+33,500
FORCE PROTECTION ADVANCED TECHNOLOGY	82,130	166,230	+84,100
COMMON PICTURE ADVANCED TECHNOLOGY	79,521	80,521	+1,000
WARFIGHTER SUSTAINMENT ADVANCED TECHNOLOGY	61,103	83,603	+22,500
RF SYSTEMS ADVANCED TECHNOLOGY	44,046	60,046	+16,000
MARINE CORPS ADVANCED TECHNOLOGY DEMONSTRATION (ATD)	58,222	77,222	+19,000
NAVY TECHNICAL INFORMATION PRESENTATION SYSTEM	167,626	170,626	+3,000
WARFIGHTER PROTECTION ADVANCED TECHNOLOGY	16,719	70,719	+54,000
UNDERSEA WARFARE ADVANCED TECHNOLOGY	26,515	28,515	+2,000
JOINT WARFARE EXPERIMENTS	26	26	---
NAVY WARFIGHTING EXPERIMENTS AND DEMONSTRATIONS	16,006	16,006	---
MINE AND EXPEDITIONARY WARFARE ADVANCED TECHNOLOGY	32,899	34,899	+2,000
TOTAL, ADVANCED TECHNOLOGY DEVELOPMENT	677,172	914,272	+237,100

(DOLLARS IN THOUSANDS)

	BUDGET REQUEST	COMMITTEE RECOMMENDED	CHANGE FROM REQUEST
DEMONSTRATION & VALIDATION			
AIR/OCEAN TACTICAL APPLICATIONS	24,431	25,931	+1,500
AVIATION SURVIVABILITY	10,820	34,020	+23,200
DEPLOYABLE JOINT COMMAND AND CONTROL	42,394	42,394	---
ASW SYSTEMS DEVELOPMENT	4,541	12,541	+8,000
TACTICAL AIRBORNE RECONNAISSANCE	6,448	6,448	---
ADVANCED COMBAT SYSTEMS TECHNOLOGY	67,605	67,605	---
SURFACE AND SHALLOW WATER MINE COUNTERMEASURES	103,308	104,308	+1,000
SURFACE SHIP TORPEDO DEFENSE	46,896	54,896	+8,000
CARRIER SYSTEMS DEVELOPMENT	157,479	164,979	+7,500
SHIPBOARD SYSTEM COMPONENT DEVELOPMENT	18,993	33,493	+14,500
PILOT FISH	78,223	78,223	---
RETRACT LARCH	82,532	82,532	---
RETRACT JUNIPER	36,915	36,915	---
RADIOLOGICAL CONTROL	946	946	---
SURFACE ASW	17,633	17,633	---
SSGN CONVERSION	19,970	19,970	---
ADVANCED SUBMARINE SYSTEM DEVELOPMENT	81,160	78,160	-3,000
SUBMARINE TACTICAL WARFARE SYSTEMS	5,957	5,957	---
SHIP CONCEPT ADVANCED DESIGN	3,723	10,723	+7,000
ADVANCED NUCLEAR POWER SYSTEMS	169,733	169,733	---
ADVANCED SURFACE MACHINERY SYSTEMS	---	4,000	+4,000
CHALK EAGLE	47,786	47,786	---
LITTORAL COMBAT SHIP (LCS)	352,089	409,089	+57,000
COMBAT SYSTEM INTEGRATION	80,840	81,340	+500
CONVENTIONAL MUNITIONS	34,151	34,151	---
MARINE CORPS ASSAULT VEHICLES	236,969	237,969	+1,000
MARINE CORPS MINE/COUNTERMEASURES SYSTEMS - ADV DEV	4,522	4,522	---
MARINE CORPS GROUND COMBAT/SUPPORT SYSTEM	22,440	27,440	+5,000
JOINT SERVICE EXPLOSIVE ORDNANCE DEVELOPMENT	18,047	18,047	---
COOPERATIVE ENGAGEMENT	103,452	103,452	---
OCEAN ENGINEERING TECHNOLOGY DEVELOPMENT	26,232	29,732	+3,500
ENVIRONMENTAL PROTECTION	24,641	26,891	+2,250
NAVY ENERGY PROGRAM	1,494	3,494	+2,000

(DOLLARS IN THOUSANDS)

	BUDGET REQUEST	COMMITTEE RECOMMENDED	CHANGE FROM REQUEST
FACILITIES IMPROVEMENT	1,621	1,621	---
CHALK CORAL	58,467	49,367	-9,100
NAVY LOGISTIC PRODUCTIVITY	7,421	26,921	+19,500
RETRACT MAPLE	275,407	262,407	-13,000
LINK PLUMERIA	112,997	104,097	-8,900
RETRACT ELM	48,130	48,130	---
SHIP SELF DEFENSE (DEM/VAL)	9,493	9,493	---
LINK EVERGREEN	63,346	63,346	---
SPECIAL PROCESSES	44,232	44,232	---
NATO RESEARCH AND DEVELOPMENT	10,151	10,151	---
LAND ATTACK TECHNOLOGY	82,049	88,586	+6,537
NONLETHAL WEAPONS (DEM/VAL)	43,321	46,321	+3,000
ALL SERVICE COMBAT IDENTIFICATION EVALUATION TEAM	13,626	13,626	---
JOINT PRECISION APPROACH AND LANDING SYSTEMS (DEM/VAL)	32,391	32,391	---
SINGLE INTEGRATED AIR PICTURE (SIAP) SYSTEM ENGINEER	20,252	20,252	---
TACTICAL AIR DIRECTIONAL INFRARED COUNTERMEASURES (TAD	---	3,000	+3,000
DISRUPTIVE TECHNOLOGY OPPORTUNITIES FUND (DTOF)	---	6,000	+6,000
SPACE & ELECTRONIC WARFARE (SEW) ARCHITECTURE/ENGINE	25,943	25,943	---
JOINT WARFARE TRANSFORMATION PROGRAMS	22,450	22,450	---
TOTAL, DEMONSTRATION & VALIDATION	2,803,667	2,953,654	+149,987

(DOLLARS IN THOUSANDS)

	BUDGET REQUEST	COMMITTEE RECOMMENDED	CHANGE FROM REQUEST
ENGINEERING & MANUFACTURING DEVELOPMENT			
OTHER HELO DEVELOPMENT	186,970	186,970	---
AV-8B AIRCRAFT - ENG DEV	12,284	13,284	+1,000
STANDARDS DEVELOPMENT	57,675	66,175	+8,500
MULTI-MISSION HELICOPTER UPGRADE DEVELOPMENT	78,757	82,757	+4,000
AIR/OCEAN EQUIPMENT ENGINEERING	4,506	4,506	---
P-3 MODERNIZATION PROGRAM	9,554	15,554	+6,000
WARFARE SUPPORT SYSTEM	5,201	5,201	---
TACTICAL COMMAND SYSTEM	49,180	65,180	+16,000
E-2C RADAR MODERNIZATION	597,015	597,015	---
H-1 UPGRADES	90,389	132,389	+42,000
ACOUSTIC SEARCH SENSORS	13,363	15,363	+2,000
V-22A	304,164	253,164	-51,000
AIR CREW SYSTEMS DEVELOPMENT	8,838	18,838	+10,000
EA-18	357,502	357,502	---
EW DEVELOPMENT	48,956	48,956	---
VHXX EXECUTIVE HELO DEVELOPMENT	777,398	557,398	-220,000
JOINT TACTICAL RADIO SYSTEM - NAVY (JTRS-NAVY)	78,624	83,624	+5,000
SC-21 TOTAL SHIP SYSTEM ENGINEERING	1,431,585	1,182,785	-248,800
SURFACE COMBATANT COMBAT SYSTEM ENGINEERING	146,463	162,963	+16,500
LPD-17 CLASS SYSTEMS INTEGRATION	8,988	8,988	---
TRI-SERVICE STANDOFF ATTACK MISSILE	27,047	27,047	---
SMALL DIAMETER BOMB (SDB)	9,961	9,961	---
STANDARD MISSILE IMPROVEMENTS	99,022	110,022	+11,000
AIRBORNE MCM	50,514	50,514	---
SSN-688 AND TRIDENT MODERNIZATION	75,359	103,359	+28,000
AIR CONTROL	13,102	13,102	---
ENHANCED MODULAR SIGNAL PROCESSOR	1,075	1,075	---
SHIPBOARD AVIATION SYSTEMS	28,631	28,631	---
COMBAT INFORMATION CENTER CONVERSION	8,228	11,228	+3,000
NEW DESIGN SSN	143,270	141,270	-2,000
SSN-21 DEVELOPMENTS	3,020	3,020	---
SUBMARINE TACTICAL WARFARE SYSTEM	43,404	46,904	+3,500
SHIP CONTRACT DESIGN/ LIVE FIRE T&E	130,908	86,728	-44,180

(DOLLARS IN THOUSANDS)

	BUDGET REQUEST	COMMITTEE RECOMMENDED	CHANGE FROM REQUEST
NAVY TACTICAL COMPUTER RESOURCES	2,381	13,381	+11,000
MINE DEVELOPMENT	6,123	6,123	---
LIGHTWEIGHT TORPEDO DEVELOPMENT	9,965	9,965	---
JOINT SERVICE EXPLOSIVE ORDNANCE DEVELOPMENT	8,081	12,081	+4,000
PERSONNEL, TRAINING, SIMULATION, AND HUMAN FACTORS	3,005	3,005	---
BATTLE GROUP PASSIVE HORIZON EXTENSION SYSTEM	17,981	32,481	+14,500
JOINT STANDOFF WEAPON SYSTEMS	9,531	11,531	+2,000
SHIP SELF DEFENSE (DETECT & CONTROL)	48,154	53,154	+5,000
SHIP SELF DEFENSE (ENGAGE: HARD KILL)	51,213	51,213	---
SHIP SELF DEFENSE (ENGAGE: SOFT KILL/EW)	28,233	40,233	+12,000
MEDICAL DEVELOPMENT	6,942	52,042	+45,100
NAVIGATION/ID SYSTEM	28,104	28,104	---
DISTRIBUTED SURVEILLANCE SYSTEM	7,776	9,776	+2,000
JOINT STRIKE FIGHTER (JSF) - EMD	2,264,507	2,168,507	-96,000
SMART CARD	695	695	---
INFORMATION TECHNOLOGY DEVELOPMENT	9,301	9,301	---
INFORMATION TECHNOLOGY DEVELOPMENT	109,543	113,043	+3,500
MULTI-MISSION MARITIME AIRCRAFT (MMA)	496,029	496,029	---
TOTAL, ENGINEERING & MANUFACTURING DEVELOPMENT	8,008,517	7,602,137	-406,380

(DOLLARS IN THOUSANDS)

	BUDGET REQUEST	COMMITTEE RECOMMENDED	CHANGE FROM REQUEST
RDT&E MANAGEMENT SUPPORT			
THREAT SIMULATOR DEVELOPMENT	23,866	23,866	---
TARGET SYSTEMS DEVELOPMENT	35,677	35,677	---
MAJOR T&E INVESTMENT	39,787	43,287	+3,500
STUDIES AND ANALYSIS SUPPORT - NAVY	2,183	2,183	---
CENTER FOR NAVAL ANALYSES	43,982	43,982	---
FLEET TACTICAL DEVELOPMENT	2,338	2,338	---
TECHNICAL INFORMATION SERVICES	696	12,196	+11,500
MANAGEMENT, TECHNICAL & INTERNATIONAL SUPPORT	31,407	31,407	---
STRATEGIC TECHNICAL SUPPORT	3,493	3,493	---
RDT&E SCIENCE AND TECHNOLOGY MANAGEMENT	66,117	66,117	---
RDT&E INSTRUMENTATION MODERNIZATION	19,370	19,370	---
RDT&E SHIP AND AIRCRAFT SUPPORT	81,308	81,308	---
TEST AND EVALUATION SUPPORT	255,926	258,426	+2,500
OPERATIONAL TEST AND EVALUATION CAPABILITY	13,044	13,044	---
NAVY SPACE AND ELECTRONIC WARFARE (SEW) SUPPORT	2,941	2,941	---
SEW SURVEILLANCE/RECONNAISSANCE SUPPORT	12,160	13,160	+1,000
MARINE CORPS PROGRAM WIDE SUPPORT	19,701	28,101	+8,400
TOTAL, RDT&E MANAGEMENT SUPPORT	653,996	680,896	+26,900
OPERATIONAL SYSTEMS DEVELOPMENT			
STRATEGIC SUB & WEAPONS SYSTEM SUPPORT	108,782	96,782	-12,000
SSBN SECURITY TECHNOLOGY PROGRAM	43,408	43,408	---
SUBMARINE ACOUSTIC WARFARE DEVELOPMENT	8,453	13,453	+5,000
NAVY STRATEGIC COMMUNICATIONS	31,391	31,391	---
RAPID TECHNOLOGY TRANSITION (RTT)	14,630	14,630	---
F/A-18 SQUADRONS	134,580	136,580	+2,000
E-2 SQUADRONS	6,055	9,555	+3,500
FLEET TELECOMMUNICATIONS (TACTICAL)	19,784	22,784	+3,000
TOMAHAWK AND TOMAHAWK MISSION PLANNING CENTER (TMPC)	28,776	31,776	+3,000
INTEGRATED SURVEILLANCE SYSTEM	16,965	23,965	+7,000
AMPHIBIOUS TACTICAL SUPPORT UNITS	2,604	4,104	+1,500
CONSOLIDATED TRAINING SYSTEMS DEVELOPMENT	21,644	24,644	+3,000
CRYPTOLOGIC DIRECT SUPPORT	1,460	1,460	---
ELECTRONIC WARFARE (EW) READINESS SUPPORT	12,139	12,139	---

(DOLLARS IN THOUSANDS)

	BUDGET REQUEST	COMMITTEE RECOMMENDED	CHANGE FROM REQUEST
HARM IMPROVEMENT	163,371	168,371	+5,000
TACTICAL DATA LINKS	18,977	18,977	---
SURFACE ASW COMBAT SYSTEM INTEGRATION	10,612	22,612	+12,000
MK-48 ADCAP	21,620	21,620	---
AVIATION IMPROVEMENTS	62,635	82,635	+20,000
NAVY SCIENCE ASSISTANCE PROGRAM	3,821	3,821	---
OPERATIONAL NUCLEAR POWER SYSTEMS	64,554	64,554	---
MARINE CORPS COMMUNICATIONS SYSTEMS	268,638	297,638	+29,000
MARINE CORPS GROUND COMBAT/SUPPORTING ARMS SYSTEMS	44,828	48,828	+4,000
MARINE CORPS COMBAT SERVICES SUPPORT	10,731	10,731	---
TACTICAL AIM MISSILES	4,061	1,561	-2,500
ADVANCED MEDIUM RANGE AIR-TO-AIR MISSILE (AMRAAM)	9,085	9,085	---
SATELLITE COMMUNICATIONS (SPACE)	573,092	470,592	-102,500
INFORMATION SYSTEMS SECURITY PROGRAM	18,676	18,676	---
COBRA JUDY	80,694	80,694	---
NAVY METEOROLOGICAL AND OCEAN SENSORS-SPACE (METOC)	4,215	4,215	---
JOINT C4ISR BATTLE CENTER (JBC)	43,569	43,569	---
JOINT MILITARY INTELLIGENCE PROGRAMS	4,746	4,746	---
TACTICAL UNMANNED AERIAL VEHICLES	53,439	65,439	+12,000
ENDURANCE UNMANNED AERIAL VEHICLES	113,438	83,438	-30,000
AIRBORNE RECONNAISSANCE SYSTEMS	10,191	11,191	+1,000
MANNED RECONNAISSANCE SYSTEMS	20,203	28,203	+8,000
DISTRIBUTED COMMON GROUND SYSTEMS	3,635	21,298	+17,663
AERIAL COMMON SENSOR (ACS) (JMIP)	24,909	24,909	---
MODELING AND SIMULATION SUPPORT	7,262	7,262	---
INDUSTRIAL PREPAREDNESS	56,565	61,565	+5,000
MARITIME TECHNOLOGY (MARITECH)	10,265	10,265	---
TOTAL, OPERATIONAL SYSTEMS DEVELOPMENT	2,158,503	2,153,166	-5,337
CLASSIFIED PROGRAMS	1,003,485	1,003,485	---
TOTAL, RESEARCH, DEVELOPMENT, TEST & EVAL, NAVY	16,346,391	16,532,361	+185,970

RESEARCH, DEVELOPMENT, TEST AND EVALUATION, AIR FORCE

Fiscal year 2004 appropriation	$20,500,984,000
Fiscal year 2005 budget request	21,114,667,000
Committee recommendation	21,033,622,000
Change from budget request	−81,045,000

This appropriation finances the research, development, test and evaluation activities of the Department of the Air Force.

COMMITTEE RECOMMENDATION

The Committee recommends an appropriation of $21,033,622,000 for Research, Development, Test and Evaluation, Air Force. The following report and project level tables provide a summary of the Committee's recommendation.

EXPLANATION OF PROJECT LEVEL TABLES
[In thousands of dollars]

R-1		Budget Request	Committee Recommended	Change from Request
1	**DEFENSE RESEARCH SCIENCES**	**217,304**	**224,804**	**+7,500**
	Demonstrating Space Research and Applications (Note: Only to support educational programming and exhibits that demonstrate the application of defense technology and research at Griffith Observatory Planetarium)		1,000	
	Microwave Vacuum Electronics Power Research Initiative (Note: Only to re-establish a program for research into Microwave Vacuum Engineering (MVE) and High Power Microwave (HPM) technology through the Air Force Office of Scientific Research)		2,500	
	Chabot Space & Science Center		2,000	
	National Hypersonic Research Center		2,000	
2	**UNIVERSITY RESEARCH INITIATIVES**	**115,865**	**120,865**	**+5,000**
	Bio/Nanotechnology Infrastructure and Technology-oriented Research		5,000	
4	**MATERIALS**	**73,660**	**97,160**	**+23,500**
	Computational Tools for Materials Development		1,000	
	Advanced Wide Bandgap Materials for RF Technology		3,000	
	Advanced Silicon Carbide Device Technology		2,000	
	Advanced Reinforced Materials and New Materials Research for Aircraft Tires		1,000	
	Domestic Titanium Powder Manufacturing Initiative		4,000	
	Cost Effective Composite Materials for Manned and Unmanned Flight Structures		1,000	
	Blast Resistant Barriers for Homeland Defense		4,000	
	Advanced Magnetic Random Access Memory Modules (Note: Only to develop memory modules to integrate magnetic RAM with conventional electronics for military platforms)		2,500	
	Optimal Design of Materials Processes		1,000	
	WBI - Nanostructured Materials for Advanced Air Force Systems		4,000	
5	**AEROSPACE VEHICLE TECHNOLOGIES**	**74,679**	**78,179**	**+3,500**
	Intelligent Flight Control Simulation Research Laboratory		2,000	
	Unique Stealth UAV Houck Aircraft Design Program (Note: Only to continue and expand the existing program)		1,500	
6	**HUMAN EFFECTIVENESS APPLIED RESEARCH**	**71,483**	**82,483**	**+11,000**
	Networked Warfighter Decision Support		1,500	
	AFSOC Battlefield Air Operations Kit		1,500	
	Bio Medical DNA Program		1,000	
	IMPRINT for UAVs		2,000	
	Photovoltaic Hydrogen and Flexible PV for Portable Power		1,000	
	Laser Bioeffects		2,000	
	Special Operations Target Acquisition & Control Suite (Note: Only to design a mission planning, rehearsal, and execution toolkit prototype system for Air Force Special Tactics)		2,000	

R-1		Budget Request	Committee Recommended	Change from Request
7	**AEROSPACE PROPULSION**	**92,650**	**129,400**	**+36,750**
	HVEPS		4,500	
	Jet & Rocket Engine Test Site (JRETS) (Note: Only for Jet and Rocket Propulsion testing at San Bernardino International Airport)		8,000	
	Aerospace Lab Equipment Upgrade		1,000	
	Advanced Cooling Technology for High Flux Military Diode Laser Arrays		1,500	
	Cell-Level Battery Controller		3,000	
	Versatile Affordable Advanced Turbine Engine - Titanium Matrix Composite		1,000	
	Advanced Vehicle Propulsion Center		5,000	
	Advanced Aerospace Vehicle Cooling Technologies (Note: Only to conduct evaluations of aerospace vehicle cooling technologies at the JRETS rocket test stand at the San Bernardino International Airport)		1,000	
	Remote-Base Power Demonstration		3,000	
	Wavelength Agile Spectral Harmonic Oxygen Sensor		1,000	
	High Regression Rate Hybrid Rocket Fuels		750	
	Center for Flow Physics and Control		2,000	
	Engineering Research Lab Equipment Upgrade		1,000	
	Center for Security of Large-Scale Systems		2,000	
	Intense, Ultrafast Laser Microfabrication & Diagnostics		1,000	
	Information Assurance Initiative		1,000	
8	**AEROSPACE SENSORS**	**78,804**	**97,304**	**+18,500**
	General Purpose Reconfigurable Signal Processor System		4,000	
	Optical Signature Recognition System for Authenticity Verification		2,000	
	Phased Array Antenna Control Computer		1,500	
	Three-Dimensional Packaging Technology for High Speed RF Communication		2,000	
	Center for Advanced Sensor and Communication Antennas		5,000	
	Watchkeeper UWB Demonstration Program		4,000	
9	**MULTI-DISCIPLINARY SPACE TECHNOLOGY**	**84,581**	**101,581**	**+17,000**
	Internet Protocol Commanding of Satellites		1,000	
	ETIP - Engineering Tool Improvement Program		6,000	
	Photonics Technology		2,000	
	Upperstage Engine Technology (USET)		5,000	
	Stable Articulating Backbone for Ultralight Radar Project		3,000	
10	**SPACE TECHNOLOGY**	**88,909**	**99,909**	**+11,000**
	Elastic Memory Composites		1,000	
	ICASS		4,000	
	Converted Silicon Carbide for High Performance Optic Structures		3,000	
	EM Gradiometer for the Detection & Confirmation of Underground Hiding Places & Passageways		2,000	
	Toughened Silicone Substrates for Flexible Solar Cells		1,000	

R-1		Budget Request	Committee Recommended	Change from Request
12	**DIRECTED ENERGY TECHNOLOGY**	**36,532**	**47,532**	**+11,000**
	Adaptive Optics Lasercom		5,000	
	Ultra Short Pulse Laser Technology Development (Note: Only for USP laser Platform Development Vehicle, Lethality and Atmospheric Propagation Analysis, and Optimization of the USP Laser Platform)		6,000	
13	**COMMAND CONTROL AND COMMUNICATIONS**	**82,147**	**85,147**	**+3,000**
	MASINT Visualization Tools Program		3,000	
15	**HIGH ENERGY LASER RESEARCH**	**45,333**	**52,333**	**+7,000**
	Joint High Power Solid State Laser Program		2,000	
	Manufacturing Technology Development Solid State of Advanced Components for High Solid State Laser		4,000	
	High Energy Laser Research		1,000	
16	**ADVANCED MATERIALS FOR WEAPON SYSTEMS**	**34,284**	**60,284**	**+26,000**
	Advanced Polymer Technology for Agile Combat Support		1,500	
	Transparent Conductive Polymer Technology Development		3,000	
	Metals Affordability Initiative		5,000	
	Quantitative Inspection Techniques for Assessing Aging of Military Aircraft		2,000	
	Plasma Enhanced Chemical Vapor Disposition for Advanced Laser Program		2,000	
	Large Panel Sapphire Producability		3,000	
	Advanced Composite Processes		2,000	
	Fast Field Repair of Coated Aircraft and Equipment		4,000	
	Materials Integrity Management Research		1,500	
	Hybrid Bearing		2,000	
17	**ADVANCED AEROSPACE SENSORS**	**30,634**	**44,634**	**+14,000**
	Testbed for Accelerated Transition - Advanced Multi-Discriminating Sensing		1,000	
	National Operational Signature Production and Research Capability		11,500	
	Phase Diversity - Imaging Through Volume Turbulence		1,500	
18	**FLIGHT VEHICLE TECHNOLOGY**	**0**	**1,000**	**+1,000**
	Ultra-Lightweight Composites for Ballistic and Bomb Protection		1,000	
19	**AEROSPACE TECHNOLOGY DEVELOPMENT/DEMONSTRATION**	**29,145**	**63,145**	**+34,000**
	3D Weaving/Braiding Technology		4,000	
	National Aerospace Leadership Initiative		25,000	
	WBI - Capabilities Planning Support		5,000	
20	**AEROSPACE PROPULSION AND POWER TECHNOLOGY**	**79,914**	**84,914**	**+5,000**
	Advanced Satellite Thermal Control Program		1,000	
	Versatile Affordable Advanced Turbine Engine		4,000	
21	**CREW SYSTEMS AND PERSONNEL PROTECTION TECHNOLOGY**	**32,794**	**35,294**	**+2,500**
	Virtual Warriors		1,500	
	The Logistics Institute		1,000	

R-1		Budget Request	Committee Recommended	Change from Request
22	**ELECTRONIC COMBAT TECHNOLOGY**	**28,282**	**34,282**	**+6,000**
	Receiver and Processing Concepts Evaluation Program		1,000	
	Lightweight Modular Support Jammer		3,000	
	Detect and Avoid for UAVs		2,000	
23	**BALLISTIC MISSILE TECHNOLOGY**	**0**	**13,000**	**+13,000**
	Ballistic Missile Technology Common Advanced Guidance Technology		13,000	
24	**UNMANNED AIR VEHICLE DEVELOPMENT/DEMONSTRATION**	**0**	**13,000**	**+13,000**
	Protector UAV for AC-130 Aircraft (Note: Only to develop a Protector UAV capability to include a Tactical Common Data Link (TCDL) communications suite for real-time video capability)		10,000	
	Ice Protection Technologies for UAVs		3,000	
25	**ADVANCED SPACECRAFT TECHNOLOGY**	**60,124**	**83,624**	**+23,500**
	Robust Aerospace Composite Materials and Structures		3,500	
	Intelligence Free Space Optical Communications		3,000	
	Boron Energy Cell System Development		2,000	
	Vehicle Risk Reduction (RSLV)		4,000	
	Advanced Life Cycle Cost/ Risk Model for Space Concepts Development		1,000	
	Integrated Spacecraft Engineering Tool (ISET)		1,000	
	Systematic Hierarchical Approach to Radiation Hardened Electronics		3,000	
	Streaker - Small Launch Vehicle		4,000	
	Radiation Hardening Microelectronics		2,000	
28	**CONVENTIONAL WEAPONS TECHNOLOGY**	**22,398**	**29,898**	**+7,500**
	High Speed Strike Weapon		1,000	
	BLU-109 Bunker Buster - Heavy		5,000	
	Fuze Air-to-Surface Technology		1,500	
29	**ADVANCED WEAPONS TECHNOLOGY**	**31,103**	**48,103**	**+17,000**
	Advanced Technology for IRCM Component Improvement		3,000	
	Low Speed Air Speed System		4,000	
	Near Earth Space Initiative		4,000	
	LIVAR		3,000	
	Wafer Integrated Semiconductor Laser		3,000	
31	**C3I ADVANCED DEVELOPMENT**	**28,524**	**34,524**	**+6,000**
	Dynamic Targeting Capability		3,000	
	Collaboration Archive Server (Note: Only for the continued development of the Collaboration Archive Server initiated under SBIR AF01-106)		1,000	
	Cyber Security - Advanced Course in Engineering		2,000	
34	**HIGH ENERGY LASER ADVANCED TECHNOLOGY PROGRAM**	**8,547**	**10,547**	**+2,000**
	Joint High Power Solid State Laser Program		2,000	

R-1		Budget Request	Committee Recommended	Change from Request
39	**PHYSICAL SECURITY EQUIPMENT**	**22,640**	**26,840**	**+4,200**
	Smart Camera System with Target Motion Cueing		200	
	Military Base Protection using X-Ray System (Shaped Energy Detection System)		4,000	
48	**ADVANCED WIDEBAND SYSTEM (AWS) TRANSFORMATIONAL SATCOM (TSAT)**	**774,836**	**674,836**	**-100,000**
	Fund at authorized level		-100,000	
53	**SPACE-BASED RADAR DEM/VAL**	**327,732**	**75,000**	**-252,732**
	Program Affordability		-252,732	
54	**POLLUTION PREVENTION (DEM/VAL)**	**2,692**	**4,692**	**+2,000**
	Laser Applications to Improve Air Force Operations and Readiness		2,000	
59	**OPERATIONALLY RESPONSIVE LAUNCH**	**35,362**	**40,362**	**+5,000**
	Blue MAJIC		4,000	
	Advanced Rocket Component Development		1,000	
60	**COMMON AERO VEHICLE (CAV)**	**21,610**	**31,610**	**+10,000**
	Common Aero Vehicle		10,000	
DCF	**BOMBER DEVELOPMENT**	**0**	**50,000**	**+50,000**
62	**GLOBAL BROADCAST SERVICE (GBS)**	**33,447**	**23,447**	**-10,000**
	Reduce forward financing		-10,000	
68	**B-2 ADVANCED TECHNOLOGY BOMBER**	**245,049**	**295,049**	**+50,000**
	EHF SatCom		24,000	
	GBU-28 Integration		12,000	
	Radar Modernization Program		14,000	
69	**EW DEVELOPMENT**	**138,393**	**110,893**	**-27,500**
	Rapid Replacement of Mission Critical Logistics Electronic Components at Warner Robins AFB		3,500	
	AN/ALQ-172 Airborne Electronic Attack Upgrade		5,000	
	AEA Technology Development		-36,000	
70	**JOINT TACTICAL RADIO**	**49,856**	**39,856**	**-10,000**
	SDD Contract Award Delay		-10,000	
73	**COUNTERSPACE SYSTEMS**	**75,863**	**22,863**	**-53,000**
	Counter Surveillance Reconnaissance System Program Termination		-53,000	
75	**SPACE BASED INFRARED SYSTEM (SBIRS) HIGH EMD**	**508,448**	**599,448**	**+91,000**
	AF Requested Transfer		91,000	
79	**SUBMUNITIONS**	**4,824**	**5,824**	**+1,000**
	Self-Destruct Fuzing for BLU-97 Submunitions in AF CBU-87 Area Attack Munition		1,000	
80	**AGILE COMBAT SUPPORT**	**10,053**	**12,053**	**+2,000**
	Biostatic Protective Clothing for AFSOC		1,000	
	Advance Casualty Care for AFSOC		1,000	

R-1		Budget Request	Committee Recommended	Change from Request
82	**LIFE SUPPORT SYSTEMS**	**6,630**	**14,630**	**+8,000**
	Integrated Mission Helmet		3,000	
	ACES II Ejection Seat Improvement (Note: Only for continuing safety improvements to USAF ACES II ejection seats)		1,000	
	Lower Anti-G Garment		4,000	
85	**INTEGRATED COMMAND & CONTROL APPLICATIONS (IC2A)**	**258**	**12,758**	**+12,500**
	JSTARS NetCentric Enhancements using Web Services		1,000	
	C2 Manager for AFSOC		1,000	
	Distributed Mission Interoperability Toolkit (DMIT)		4,000	
	Net-Centric Information Visualization Services		3,000	
	Integration of Global Expeditionary Medical System with Global Combat Support System		3,500	
86	**INTELLIGENCE EQUIPMENT**	**1,349**	**6,849**	**+5,500**
	Air Force Electronic Systems Command/National Product Line Asset Center (NPLACE)		4,000	
	Hard and Deeply Buried Targets		1,500	
89	**JOINT STRIKE FIGHTER EMD**	**2,307,420**	**2,199,420**	**-108,000**
	F-135 Engine Development		-49,000	
	Reprogramming Activity		-25,000	
	Manufacturing, Tooling and Materials		-60,000	
	Engineering Activity		26,000	
92	**RDT&E FOR AGING AIRCRAFT**	**15,665**	**20,665**	**+5,000**
	Advanced Aircraft Avionics & Electronics Insertion		1,000	
	TER-0 MIL-STD-1760 ("Smart") Modification		2,000	
	Enterprise Availability and Cost Optimization System		1,000	
	Fleet Capability Assessment		1,000	
94	**UNMANNED COMBAT AIR VEHICLE JOINT PROGRAM OFFICE**	**2,911**	**0**	**-2,911**
	Program Transferred Defense-Wide, RDTE		-2,911	
95	**LINK-16 SUPPORT AND SUSTAINMENT**	**141,012**	**140,212**	**-800**
	Enhanced Tactical Data Link and Data Display		6,000	
	Pocket Link 16		4,000	
	Data Links Facility - Fiscal Year 2006 Contract Award		-10,800	
96	**FAMILY OF INTEROPERABLE OPERATIONAL PICTURES (FIOP)**	**44,947**	**49,947**	**+5,000**
	Command and Control Service Level Management		5,000	
	Command and Control Enterprise Services (C2ES)		4,000	
	Program Growth		-4,000	
97	**MULTI-SENSOR C2 AIRCRAFT (MC2A)**	**538,860**	**458,860**	**-80,000**
	MC2A Airframe - Delay in test bed delivery		-80,000	
102	**MAJOR TEST &EVALUATION INVESTMENT**	**58,933**	**67,233**	**+8,300**
	Instrumentation, Loading, Integration, Analysis and Display		3,000	
	Air Armament Center/ILIAD		2,300	
	3-D Data Track Assembly (3-DATA) Imaging System		3,000	
106	**INITIAL OPERATIONAL TEST & EVALUATION**	**28,839**	**32,839**	**+4,000**
	Air Force Operational Test and Evaluation Center		4,000	

R-1		Budget Request	Committee Recommended	Change from Request
107	**TEST AND EVALUATION SUPPORT**	**356,266**	**357,266**	**+1,000**
	Consolidated Fighter Combined Test Force		1,000	
108	**ROCKET SYSTEMS LAUNCH PROGRAM (SPACE)**	**7,984**	**22,984**	**+15,000**
	Ballistic Missile Range Safety		15,000	
117	**B-52 SQUADRONS**	**25,766**	**33,766**	**+8,000**
	B-52 Re-engine Study		8,000	
128	**F-15E SQUADRONS**	**115,246**	**136,446**	**+21,200**
	F-15C APG-63(V)3 Radar Upgrade		17,200	
	F-15 ALR-56C Radar Warning Receiver Upgrade Program		4,000	
130	**F-22 SQUADRONS**	**354,528**	**344,528**	**-10,000**
	Execution		-10,000	
132	**TACTICAL AIM MISSILES**	**5,558**	**3,058**	**-2,500**
	AIM 9(X) - Premature Integration on F-35		-2,500	
135	**AF TENCAP**	**10,673**	**15,673**	**+5,000**
	FOGLITE		5,000	
145	**EVALUATION AND ANALYSIS PROGRAM**	**0**	**3,000**	**+3,000**
	Adaptive Information Protection Technologies		3,000	
149	**BOMBER TACTICAL DATA LINK**	**120,256**	**81,256**	**-39,000**
	B-52 Program Growth		-39,000	
154	**ADVANCED PROGRAM EVALUATION**	**474,734**	**434,734**	**-40,000**
	Classified Program		-40,000	
156	**WARGAMING AND SIMULATION CENTERS**	**6,377**	**7,377**	**+1,000**
	Synthetic Theater Operations Research Model		1,000	
157	**MISSION PLANNING SYSTEMS**	**136,701**	**106,701**	**-30,000**
	Program Growth		-30,000	
169	**INFORMATION SYSTEMS SECURITY PROGRAM**	**79,625**	**86,625**	**+7,000**
	Worldwide Infrastructure Security Environment (Note: only for WISE to provide protection and response to physical and cyber attacks)		4,000	
	ESC Northcom Deployment Planning		1,000	
	Center for Information Assurance Security		2,000	
170	**GLOBAL COMBAT SUPPORT SYSTEM**	**18,637**	**22,637**	**+4,000**
	Air Force Knowledge Service		4,000	
183	**AIR FORCE TACTICAL MEASUREMENT AND SIGNATURE INTELLIGENCE**	**7,905**	**9,905**	**+2,000**
	Advanced Remote Ground Unattended Sensor Program		2,000	
184	**DEFENSE RECONNAISSANCE SUPPORT ACTIVITIES (SPACE)**	**219,345**	**189,345**	**-30,000**
	Classified Adjustment		-30,000	

R-1		Budget Request	Committee Recommended	Change from Request
190	**SPACELIFT RANGE SYSTEM (SPACE)**	**47,253**	**51,253**	**+4,000**
	Reservoir Assessment, Detection and Response Project		3,000	
	CSIP		1,000	
196	**MANNED RECONNAISSANCE SYSTEMS**	**13,283**	**23,283**	**+10,000**
	Lightweight SIGINT System		4,000	
	Combat Sent Tactical ELINT System Modernization		2,000	
	Cobra Ball Long Wave Infrared Mid-Course Data Collection Capability		2,500	
	Cobra Ball Hi-Res E/O Signature Capability		1,500	
197	**DISTRIBUTED COMMON GROUND SYSTEMS**	**21,232**	**22,232**	**+1,000**
	Battle Damage Assessment Process Analysis		1,000	
198	**PREDATOR UAV (JMIP)**	**81,346**	**84,346**	**+3,000**
	Predator B LYNX SAR		3,000	
199	**GLOBAL HAWK UAV (JMIP)**	**336,159**	**315,259**	**-20,900**
	Southern Command Demo Execution		-7,900	
	PACOM Exercise Execution		-5,000	
	NCCT Termination		-8,000	
202	**SPACETRACK (SPACE)**	**161,838**	**124,838**	**-37,000**
	SBSS Delay		-30,000	
	Defer SBSS Block 10 and Block 20 based on delay in SBSS		-7,000	
208	**C-130 AIRLIFT SQUADRON**	**150,242**	**153,242**	**+3,000**
	Real-Time Measurement Weight and Balance System for C-130s		3,000	
210	**C-17 AIRCRAFT**	**199,692**	**202,692**	**+3,000**
	C-17 Test Flight Data Archive		3,000	
214	**KC-10S**	**18,452**	**0**	**-18,452**
	GATM Termination		-18,452	
218	**INDUSTRIAL PREPAREDNESS**	**38,012**	**56,012**	**+18,000**
	e-LINCS		1,000	
	WR-ALC Maintenance Operations Support (MOS) Simulation Model		1,000	
	Aerial Multi-Axis Platform		1,000	
	Rapid Manufacturing using Computers and Lasers		1,000	
	Affordable Multi-Junction Solar Cells		3,000	
	Tide Program		5,000	
	LO Coatings Production Scale-up		5,000	
	Laser Peening for F119 Engine		1,000	
219	**LOGISTICS SUPPORT ACTIVITIES**	**0**	**1,000**	**+1,000**
	REMIS		1,000	

R-1		Budget Request	Committee Recommended	Change from Request
221	**SUPPORT SYSTEMS DEVELOPMENT**	**50,238**	**67,738**	**+17,500**
	C-5/C-17 IDE (Aging Aircraft)		5,000	
	Develop Rapid Retargeting Capability at Warner Robins Air Logistics Center Depot		1,000	
	Information Assurance for Reengineering and Enabling Technologies		3,000	
	Special Operations Forces Program Directorate (WR-ALC/LU) Integrated Data Environment (IDE)		2,000	
	Center for Aircraft & System/Support Infrastructure		2,000	
	ACC Support Systems Development		4,500	

SPACE BASED INFRARED SYSTEM (SBIRS) HIGH

The Air Force requested $508,448,000 for the Space Based Infrared System (SBIRS) High Program, a decrease of $108,781,000 below the fiscal year 2004 appropriation. The Committee recommends $599,448,000, an increase of $91,000,000 above the budget request. The Committee notes this adjustment was requested by the Air Force to address new cost growth to the SBIRS High program.

The Committee is deeply disappointed with the development of the SBIRS High program. This program has been restructured numerous times, most recently 2 years ago following a Nunn-McCurdy cost breach. The Committee understands new cost estimates are triggering another round of Nunn-McCurdy notifications. The Committee is dismayed with the inability of the Air Force and contractor team to execute this program effectively. The Committee understands that the Office of Secretary of Defense is actively analyzing program alternatives. The Committee encourages this analysis and directs submission of the results to the congressional defense committees upon completion.

SPACE BASED RADAR

The Air Force requested $327,732,000 for the Space Based Radar program. The Committee recommends $75,000,000, a reduction of $252,732,000, and directs that the Air Force fundamentally restructure the program to meet the concerns addressed below.

The Space Based Radar (SBR) program is intended to provide near continuous, global radar imagery and surface moving target indication (SMTI) as well as high resolution terrain information. Advocates describe the program as a key contributor to achieving "global persistent surveillance". Though the pursuit of persistent surveillance is a noble goal, the Committee believes the Space Based Radar program as currently structured:

—Is neither affordable nor likely to produce the results claimed by its advocates, within any reasonable definition of cost, technical challenge, or risk.

—Would consume a disproportionate share of resources from within an already highly stressed DoD space and surveillance budget;

—And finally, is simply a less-pressing priority than many other near-and mid-term needs confronting the Department of Defense.

SBR Cost.—Regarding cost, recent independent cost estimates by the OSD Cost Analysis Improvement Group (CAIG) state that the acquisition and 12-year operations cost of the current SBR program of record—a 9 satellite constellation—would cost $34 billion in constant fiscal year 2004 dollars. This amount is *roughly equal to the life cycle cost of virtually all other Air Force satellite programs combined,* including Advanced EHF, Wideband Gapfiller, GPS, NPOESS, and SBIRS High. Moreover, there are many reasons to believe this estimate significantly understates prospective SBR costs.

First, this is a "50 percentile" estimate, conducted prior to the concept definition phase. Historically, actual program costs in-

crease from this point, sometimes dramatically, as requirements and technical issues become clearer with time. As a point of comparison, cost estimates for the Space Based Infrared System High (SBIRS High) program have increased some 450 percent from a similar stage in its development.

The Committee further notes the Air Force considers 9 satellites in low earth orbit to be less than half the number required to provide near continuous global moving target indication. The CAIG was not asked to estimate the cost of an objective SBR constellation of 21–24 satellites, but the cost of such a constellation *could exceed $60 billion* based on the current understanding of program requirements and technology.

Alternative SBR configurations offer little prospect of mitigating such costs. For example, in the hope that fewer satellites will translate to lower costs, some concepts suggest putting fewer (though significantly larger) satellites in Medium Earth Orbit (MEO). While this approach may have some operational advantages, it apparently does not reduce costs, as the recently completed Air Force Analysis of Alternatives (AoA) estimates that a full MEO constellation would cost about 40 percent more than a 24 satellite LEO constellation.

The Committee is also concerned about the cost and operational magnitude of the infrastructure needed to support the SBR program. For example, just three to four SBR satellites, working at peak load, would consume bandwidth equal to the entire capacity of the yet-to-be-developed Transformational Communications Satellite system. Likewise, SBR poses daunting challenges for any supporting ground infrastructure—always a significant cost driver for space programs. For example, it is widely accepted that SBR will generate far too much data for traditional human exploitation. Instead, the success of the program depends on significant advances in artificial intelligence, a field with a spotty track record at best.

SBR Operational Capability.—Regarding system capability, the Committee harbors additional concerns about the performance of an SBR constellation, particularly with regard to tracking moving targets. The Committee has consistently maintained that the baseline 9 satellite constellation, as well as more robust alternatives, would be unable to track vehicles effectively because of significant coverage gaps.

The Committee's position has been largely validated by the Air Force's SBR Analysis of Alternatives (AoA). Though AoA briefing charts attributed some limited tracking to a 9 satellite system, the Air Force later admitted this tracking was provided completely by airborne assets. More disturbing, even a full 21 satellite constellation loses track on most high value targets in just minutes. Further, the Air Force analysis did not take into account adversary use of even simple denial and deception techniques.

Another DoD analysis suggests that even the meager performance identified in the AoA is overly optimistic. This independent analysis indicates a 24 satellite system would provide only 55 percent coverage when terrain and relative vehicle speeds are considered—and that between *96 and 150 satellites would be required* in low earth orbit to provide continuous coverage.

Further, the Committee is concerned about the effectiveness of SBR in targeting many environments. For example, SBR is not well suited for moving indication in urban areas, nor can it image under sheds, in caves, in underground facilities, or under heavy foliage. The system will have limitations in mountainous terrain, due to obstructed views from various satellite look angles. In short, SBR provides limited capability in the very environments that adversaries are using today, and will likely continue to use, to hide activities from U.S. surveillance.

Committee Views and Recommendations.—In summary, in and of itself the SBR development program is fraught with enough uncertainties to call into question its viability. Indeed, even under the Administration's own plans the SBR program of record is underfunded in the current Future Year Defense Program by $2 billion, a shortfall resulting from the Department's unwillingness to fully fund this program. The Committee sees little prospect of this changing in light of the other fiscal challenges confronting the Department. These include the well-documented "procurement bowwave"; this Administration's emphasis on missile defense and other transformational programs; and now, and most importantly, the as-yet-unbudgeted future manpower, operational, and equipment recapitalization requirements stemming from operations in Iraq and the Global War on Terrorism. The Committee concludes that against these demands, SBR simply cannot be afforded budget priority.

Without a new approach, the Committee sees little future for the Space Based Radar program. Accordingly, the Committee recommends $75,000,000, a reduction to the request of $252,732,000. These funds are provided to redirect the Air Force's development efforts towards technologies and concepts that would lead to program costs far lower than currently conceived. The focus should be on seeking breakthroughs that fundamentally change the cost-benefit equation for a space based radar system.

E–10A MULTI-MISSION COMMAND AND CONTROL AIRCRAFT

The budget requested $538,860,000 for the E–10A Multi-sensor Command and Control Aircraft program, an increase of $178,000,000 over the fiscal year 2004 appropriation. The Committee recommends $458,860,000, a reduction of $80,000,000 below the request.

The Committee is concerned about the proposed level of funding growth in the E–10A program in light of recent developments that call into question any relationship between the amounts in the request and the program as it currently stands. At the Defense Acquisition Board meeting for this program in December 2003, a decision was made to delay Milestone B by one year, from July 2004 to July 2005. The Milestone B decision is the point at which the Air Force is to confirm that the MR–RTIP radar can be integrated with the 767 aircraft, so that the program may proceed with that platform. The reasoning for this delay was to allow the completion of ongoing studies into the cruise missile threat and several Ground Moving Target Indicator air and space tradeoff studies. Due to the Milestone B delay, the Air Force has had to delay delivery of the test bed aircraft for modifications by six months.

These actions have forced a restructuring of the program after the budget was submitted in February. Since then, the Air Force has directed the start of pre-System Design and Development (SDD) program re-planning activities, issued new objectives for an engineering change proposal (ECP), and stated the need for this ECP to comply with the new "program adjustments to execute a new technical baseline."

Despite these changes, the Air Force's guidance directs the contractor to now assume a "robust Initial Design Review" schedule to avoid delaying the Final Design Review in 2006 or the initial operational capability date of 2013. This change in the program results in a greatly condensed time between initial and final design review, significantly increasing risk to the program. Experience shows that it is extremely difficult to recover schedule in a development program. The Committee sees no basis for such optimistic assumptions, especially since efforts to host the radar on the 767 aircraft involves incorporating open systems architecture and interfaces which have yet to be designed.

The Committee believes the Air Force must be more realistic and less optimistic in its restructuring of this program. The one-year delay in Milestone B and the delay of the test bed aircraft delivery should be appropriately accounted for in the schedule, not ignored. For these reasons, the Committee has reduced the request by $80,000,000 to realign the program with a more responsible schedule.

BOMBER DEVELOPMENT

The request included no funding for a future bomber development program. The Committee recommends $50,000,000 for this purpose.

Earlier this year, the Air Force established a program office and an integrated planning team to begin reviewing technologies available to improve Air Force global strike (GS) and global persistent attack capabilities (GPA). Further, in an industry-wide "Request For Information" (RFI), the Air Force solicited input from industry regarding the need for updated GS/GPA capabilities and methods for meeting new capability requirements. The Air Force RFI notes that, in meeting any new requirements, "proposed capabilities may be comprised of currently available/emerging products, modified current products, Non-developmental Items and Government Furnished Equipment. A new or modernized bomber aircraft may satisfy the proposed capability."

The Committee is encouraged that the Air Force is considering a variety of options, including the development of a new weapon system or upgrading existing legacy platforms, such as the B–2 bomber, with increased capabilities. Thus, the Committee strongly urges the Secretary of the Air Force to give full and fair consideration to all options mentioned above. Also, the Committee directs that the Secretary of the Air Force provide notification to the congressional defense committees at least 30 days prior to the obligation of any funds provided under this heading.

Given that the timeline for a bomber development decision will not occur until late in fiscal year 2005, and that significant amounts of funding provided in the fiscal year 2004 Defense Appro-

priations Act have not yet been obligated, the Committee is restrained from providing funds in an amount greater than the additional $50,000,000 appropriated for this effort. Nonetheless, the Committee fully expects the Department of Defense to provide robust funding for the future bomber development program in its fiscal year 2006 budget request and beyond.

AIRBORNE ELECTRONIC ATTACK

The budget requested $138,393,000 for Electronic Warfare Development, an increase of $41,389,000 over the fiscal year 2004 appropriation. The Committee recommends $110,893,000, a reduction of $27,500,000 below the request.

Of the funds requested in fiscal year 2005, $57,500,000 was planned for development of a new stand-off jamming pod capability for the B–52. The Committee notes that on March 19, 2003, during the Air Force posture hearing before the Committee, the Secretary of the Air Force, in explaining the program he envisioned, stated "[w]e would use the same equipment the Navy would, so we would not be developing anything new". Based on his statement, the Committee was surprised by the fiscal year 2005 budget justifications showing a new start development program totaling over $733,000,000 in 5 years.

The Committee would note there are several tested and fielded technologies that could fulfill this requirement much more affordably and quicker than the Air Force program of record. Accordingly, the Committee has provided $30,000,000 of the request for engineering and architecture development efforts, receiver and jammer technology studies, and for development and refinement of requirements and CONOPS. The Committee denies funding for receiver and jammer technology development. The Committee holds the Secretary to his word, and believes the Air Force should take a hard look at available technologies for integration into the B–52 before proceeding with development of a costly new system.

BOMBER TACTICAL DATA LINKS

The budget requested $120,256,000 for Bomber Tactical Data Link development, an increase of $107,297,000 over the fiscal year 2004 appropriation. The Committee recommends $81,256,000, a reduction of $39,000,000 below the request.

Of the funds requested, $68,200,000 is for continuing development of B–1B Link 16 integration, a program begun in fiscal year 2004 with $12,800,000 in appropriations. The remaining $52,000,000 of the request would begin development of a similar capability in the B–52. While supportive of providing this capability for B–52 aircraft, the Committee believes that given the historical level of funding needed to begin development for the B–1B, the request is excessive. The Committee has provided sufficient resources within this appropriation for the Air Force to begin development of the B–52 capability, and continue the ongoing B–1B program.

NATIONAL AEROSPACE LEADERSHIP INITIATIVE

The Committee recommends $25,000,000 in Aerospace Technology Development and Demonstration to establish a national aerospace leadership program. Given the evolving security and economic threats to our Nation, the Committee believes it is imperative that the United States maintain its world leadership in advanced propulsion and power systems, as well as preserve an innovative and highly competitive domestic aerospace manufacturing supplier base to meet the Department of Defense's current and future needs. This initiative should be used to support U.S. leadership in aerospace research and development, fortify the U.S.-based manufacturing supply chain, and buttress our aerospace original equipment manufacturers' technology and production market share. As such, the Secretary of the Air Force is directed to implement a multi-regional aerospace leadership program, enlisting the support of and recommendations for such a program from industry, university, and U.S. Government executive and congressional leaders. Moreover, the Secretary is directed to develop plans and provide funding for continuing this program in fiscal year 2006 and beyond. The Committee intends to work with the Department of the Air Force as it develops a comprehensive, detailed implementation plan for this intitiative.

PROGRAM RECOMMENDED

The total program recommended in the bill will provide the following in fiscal year 2005.

(DOLLARS IN THOUSANDS)

	BUDGET REQUEST	COMMITTEE RECOMMENDED	CHANGE FROM REQUEST
RESEARCH, DEVELOPMENT, TEST & EVAL, AF			
BASIC RESEARCH			
DEFENSE RESEARCH SCIENCES	217,304	224,804	+7,500
UNIVERSITY RESEARCH INITIATIVES	115,865	120,865	+5,000
HIGH ENERGY LASER RESEARCH INITIATIVES	12,331	12,331	---
TOTAL, BASIC RESEARCH	345,500	358,000	+12,500
APPLIED RESEARCH			
MATERIALS	73,660	97,160	+23,500
AEROSPACE VEHICLE TECHNOLOGIES	74,679	78,179	+3,500
HUMAN EFFECTIVENESS APPLIED RESEARCH	71,483	82,483	+11,000
AEROSPACE PROPULSION	92,650	129,400	+36,750
AEROSPACE SENSORS	78,804	97,304	+18,500
MULTI-DISCIPLINARY SPACE TECHNOLOGY	84,581	101,581	+17,000
SPACE TECHNOLOGY	88,909	99,909	+11,000
CONVENTIONAL MUNITIONS	52,251	52,251	---
DIRECTED ENERGY TECHNOLOGY	36,532	47,532	+11,000
COMMAND CONTROL AND COMMUNICATIONS	82,147	85,147	+3,000
DUAL USE SCIENCE AND TECHNOLOGY PROGRAM	5,151	5,151	---
HIGH ENERGY LASER RESEARCH	45,333	52,333	+7,000
TOTAL, APPLIED RESEARCH	786,180	928,430	+142,250

(DOLLARS IN THOUSANDS)

	BUDGET REQUEST	COMMITTEE RECOMMENDED	CHANGE FROM REQUEST
ADVANCED TECHNOLOGY DEVELOPMENT			
ADVANCED MATERIALS FOR WEAPON SYSTEMS	34,284	60,284	+26,000
ADVANCED AEROSPACE SENSORS	30,634	44,634	+14,000
FLIGHT VEHICLE TECHNOLOGY	---	1,000	+1,000
AEROSPACE TECHNOLOGY DEV/DEMO	29,145	63,145	+34,000
AEROSPACE PROPULSION AND POWER TECHNOLOGY	79,914	84,914	+5,000
CREW SYSTEMS AND PERSONNEL PROTECTION TECHNOLOGY	32,794	35,294	+2,500
ELECTRONIC COMBAT TECHNOLOGY	28,282	34,282	+6,000
BALLISTIC MISSILE TECHNOLOGY	---	13,000	+13,000
UNMANNED AIR VEHICLE DEV/DEMO	---	13,000	+13,000
ADVANCED SPACECRAFT TECHNOLOGY	60,124	83,624	+23,500
MAUI SPACE SURVEILLANCE SYSTEM (MSSS)	6,306	6,306	---
MULTI-DISCIPLINARY ADVANCED DEVELOPMENT SPACE TECHNOLO	51,114	51,114	---
CONVENTIONAL WEAPONS TECHNOLOGY	22,398	29,898	+7,500
ADVANCED WEAPONS TECHNOLOGY	31,103	48,103	+17,000
C3I ADVANCED DEVELOPMENT	28,524	34,524	+6,000
SPECIAL PROGRAMS	320,503	320,503	---
INTEGRATED BROADCAST SERVICE	2,294	2,294	---
HIGH ENERGY LASER ADVANCED TECHNOLOGY PROGRAM	8,547	10,547	+2,000
ADVANCED COMMUNICATIONS SYSTEMS	12,051	12,051	---
AMC COMMAND AND CONTROL SYSTEM	6,038	6,038	---
JOINT NATIONAL TRAINING CENTER	2,939	2,939	---
TOTAL, ADVANCED TECHNOLOGY DEVELOPMENT	786,994	957,494	+170,500

(DOLLARS IN THOUSANDS)

	BUDGET REQUEST	COMMITTEE RECOMMENDED	CHANGE FROM REQUEST
DEMONSTRATION & VALIDATION			
INTELLIGENCE ADVANCED DEVELOPMENT	4,612	4,612	---
PHYSICAL SECURITY EQUIPMENT	22,640	26,840	+4,200
NAVSTAR GLOBAL POSITIONING SYSTEM III	40,568	40,568	---
ADVANCED EHF MILSATCOM (SPACE)	612,049	612,049	---
POLAR MILSATCOM (SPACE)	960	960	---
SPACE CONTROL TECHNOLOGY	15,046	15,046	---
COMBAT IDENTIFICATION TECHNOLOGY	19,582	19,582	---
NATO RESEARCH AND DEVELOPMENT	3,930	3,930	---
INTERNATIONAL SPACE COOPERATIVE R&D	552	552	---
ADVANCED WIDEBAND SYSTEM (AWS) TRANSFORMATIONAL SATCOM	774,836	674,836	-100,000
INTEGRATED BROADCAST SERVICE (DEM/VAL)	23,927	23,927	---
INTERCONTINENTAL BALLISTIC MISSILE (DEM/VAL)	72,503	72,503	---
WIDEBAND GAPFILLER SYSTEM RDT&E (SPACE)	73,499	73,499	---
SPACE-BASED RADAR (DEM/VAL)	327,732	75,000	-252,732
POLLUTION PREVENTION (DEM/VAL)	2,692	4,692	+2,000
JOINT PRECISION APPROACH AND LANDING SYSTEMS (DEM/VAL)	18,385	18,385	---
HARD AND DEEPLY BURIED TARGET DEFEAT SYSTEM (HDBTDS)	6,383	6,383	---
OPERATIONALLY RESPONSIVE LAUNCH	35,362	40,362	+5,000
COMMON AERO VEHICLE (CAV)	21,610	31,610	+10,000
NATIONAL POLAR-ORBITING OPERATIONAL ENVIRONMENTAL SATE	307,668	307,668	---
BOMBER DEVELOPMENT	---	50,000	+50,000
TOTAL, DEMONSTRATION & VALIDATION	2,384,536	2,103,004	-281,532
ENGINEERING & MANUFACTURING DEVELOPMENT			
GLOBAL BROADCAST SERVICE (GBS)	33,447	23,447	-10,000
JOINT HELMET MOUNTED CUEING SYSTEM (JHMCS)	2,867	2,867	---
NUCLEAR WEAPONS SUPPORT	13,301	13,301	---
B-1B	59,462	59,462	---
SPECIALIZED UNDERGRADUATE FLIGHT TRAINING	3,359	3,359	---
F-22 - EMD	210,000	210,000	---
B-2 ADVANCED TECHNOLOGY BOMBER	245,049	295,049	+50,000
EW DEVELOPMENT	138,393	110,893	-27,500
JOINT TACTICAL RADIO	49,856	39,856	-10,000
PHYSICAL SECURITY EQUIPMENT	9,744	9,744	---

(DOLLARS IN THOUSANDS)

	BUDGET REQUEST	COMMITTEE RECOMMENDED	CHANGE FROM REQUEST
SMALL DIAMETER BOMB (SDB) EMD	76,489	76,489	---
COUNTERSPACE SYSTEMS	75,863	22,863	-53,000
SPACE BASED INFRARED SYSTEM (SBIRS) HIGH EMD	508,448	599,448	+91,000
MILSTAR LDR/MDR SATELLITE COMMUNICATIONS (SPACE)	1,380	1,380	---
MUNITIONS DISPENSER DEVELOPMENT	28,048	28,048	---
ARMAMENT/ORDNANCE DEVELOPMENT	8,353	8,353	---
SUBMUNITIONS	4,824	5,824	+1,000
AGILE COMBAT SUPPORT	10,053	12,053	+2,000
LIFE SUPPORT SYSTEMS	6,630	14,630	+8,000
COMBAT TRAINING RANGES	18,714	18,714	---
INTEGRATED COMMAND & CONTROL APPLICATIONS (IC2A)	258	12,758	+12,500
INTELLIGENCE EQUIPMENT	1,349	6,849	+5,500
COMMON LOW OBSERVABLES VERIFICATION SYSTEM (CLOVERS)	10,303	10,303	---
JOINT STRIKE FIGHTER (JSF) - EMD	2,307,420	2,199,420	-108,000
INTERCONTINENTAL BALLISTIC MISSILE - EMD	91,687	91,687	---
EVOLVED EXPENDABLE LAUNCH VEHICLE PROGRAM (SPACE)	27,000	27,000	---
RDT&E FOR AGING AIRCRAFT	15,665	20,665	+5,000
UNMANNED COMBAT AIR VEHICLE JOINT PROGRAM OFFICE	2,911	---	-2,911
LINK-16 SUPPORT AND SUSTAINMENT	141,012	140,212	-800
FAMILY OF INTEROPERABLE OPERATIONAL PICTURES (FIOP)	44,947	49,947	+5,000
MULTI-SENSOR C2 AIRCRAFT (MC2A)	538,860	458,860	-80,000
FULL COMBAT MISSION TRAINING	5,894	5,894	---
CV-22	16,439	16,439	---
TOTAL, ENGINEERING & MANUFACTURING DEVELOPMENT	4,708,025	4,595,814	-112,211

(DOLLARS IN THOUSANDS)

	BUDGET REQUEST	COMMITTEE RECOMMENDED	CHANGE FROM REQUEST
RDT&E MANAGEMENT SUPPORT			
THREAT SIMULATOR DEVELOPMENT	34,517	34,517	---
MAJOR T&E INVESTMENT	58,933	67,233	+8,300
RAND PROJECT AIR FORCE	24,970	24,970	---
RANCH HAND II EPIDEMIOLOGY STUDY	4,813	4,813	---
INITIAL OPERATIONAL TEST & EVALUATION	28,839	32,839	+4,000
TEST AND EVALUATION SUPPORT	356,266	357,266	+1,000
ROCKET SYSTEMS LAUNCH PROGRAM (SPACE)	7,984	22,984	+15,000
SPACE TEST PROGRAM (STP)	44,521	44,521	---
FACILITIES RESTORATION & MODERNIZATION - TEST & EVAL	58,936	58,936	---
FACILITIES SUSTAINMENT - TEST AND EVALUATION SUPPORT	23,067	23,067	---
GENERAL SKILL TRAINING	323	323	---
JUDGMENT FUND REIMBURSEMENT	100,000	100,000	---
INTERNATIONAL ACTIVITIES	3,945	3,945	---
TOTAL, RDT&E MANAGEMENT SUPPORT	747,114	775,414	+28,300
OPERATIONAL SYSTEMS DEVELOPMENT			
ANTI-TAMPER TECHNOLOGY EXECUTIVE AGENCY	7,858	7,858	---
B-52 SQUADRONS	25,766	33,766	+8,000
ADVANCED CRUISE MISSILE	7,740	7,740	---
AIR-LAUNCHED CRUISE MISSILE (ALCM)	11,837	11,837	---
STRAT WAR PLANNING SYSTEM - USSTRATCOM	23,391	23,391	---
NIGHT FIST - USSTRATCOM	4,987	4,987	---
ADVANCED STRATEGIC PROGRAMS	8,393	8,393	---
REGION/SECTOR OPERATION CONTROL CENTER MODERNIZATION	19,047	19,047	---
WARFIGHTER RAPID ACQUISITION PROCESS (WRAP) RAPID TRAN	24,935	24,935	---
A-10 SQUADRONS	22,590	22,590	---
F-16 SQUADRONS	99,606	99,606	---
F-15E SQUADRONS	115,246	136,446	+21,200
MANNED DESTRUCTIVE SUPPRESSION	16,976	16,976	---
F-22 SQUADRONS	354,528	344,528	-10,000
F-117A SQUADRONS	29,661	29,661	---
TACTICAL AIM MISSILES	5,558	3,058	-2,500
ADVANCED MEDIUM RANGE AIR-TO-AIR MISSILE (AMRAAM)	33,266	33,266	---
COMBAT RESCUE AND RECOVERY	12,342	12,342	---

(DOLLARS IN THOUSANDS)

	BUDGET REQUEST	COMMITTEE RECOMMENDED	CHANGE FROM REQUEST
AF TENCAP	10,673	15,673	+5,000
SPECIAL EVALUATION PROGRAM	199,040	199,040	---
COMPASS CALL	3,990	3,990	---
AIRCRAFT ENGINE COMPONENT IMPROVEMENT PROGRAM	165,609	165,609	---
CSAF INNOVATION PROGRAM	1,879	1,879	---
JOINT AIR-TO-SURFACE STANDOFF MISSILE (JASSM)	45,777	45,777	---
AEROSPACE OPERATIONS CENTER (AOC)	27,695	27,695	---
CONTROL AND REPORTING CENTER (CRC)	11,634	11,634	---
AIRBORNE WARNING AND CONTROL SYSTEM (AWACS)	288,787	288,787	---
ADVANCED COMMUNICATIONS SYSTEMS	20,066	20,066	---
EVALUATION AND ANALYSIS PROGRAM	---	3,000	+3,000
ADVANCED PROGRAM TECHNOLOGY	249,391	249,391	---
THEATER BATTLE MANAGEMENT (TBM) C4I	37,210	37,210	---
FIGHTER TACTICAL DATA LINK	50,976	50,976	---
BOMBER TACTICAL DATA LINK	120,256	81,256	-39,000
C2ISR TACTICAL DATA LINK	25,441	25,441	---
MC2C (MULTI-SENSOR COMMAND AND CONTROL CONSTELLATION)	44,035	44,035	---
JOINT SURVEILLANCE AND TARGET ATTACK RADAR SYSTEM	89,247	89,247	---
SEEK EAGLE	23,159	23,159	---
ADVANCED PROGRAM EVALUATION	474,734	434,734	-40,000
USAF MODELING AND SIMULATION	18,693	18,693	---
WARGAMING AND SIMULATION CENTERS	6,377	7,377	+1,000
MISSION PLANNING SYSTEMS	136,701	106,701	-30,000
INFORMATION WARFARE SUPPORT	7,230	7,230	---
E-4B NATIONAL AIRBORNE OPERATIONS CENTER (NAOC)	11,172	11,172	---
MINIMUM ESSENTIAL EMERGENCY COMMUNICATIONS NETWORK	33,183	33,183	---
INFORMATION SYSTEMS SECURITY PROGRAM	79,625	86,625	+7,000
GLOBAL COMBAT SUPPORT SYSTEM	18,637	22,637	+4,000
GLOBAL COMMAND AND CONTROL SYSTEM	3,611	3,611	---
MILSATCOM TERMINALS	272,149	272,149	---
GLOBAL AIR TRAFFIC MANAGEMENT (GATM)	7,291	7,291	---
SATELLITE CONTROL NETWORK (SPACE)	17,833	17,833	---
WEATHER SERVICE	16,526	16,526	---
AIR TRAFFIC CONTROL, APPROACH, AND LANDING SYSTEM (ATC	7,371	7,371	---

(DOLLARS IN THOUSANDS)

	BUDGET REQUEST	COMMITTEE RECOMMENDED	CHANGE FROM REQUEST
AERIAL TARGETS	5,178	5,178	---
SECURITY AND INVESTIGATIVE ACTIVITIES	484	484	---
AIR FORCE TACTICAL MEASUREMENT AND SIGNATURE INTELLIGE	7,905	9,905	+2,000
DEFENSE RECONNAISSANCE SUPPORT ACTIVITIES (SPACE)	219,345	189,345	-30,000
NAVSTAR GLOBAL POSITIONING SYSTEM (USER EQUIPMENT)	104,114	104,114	---
NAVSTAR GLOBAL POSITIONING SYSTEM (SPACE AND CONTROL)	148,344	148,344	---
SPACE WARFARE CENTER	411	411	---
SPACELIFT RANGE SYSTEM (SPACE)	47,253	51,253	+4,000
PERSONNEL SECURITY INVESTIGATIONS PROGRAM - AIR FORCE	118,787	118,787	---
INTELLIGENCE SUPPORT TO INFORMATION OPERATIONS (IO)	1,097	1,097	---
DRAGON U-2 (JMIP)	87,745	87,745	---
AIRBORNE RECONNAISSANCE SYSTEMS	55,464	55,464	---
MANNED RECONNAISSANCE SYSTEMS	13,283	23,283	+10,000
DISTRIBUTED COMMON GROUND SYSTEMS	21,232	22,232	+1,000
PREDATOR UAV (JMIP)	81,346	84,346	+3,000
GLOBAL HAWK UAV (JMIP)	336,159	315,259	-20,900
INTELLIGENCE SUPPORT TO INFORMATION WARFARE	963	963	---
NCMC - TW/AA SYSTEM	64,822	64,822	---
SPACETRACK (SPACE)	161,838	124,838	-37,000
NUDET DETECTION SYSTEM (SPACE)	35,398	35,398	---
SPACE ARCHITECT	12,907	12,907	---
SHARED EARLY WARNING (SEW)	3,345	3,345	---
C-130 AIRLIFT SQUADRON	150,242	153,242	+3,000
C-5 AIRLIFT SQUADRONS	332,982	332,982	---
C-17 AIRCRAFT	199,692	202,692	+3,000
C-130J PROGRAM	36,305	36,305	---
LARGE AIRCRAFT IR COUNTERMEASURES (LAIRCM)	73,684	73,684	---
KC-135S	1,079	1,079	---
KC-10S	18,452	---	-18,452
SPECIAL TACTICS / COMBAT CONTROL	1,067	1,067	---
DEPOT MAINTENANCE (NON-IF)	1,431	1,431	---
ACQUISITION AND MANAGEMENT SUPPORT	1,596	1,596	---
INDUSTRIAL PREPAREDNESS	38,012	56,012	+18,000

(DOLLARS IN THOUSANDS)

	BUDGET REQUEST	COMMITTEE RECOMMENDED	CHANGE FROM REQUEST
LOGISTICS SUPPORT ACTIVITIES	---	1,000	+1,000
SUPPORT SYSTEMS DEVELOPMENT	50,238	67,738	+17,500
OTHER PERSONNEL ACTIVITIES	110	110	---
CIVILIAN COMPENSATION PROGRAM	7,272	7,272	---
FINANCIAL MANAGEMENT INFORMATION SYSTEMS DEVELOPMENT	15,732	15,732	---
TOTAL, OPERATIONAL SYSTEMS DEVELOPMENT	5,805,039	5,688,887	-116,152
CLASSIFIED PROGRAMS	5,551,279	5,626,579	+75,300
TOTAL, RESEARCH, DEVELOPMENT, TEST & EVAL, AF	21,114,667	21,033,622	-81,045

RESEARCH, DEVELOPMENT, TEST AND EVALUATION, DEFENSE-WIDE

Fiscal year 2004 appropriation	$18,900,715,000
Fiscal year 2005 budget request	20,739,837,000
Committee recommendation	20,851,271,000
Change from budget request	+111,434,000

The appropriation provides funds for the research, development, test and evaluation activities of the Department of Defense for Defense-Wide activities.

COMMITTEE RECOMMENDATION

The Committee recommends an appropriation of $20,851,271,000 for Research, Development, Test and Evaluation, Defense-Wide. The following report and project level tables provide a summary of the Committee's recommendation.

EXPLANATION OF PROJECT LEVEL ADJUSTMENTS
[In thousands of dollars]

R-1		Budget Request	Committee Recommended	Change from Request
2	**DEFENSE RESEARCH SCIENCES**	**143,729**	**168,729**	**+25,000**
	Spin Electronics		19,000	
	Comparative Genomics for National Security Goals		3,000	
	Nano-photonics Systems Fabrication		3,000	
3	**UNIVERSITY RESEARCH INITIATIVES**	**0**	**8,500**	**+8,500**
	MEMS Sensors for Rolling Element Bearing		2,000	
	Smart Responsive Nancomposite Systems		4,000	
	Cognitive Wireless Networks		1,000	
	Global Infrasound Monitoring of the Atmosphere		1,500	
6	**GOVERNMENT/INDUSTRY COSPONSORSHIP OF UNIVERSITY RESEARCH**	**0**	**8,000**	**+8,000**
	Focus Center Research Program		8,000	
8	**CHEMICAL AND BIOLOGICAL DEFENSE PROGRAM**	**36,769**	**50,019**	**+13,250**
	National Center for Biodefense		1,000	
	Fluorescence Activated Sensing Technology (FAST) Integrated Threat Management System		4,000	
	Research to Discover Neutralizing Antibodies to Mycotoxins		250	
	Bug to Drug		6,000	
	New York Structural Biology Center		2,000	
10	**HISTORICALLY BLACK & HISPANIC SERVING INSTITUTE SCIENCES**	**14,192**	**19,192**	**+5,000**
	Hispanic Serving Institution RDT&E Project Grants		5,000	
12	**COMPUTING SYSTEMS AND COMMUNICATIONS TECHNOLOGY**	**342,614**	**345,614**	**+3,000**
	NASEC Through Wall Radar Imaging		3,000	
14	**BIOLOGICAL WARFARE DEFENSE**	**147,533**	**156,533**	**+9,000**
	Center for Tropical Disease Research and Training		3,000	
	Chemically Programmable Immunity		1,000	
	Asymmetric Protocols for Biological Defense		4,000	
	Center for Water Security-Aquatic Technology and Environmental Research		1,000	
15	**CHEMICAL AND BIOLOGICAL DEFENSE PROGRAM**	**104,385**	**167,885**	**+63,500**
	Low-cost Automated Gas Chromatograph/Flame Photometric Detector System		3,000	
	Air Contaminant Monitoring System - SCAQMD		1,000	
	Future Force Warrior Program - Nanowire Mesh Fabrics for Chem-Bio Agent Defense		1,000	
	Real Time Non-specific Viral Agent Detection		2,000	
	LSH-SAW Hand-held Biosensor		3,000	
	Agent Fate Program		2,000	
	Zumwalt Program for Countermeasures to Biological and Chemical Threats		4,000	
	Integrated Biodefense Research		2,000	
	Technology for the Protection of Water and Air Systems		2,000	
	Systems for Sampling and Detecting Bioaerosols		3,000	

R-1		Budget Request	Committee Recommended	Change from Request
	Bio-Chem Vaporous Hydrogen Peroxide Decon for Military Aircraft and Equipment		3,000	
	Rapid Response Deployable Vaporous Hydrogen Peroxide Bio-Chem		1,000	
	Low-cost Chem-Bio Protective Shelter Development		5,000	
	Chem-Bio Protective Suit Membrane Research		5,000	
	IMS Sample Concentration and Bioagent Detection		1,000	
	Agent Detection and Neutralization System (AFSOC)		1,000	
	Global Pathogen Portal		2,000	
	Alternative Delivery Methods for Recombinant Protein Vaccines		1,000	
	Epidemic Outbreak Surveillance/Biosurveillance Data Warehouse		1,000	
	Heat Shock Protein Rapid Vaccine		3,000	
	Heteropolymer Anthrax Monoclonal Antibody		1,000	
	Multi-Purpose Biodefense Immunoarray		1,500	
	Rapid Antibody-Based Biological Countermeasures (RABB-C)		2,000	
	Early Warning and Detection Program		1,000	
	Remote Optical Sensing Program		1,000	
	Virginia Bioinformatic Institute		5,000	
	Genetic Reassortment by Mismatched Repair-Enhanced Acute Biowarfare Therapy Program		2,000	
	Bioinformatics Research		2,000	
	Mustard Gas Antidote Research		2,000	
16	**TACTICAL TECHNOLOGY**	**339,175**	**342,175**	**+3,000**
	National Cyber Security Center		1,000	
	Tactical Awareness for Friend or Foe		2,000	
17	**MATERIALS AND ELECTRONICS TECHNOLOGY**	**502,044**	**518,544**	**+16,500**
	Center for Optoelectronics and Optical Communications		5,000	
	Cryo-Power Electronics Development for the All-Electric Ship Program		2,500	
	MMI/MBI Nanotechnology Solutions		4,000	
	SEMATECH		5,000	
18	**WMD DEFEAT TECHNOLOGY**	**249,786**	**255,786**	**+6,000**
	Xenon Filled Gamma Ray Detectors		1,000	
	Center for Nonproliferation Studies		1,000	
	Force Protection Applied Technology		3,000	
	Center for Blast Mitigation Protection		1,000	
19	**STRATEGIC DEFENSE TECHNOLOGIES**	**116,113**	**117,113**	**+1,000**
	Integrated WMD Detection Network		1,000	
24	**MEDICAL ADVANCED TECHNOLOGY**	**2,063**	**6,563**	**+4,500**
	Ex-Rad Radiation Protection Program		3,000	
	Computer-Aided Detection and Diagnosis of Breast Cancer		1,500	
26	**SO/LIC ADVANCED DEVELOPMENT**	**32,682**	**34,682**	**+2,000**
	Wide Area Surveillance System (WASS)		2,000	

R-1		Budget Request	Committee Recommended	Change from Request
27	**COMBATING TERRORISM TECHNOLOGY SUPPORT**	**46,719**	**93,819**	**47,100**
	Counter-Terrorism - Intelligence Surveillance Reconnaissance System (CT-ISR)		2,500	
	Early Responder Distance Learning Center		2,600	
	Asymmetric Warfare Initiative		6,500	
	Collaborative and Virtual Reality Training Pilot		3,000	
	Collaborative First Responder Training		1,000	
	3D Facial Recognition Technology		1,000	
	Distributed Intrinsic Chemical Agent Sensing and Transmission		5,000	
	WMD Emergency Responder Training at the National Terrorism Preparedness Institute		3,500	
	CBRNE Force Response Element - Education, Development, Operations, and Mitigation (FREEDOM)		3,000	
	Technical Support Working Group		5,000	
	Facility Security		8,000	
	Remote Detection of Concealed Explosives (Note: Only for development and implementation of the Remote Detection of Concealed Explosives Program)		1,000	
	Security Perimeter Awareness Network (SPAN)		2,000	
	Advanced Robotic Vehicle Development		3,000	
28	**COUNTERPROLIFERATION ADVANCED DEVELOPMENT TECHNOLOGIES**	**74,456**	**76,456**	**2,000**
	Advanced Materials Research for Nuclear Detection Counter-proliferation (Note: Continuation only for mercuric iodide research)		2,000	
29	**BALLISTIC MISSILE DEFENSE TECHNOLOGY**	**204,320**	**196,320**	**-8,000**
	MKV Technology		-25,000	
	Army Counterspace Technology (ACT) Testbed		10,000	
	Advanced Processing Architecture		2,000	
	Next-Again-Generation Radiation Hard CMOS		2,000	
	Ultra-Thin Integrated Electronics Miniaturization Trusted Foundry		3,000	
32	**ADVANCED AEROSPACE SYSTEMS**	**361,067**	**364,067**	**3,000**
	Improving Sub-orbital Space Operations		3,000	
33	**CHEMICAL AND BIOLOGICAL DEFENSE PROGRAM - ADVANCED DEVELOPMENT**	**117,343**	**176,843**	**59,500**
	Adaptation Gaseous and Liquid Technology Decontamination		2,000	
	Protection Against Toxic Industrial Chemical		1,000	
	Rapid Response Database Systems Center		1,000	
	Advanced Engineered Enzyme Decontamination Systems		3,000	
	Hand Held Biological Agent Detection (HBAD)		2,000	
	Dual Use Detection Technology for Sick Building Syndrome		1,000	
	Rapid Response Bio-Chem Decon, Liquid and Dry (Decon Green)		3,500	
	Detecting Contaminants in Drinking Water		4,000	
	E-Smart Threat Agent Network		6,000	
	Center for Applied Science and Engineering for Expanded Development of Advanced Manufacturing Technologies		8,000	

R-1		Budget Request	Committee Recommended	Change from Request
	Center for BioDefense		1,000	
	Removal of NBC Agents in Drinking Water		4,000	
	Bioterrorism Preparedness		4,000	
	Industry-Based Research to Miniaturize Chemical and Biological Detectors (Continuation only)		2,000	
	National Testbed for Rescue Robotics		1,000	
	Countermeasures to Chemical and Biological Defense/Rapid Response		10,000	
	Hand-held Biosensor and Continuous Monitor for Biodetection		4,000	
	Polymer-Based Bio-Mems		2,000	
34	**JOINT UNMANNED COMBAT AIR SYSTEMS (J-UCAS) ADVANCED TECHNOLOGY DEVELOPMENT AND RESEARCH**	**284,617**	**449,617**	**165,000**
	Program Adjustment		165,000	
35	**SPECIAL TECHNICAL SUPPORT**	**0**	**6,000**	**6,000**
	MultiView: Data Standards for Integrated Digital Environmental		6,000	
37	**GENERIC LOGISTICS R&D TECHNOLOGY DEMONSTRATIONS**	**27,542**	**107,792**	**80,250**
	New England Manufacturing Supply Chain		4,000	
	Superlattice Nanotechnology		4,000	
	Emerging/Critical Interconnection Technology Program		3,000	
	Long Term Support of Microelectronic Technology Research		7,000	
	Advanced Microelectronics Feature Size Migration		2,000	
	Advanced Microelectronics Yield Enhancement		2,000	
	Distributed Inventory Management System		1,250	
	Ferrite Technology		3,000	
	Connectory for Rapid Identification of Technology Sources for DoD		2,000	
	DMS Center of Excellence Program		1,000	
	Spray Cooling Migration Program		9,000	
	High Temperature Superconducting Transceiver Program		1,000	
	Optical Manufacturing for Extreme Ultraviolet (EUV) Lithography (Note: Only to establish an extreme ultra violet optical manufacturing capability in the USA)		3,500	
	California Center for Nanocience Innovation for Defense (CalCNID)		10,000	
	Miniature Tunable RF Front End (Note: To develop a complete suite of tunable RF components and salient software for families of miniaturized tunable military RF radio front ends)		3,000	
	Optimized Electronics for Advanced Controlled Environment Systems (ACES)		8,000	

R-1		Budget Request	Committee Recommended	Change from Request
	Secure Digital Coherent Optical Communications (Note: Only to continue and expand the ongoing program)		3,500	
	Ruggedized Military RFID Tags (Note: Only for ruggedized RFID tags leveraging emerging integrated RF electronics for low power, long range and non-volatility, and implemented with fluidic self assembly to ensure low cost)		4,000	
	California Manufacturing Technology Center (CMTC)		8,000	
	Aging Systems Sustainment and Enabling		1,000	
38	**STRATEGIC ENVIRONMENTAL RESEARCH PROGRAM**	**56,936**	**61,436**	**4,500**
	Institute of Environmental and Human Health Toxic Chemical Cleanup		1,500	
	National Environmental Educational and Training Center		3,000	
40	**ADVANCED ELECTRONICS TECHNOLOGIES**	**218,151**	**224,151**	**6,000**
	Embedded Intelligence: Migrating PreAct Symbolic Constructs into Hardware		4,000	
	Three-dimensional Imaging Technology Development		1,000	
	Crystals Materials for Electro-Optic Imaging and Communication		1,000	
41	**ADVANCED CONCEPT TECHNOLOGY DEMONSTRATIONS**	**213,901**	**224,901**	**11,000**
	Low Cost Autonomous Attack System		2,000	
	Flexible JP-8 (Single Battlefield Fuel) Pilot Plant Program		4,000	
	Remote Unattended Sensing System (RUSS)		1,500	
	SecureD Hardware Encryption Device		2,000	
	Maria Tactical Mapping System		1,500	
42	**HIGH PERFORMANCE COMPUTING MODERNIZATION PROGRAM**	**186,666**	**209,666**	**23,000**
	Data Intensive High Performance Computing		3,000	
	Army High Performance Computing Research Center		15,000	
	High Performance Computer Prototype - Naval Research Lab		5,000	
44	**SENSOR AND GUIDANCE TECHNOLOGY**	**337,117**	**344,617**	**7,500**
	Sandia National Laboratories Intelligent Systems and Robotics Center		3,500	
	360 Degree Portable Surveillance and Reconnaissance Unit		4,000	
49	**DISTRIBUTED LEARNING ADVANCED TECHNOLOGY DEVELOPMENT**	**13,756**	**16,756**	**3,000**
	NetCentric Warrior Training (NetCWT)		3,000	
52	**QUICK REACTION SPECIAL PROJECTS**	**64,389**	**42,926**	**-21,463**
	Defense Acquisition Challenge Program (transferred to BA 5)		-21,463	

R-1		Budget Request	Committee Recommended	Change from Request
55	**TECHNOLOGY LINK**	**1,934**	**7,934**	**6,000**
	Technology Transfer Project		1,000	
	Remote Presense (Note: Only to develop and demonstrate red cell and remote presence technology for transition to joint and first responder applications)		2,000	
	Technology Matching System		3,000	
58	**PHYSICAL SECURITY EQUIPMENT**	**0**	**8,000**	**8,000**
	Persistent Perimeter Security with Unmanned Mobile Sensors		3,000	
	Demonstration and Evaluation of Environmental Management System for Defense Facilities		1,000	
	Security Enhancements through Mobile Devised (SEMD)		4,000	
59	**JOINT ROBOTICS PROGRAM**	**11,771**	**19,771**	**8,000**
	Digital Communicator		1,000	
	Robotics Curriculum Partnership		1,000	
	Under Vehicle Mobile Inspection/Search UGV (ODIS)		5,000	
	Remotely Operated Electronic Ballistic Technology		1,000	
60	**ADVANCED SENSOR APPLICATIONS PROGRAM**	**17,581**	**28,581**	**11,000**
	Ceramics for Next Generation Tactical Laser System		3,000	
	Force Protection - Advanced Tactical Geolocation		3,000	
	Multi-Wavelength Surface Scanning Biologics Sensor		2,000	
	Secure Airborne Freespace Optical Communication		3,000	
62	**ENVIRONMENTAL SECURITY TECHNICAL CERTIFICATION PROGRAM**	**32,546**	**35,046**	**2,500**
	Bio-Remediation Demonstration Project		2,500	
64	**ADVANCED CONCEPTS, EVALUATIONS AND SYSTEMS**	**256,159**	**231,159**	**-25,000**
	Reduce programmed growth		-25,000	
66	**BALLISTIC MISSILE DEFENSE TERMINAL DEFENSE**	**937,748**	**876,248**	**-61,500**
	System Level Program Management		-31,500	
	Flight test schedule slip		-30,000	
67	**BALLISTIC MISSILE DEFENSE MIDCOURSE DEFENSE SEGMENT**	**4,384,775**	**4,369,775**	**-15,000**
	Long lead materials for interceptors #31-40		-35,000	
	S-Band Advanced Radar (SBAR) Algorithm Research and Analysis in Support of MDA-Specific Applications		20,000	
68	**BALLISTIC MISSILE DEFENSE BOOST DEFENSE SEGMENT**	**492,614**	**495,614**	**3,000**
	Combined Environment Radiation Effects Simulator		3,000	
70	**BALLISTIC MISSILE DEFENSE SENSORS**	**591,957**	**594,957**	**3,000**
	Airborne Infrared Surveillance (AIRS) System		3,000	
71	**BALLISTIC MISSILE DEFENSE SYSTEM INTERCEPTOR**	**511,262**	**398,262**	**-113,000**
	Deployment study		-45,000	
	NFIRE		-68,000	

R-1		Budget Request	Committee Recommended	Change from Request
73	**BALLISTIC MISSILE DEFENSE PRODUCTS**	**418,608**	**388,608**	**-30,000**
	Reduce programmed growth		-30,000	
74	**BALLISTIC MISSILE DEFENSE SYSTEMS CORE**	**479,764**	**310,264**	**-169,500**
	Excessive Overhead Costs		-175,000	
	Electro-Optic Components for Missile Defense		1,500	
	Sensor Electronics Life Cycle Cost Reduction		3,000	
	Wide Bandwidth Technology (WBT)		1,000	
78	**JOINT UNMANNED COMBAT AIR SYSTEMS (J-UCAS) ADVANCED COMPONENT AND PROTOTYPE DEVELOPMENT**	**422,873**	**260,784**	**-162,089**
	Program Adjustment		-162,089	
80	**REDUCTION OF TOTAL OWNERSHIP COST**	**27,351**	**10,351**	**-17,000**
	Unjustified Program		-17,000	
82	**CHEMICAL AND BIOLOGICAL DEFENSE PROGRAM - EMD**	**152,379**	**187,879**	**35,500**
	Chem Bio Defense Initiative		25,000	
	Passive Materials for Chemical and Biological Agent Decontamination		2,000	
	Joint Biological Point Detection		1,500	
	Joint Warning and Reporting Network (JWARNS)		3,000	
	Laser Interrogation of Surface Agents		1,000	
	Array Biosensor Biological Agent Detection System Implementation		3,000	
83	**MANPADS DEFENSE PROGRAM**	**14,135**	**9,635**	**-4,500**
	Program Reduction		-6,500	
	Counter ManPads Airspace Protection System		2,000	
84	**JOINT ROBOTICS PROGRAM - EMD**	**13,845**	**28,845**	**15,000**
	Joint Robotics Initiative		12,000	
	National Center for Defense Robotics		3,000	
93	**FINANCIAL MANAGEMENT SYSTEM IMPROVEMENTS**	**94,767**	**49,767**	**-45,000**
	Reduce Programmed Growth		-45,000	
95	**INFORMATION SYSTEMS SECURITY PROGRAM**	**2,493**	**6,993**	**4,500**
	JITC Information Assurance Trend/Metric Analysis Support		2,500	
	Center for Secure Telecommunications		2,000	
97	**JOINT COMMAND AND CONTROL PROGRAM (JC2)**	**3,000**	**4,500**	**1,500**
	Internet Protocol Version 6		1,500	
	DEFENSE ACQUISITION CHALLENGE PROGRAM (transferred from BA 4)		**26,463**	**26,463**
	DACP		5,000	
101	**SPECIAL TECHNICAL SUPPORT**	**19,274**	**27,274**	**8,000**
	Classified adjustment		8,000	
104	**UNEXPLODED ORDNANCE DETECTION AND CLEARANCE**	**0**	**5,000**	**5,000**
	Project Renew		5,000	

R-1		Budget Request	Committee Recommended	Change from Request
103	**TRANSFORMATION INITIATIVES PROGRAM**	**9,977**	**0**	**-9,977**
	Unjustified Program		-9,977	
108	**TECHNICAL STUDIES, SUPPORT AND ANALYSIS**	**30,618**	**31,618**	**1,000**
	NDU Technology Pilot Program		1,000	
112	**FOREIGN MATERIAL ACQUISITION AND EXPLOITATION**	**35,572**	**37,072**	**1,500**
	Weather Scout UAV		1,500	
116	**CLASSIFIED PROGRAM USD(P)**	**0**	**85,000**	**85,000**
	Classified adjustment		85,000	
118	**SUPPORT TO NETWORKS AND INFORMATION INTEGRATION**	**11,490**	**12,490**	**1,000**
	Command Information Superiority Architectures Program		1,000	
125	**CLASSIFIED PROGRAMS - C3I**	**0**	**25,000**	**25,000**
	Independent Component Analysis Technology for Army GCS (ASRVC2P - Fleet Voice Command and Control)		18,000	
	Foreign Supplier Assessment Center		5,000	
	Advanced Shipboard Acoustical Communications		1,000	
	CIPOC Visual Security Operations Monitoring and Support		1,000	
126	**SMALL BUSINESS INNOVATION RESEARCH/CHALLENGE ADMINISTRATION**	**1,999**	**4,999**	**3,000**
	Electro-Magnetic Flak Impulse Systems Technology		3,000	
128	**FORCE TRANSFORMATION DIRECTORATE**	**19,591**	**44,591**	**25,000**
	Operationally Responsive Satellite		25,000	
133	**INFORMATION TECHNOLOGY RAPID ACQUISITION**	**19,958**	**9,958**	**-10,000**
	Reduce Programmed Growth		-10,000	
137	**MANAGEMENT HEADQUARTERS-BMDO**	**141,923**	**100,023**	**-41,900**
	Reduce Programmed Growth		-41,900	
144	**C4I INTEROPERABILITY**	**41,074**	**44,074**	**3,000**
	System of Systems Engineering Center of Excellence (SOSECE)		3,000	
159	**INFORMATION SYSTEMS SECURITY PROGRAM**	**477,846**	**479,346**	**1,500**
	Center for C+Computer Security		500	
	CyberTA (Note: Only for development of CyberTA program to develop real-time detection of emerging Internet threats and develop solutions to actively guard against cyber-attacks.)		1,000	
167	**SPECIAL APPLICATIONS FOR CONTINGENCIES.**	**20,758**	**22,758**	**2,000**
	Tactical Imagery Communications Unit (TICU)		2,000	
174	**DEFENSE JOINT COUNTERINTELLIGENCE PROGRAM (JMIP)**	**0**	**17,000**	**17,000**
	Defense Joint Counterintelligence Center		17,000	

R-1		Budget Request	Committee Recommended	Change from Request
180	**NET CENTRICITY**	**214,222**	**144,222**	**-70,000**
	Program Growth		-70,000	
192	**INDUSTRIAL PREPAREDNESS**	**11,005**	**37,505**	**+26,500**
	Copper-base Casting Technology Program (C-BCT)		1,000	
	Next Generation Manufacturing Technologies Initiative		1,000	
	Defense Supply Chain Technology		8,000	
	Defense Procurement Technical Assistance Initiative for Small Business		1,500	
	Manufacturing Engineering of Spray Cooling		15,000	
197	**SPECIAL OPERATIONS TECHNOLOGY DEVELOPMENT**	**0**	**5,000**	**+5,000**
	SPIKE Missile Development and Production		5,000	
198	**SPECIAL OPERATIONS ADVANCED TECHNOLOGY DEVELOPMENT**	**0**	**25,500**	**+25,500**
	Snapshot Synthetic Aperture Radar		1,000	
	Battery-free Remote Sensing		2,000	
	ANGELFIRE Active Protection Integrated Sensor/Countermeasure Package		6,000	
	Neptune Maritime Unmanned Aerial Vehicle		2,000	
	Surveillance Augmentation Vehicle-Insertable on Request		1,000	
	Remote Video Weapon Sight		2,000	
	Advanced Multi-purpose Microdisplay System		3,000	
	Compact Three-Dimensional Imaging		1,000	
	Autonomous Navigation Sensor Suites		1,500	
	Foliage Penetrating Solid State Synthetic Aperture Radar		6,000	
199	**SPECIAL OPERATIONS TACTICAL SYSTEMS DEVELOPMENT**	**311,966**	**369,566**	**+57,600**
	Multi-Role, Anti-Armor, Anti-Personnel Weapon System (MAAWS) Multi-Target Warhead		4,000	
	Mark V Patrol Boat Replacement Craft Prototype		5,000	
	Tactical Systems Development for a SOF Covert Waveform Program		1,000	
	Sensor Integration with Lithium Polymer Batteries		5,000	
	MBITR Blue Force Tracking capability		4,000	
	Tactical Communication Systems Testbed Initiative		3,000	
	Next Generation Navigation System		1,000	
	SOCOM Rotary Wing UAV (Note: only for procurement of not fewer than seven prototype aircraft and for extensive TAFT/TTP development)		32,000	
	ASDS Restructure		12,600	
	Under Execution		-10,000	
200	**SPECIAL OPERATIONS INTELLIGENCE SYSTEMS DEVELOPMENT**	**25,015**	**37,015**	**+12,000**
	Only for the UAV Near Real Time Video Program		2,000	
	Only for Optimal Placement of Unattended Sensors		1,000	
	Special Operations Joint Interagency Collaboration Center Support Data Site		3,000	
	Special Operations Forces Teletraining System		1,000	
	Multipurpose Antenna, X-Band (SMAX)		2,000	
	SOCOM Microelectromechanical Systems and Nanotechnology		3,000	

R-1		Budget Request	Committee Recommended	Change from Request
202	**SOF OPERATIONAL ENHANCEMENTS**	**57,643**	**74,343**	**16,700**
	Only for development of enhancements to Digital Intelligence Situation Mapboards		1,000	
	Tactical Radio Frequency Environment Monitor (TREX)		1,000	
	Tactical Surveillance Equipment Integrated Remote Video Surveillance		3,700	
	Force Protection Electronic Attack Systems		6,000	
	CSWAN (Note: only for the Covert Self-Organizing Wireless Adhoc Network initiated under SBIR A02-105)		5,000	
999	**CLASSIFIED PROGRAMS**	**3,578,082**	**3,461,582**	**-116,500**
			-116,500	

COMPARATIVE GENOMICS FOR NATIONAL SECURITY GOALS

The Committee recommendation includes an additional $3,000,000 in DARPA's Defense Research Sciences line-item only to research novel computational approaches to biological processes with application to other problems of extreme computational complexity. These funds are also available only to enhance understanding of the evolution and transmission of pathogenicity, contributing to better identification and inactivation of pathogens and the development of effective countermeasures. The Committee encourages the Department of Defense to examine these innovative research methods and incorporate funding in the fiscal year 2006 and subsequent budget requests to continue this research.

OPERATIONALLY RESPONSIVE SATELLITE

The Committee has provided an additional $25,000,000 to the Force Transformation Directorate only for the Operationally Responsive Satellite program. The Committee notes that the program has been authorized in both the House and Senate. The Committee fully supports the program objectives as discussed in both the House and Senate authorization reports. The Committee sees great promise that this approach could provide transformational space-based capabilities to warfighters in a timely and cost-effective manner.

CHEMICAL AND BIOLOGICAL DEFENSE PROGRAM

The Committee commends the Department on the execution of the Chem-Bio Defense Initiatives Fund and recommends continuing the program within the Department's Chemical and Biological Defense Program. The Committee's recommendation provides an increase of $25,000,000 for this fund. The Secretary of Defense is directed to allocate these funds among the programs that yield the greatest gain in our chem-bio defensive posture.

CALIFORNIA MANUFACTURING TECHNOLOGY CENTER (CMTC)

The Committee recommends continuing the California Manufacturing Technology Center (CMTC). The Committee's recommendation provides an increase of $8,000,000 only to continue development of efficient processes, techniques and tools to enable small manufacturers to respond to Diminished Manufacturing Sources (DMS) and to reduce costs with automatic and computer-based systems technology.

DEFENSE ACQUISITION CHALLENGE PROGRAM

The budget requests $21,463,000 for the Defense Acquisition Challenge Program in the Quick Reaction Special Projects Advanced Technology Development program element. The Committee believes the focus of this program should be less on new technology development and more on identifying and inserting innovative technologies quickly into the Department of Defense's weapon systems. Accordingly, the Committee has eliminated $21,463,000 from the budget request, and has instead provided $26,463,000 as a new program element line in Research, Development and Evaluation,

Defense-Wide Budget Activity 5 (Engineering and Manufacturing Development), an increase of $5,000,000 above the request.

BUSINESS MANAGEMENT MODERNIZATION PROGRAM

The budget requested $235,700,000 for the Business Management Modernization Program (BMMP), an increase of $108,200,000 over the fiscal year 2004 appropriation. The Committee recommends $138,452,000, a decrease of $97,248,000.

Based on concerns discussed in the Information Technology section of this report, the Committee has adjusted amounts available for BMMP for fiscal year 2005 to be applied as follows:

[In thousands of dollars]

Operation and Maintenance, Defense-Wide, BMMP	−7,000
Operation and Maintenance, Defense-Wide, BMMP Domains	−15,000
Procurement, Defense-Wide, BMMP Domain Procurement Systems	−30,248
Research, Development, Test and Evaluation, Defense-Wide, BMMP	−45,000

BALLISTIC MISSILE DEFENSE SYSTEM (BMDS) SUMMARY

The budget request includes $10,170,677,000 for missile defense programs, an increase of $1,090,311,000 over the fiscal year 2004 appropriation. The Committee recommends $9,712,777,000, a reduction of $457,900,000.

Within the total requested for fiscal year 2005, $9,146,672,000 is for the programs managed directly by the Missile Defense Agency (MDA). With respect to the MDA request, the Committee recommends $8,688,772,000, a reduction of $457,900,000. While the funding recommended is a reduction from the budget request, the Committee notes that, with respect to all missile defense programs, the recommended amount is $632,411,000 above that enacted in fiscal year 2004, with MDA programs funded at $977,088,000 above fiscal year 2004.

The Committee strongly supports the efforts of the Administration to field a system to provide an initial defense capability beginning in September 2004. To this end, the Committee fully funds that portion of the MDA budget request that provides for Ground Based Midcourse (GMD) programs related to initial defensive operations (IDO), including the provision of launch sites, interceptors, Aegis-class warships, and early warning radars (including continuing development of the Sea-Based X Band radar). The Committee also fully funds plans for forward-based radars and Theater Missile Defense programs such as Patriot, as described elsewhere in this report.

The Committee is concerned about a number of the proposals contained in the fiscal year 2005 budget request. For example, the Department of Defense appears to be rushing toward development of next-generation technologies without fully testing or developing the systems that comprise the current generation. Accordingly, the Committee recommends reductions of $25,000,000 each to both the BMDS—Technology program and the Advanced Concepts, Evaluations and Systems program. The Committee recommends a reduction of $61,500,000 to the Terminal Defense Segment program including $31,500,000 for excessive program management costs, and $30,000,000 because of program schedule delays related to rocket

motor production. The Committee recommends a reduction of $35,000,000 for long lead materials related to BMDS interceptors number 31 through 40 because MDA has failed to identify a suitable launch site. Finally, the Committee believes the level of funding requested for the national team efforts remains excessive. The Committee recognizes the work of the national team is essential to successful deployment of the integrated, layered missile defense system envisioned by DoD. However, the justification materials accompanying the budget request fail to provide an adequate basis for the requested level of funding. Accordingly, the Committee recommends reductions totaling $205,000,000 to the program elements containing national team funding.

The Committee also recommends rescinding funds provided in previous years. The Committee notes that MDA terminated the RAMOS program in execution of its fiscal year 2004 program, and substantially restructured the Airborne Laser (ABL) program. The Committee recommends a rescission of $31,500,000 due to the termination of the RAMOS program. The Committee is aware that MDA is presently developing plans to complete termination of this program. Accordingly, the Committee would consider a prior approval reprogramming of funds if this proves necessary for the orderly conclusion of this program. The Committee also recommends a rescission of $74,700,000 due to MDA's restructuring of the Airborne Laser program which resulted in termination of plans for the Iron Bird test facility and a second aircraft.

The table below provides a summary of the Committee's recommended funding for fiscal year 2005.

[In thousands of dollars]

Missile Defense Agency Programs:	
Ballistic Missile Defense—Technology	196,320
Advanced Concepts, Evaluations and Systems	231,159
Ballistic Missile Defense—Terminal Defense Segment (THAAD & Arrow)	876,248
BMD Midcourse Defense	4,369,775
BMD Boost Defense—Airborne Laser (ABL)	495,614
Ballistic Missile Defense—Sensors	594,957
Ballistic Missile Defense Interceptors	398,262
Ballistic Missile Defense—Test & Targets	713,658
Ballistic Missile Defense—Products (C2BMC)	388,608
Ballistic Missile Defense—Core (SE&I)	310,264
Pentagon Reservation	13,884
Management Headquarters	100,023
Total MDA Programs	8,688,772
JTAMDO	86,409
Theater Missile Defense Programs:	
Patriot PAC–3 System Summary	489,253
Patriot Modifications	87,948
Patriot Improvements	31,690
MEADS	264,527
Patriot PAC–3 Research & Development	64,178
Total—Theater Missile Defense Programs	937,596
Grand Total	9,712,777

AEGIS MISSILE DEFENSE PROGRAM

The fiscal year 2005 budget request includes $1,072,374,000 for the Aegis element of the Ballistic Missile Defense System (BMDS), and the budget materials reflect a program total of $4,681,115,000 from fiscal year 2003 through 2009. In addition to this robust level of funding, the Missile Defense Agency indicates that the Navy will commit as many as 18 Aegis-class ships to support this program. The Committee supports the continuing development of the Aegis program and has fully funded the Department's request in fiscal year 2005. However, the Committee has concerns about the required level of funding in the outyears to modify ships, provide a stock of SM–3 missiles, and provide for operation and maintenance costs of this element of the BMDS. Accordingly, the Committee directs the Secretary of Defense to submit a report to the congressional defense committees not later than January 31, 2005, that explains the Department's long range plans for the Aegis element of BMDS including the number of vessels that DoD will commit to support Aegis; plans to fund conversion of these vessels for missile defense purposes in future budget submissions; plans to resolve conflicts between Navy support for missile defense missions and other surface combatant missions; and plans to provide for operation and maintenance funding requirements.

BMDS OPERATION AND MAINTENANCE

The Committee notes that the Missile Defense Agency budget in support of the Ground-Based Midcourse (GMD) program contains over $300,000,000 for operation and maintenance related activities of the Ballistic Missile Defense System (BMDS). This includes about $200,000,000 for physical security and force protection, and $104,750,000 for contractor logistical support (CLS) needed to support missile sites upon activation. The budget provides neither an indication of the long-term operation and maintenance costs for the BMDS, nor an expression of DoD's plans to begin budgeting for these costs in the military services' operation and maintenance accounts. Accordingly, the Committee directs the Secretary of Defense to submit a report to the congressional defense committees not later than November 15, 2004, that outlines that Department's plans to program and budget for operation and maintenance costs necessary to keep the BMDS on alert status including manning and operating missile defense sites, maintenance of equipment, and providing for physical security of BMDS assets.

INTEGRATED FLIGHT TEST–13C (IFT–13C)

The Missile Defense Agency is presently finalizing preparations for Integrated Test Flight–13C scheduled for July 2004. The Committee understands this is a critically important test flight not only for the Ground Based Midcourse (GMD) booster and kill vehicle, but also as a test of the Command, Control, Battle Management and Communications (C2BMC) hardware and software. The Committee also notes the importance of this test given its timing with respect to initial defensive operations scheduled for September 2004. Accordingly, the Committee directs that the Director of the Missile Defense Agency provide a report to the congressional de-

fense committees not later than August 15, 2004, in both classified and unclassified form, including a detailed assessment of the results of IFT–13C and any impact these results may have on initial defensive operations.

ADVANCED MULTIPURPOSE MICRODISPLAY SYSTEM

The Committee recommends an increase of $3,000,000 only for development of an eyewear system that incorporates a high resolution display, based on a folded optics engine, that is low profile, first surface and is capable of high optical efficiency with low optical distortion.

PROGRAM RECOMMENDED

The total program recommended in the bill will provide the following in fiscal year 2005.

(DOLLARS IN THOUSANDS)

	BUDGET REQUEST	COMMITTEE RECOMMENDED	CHANGE FROM REQUEST
RESEARCH, DEVELOPMENT, TEST & EVAL, DW			
BASIC RESEARCH			
DEFENSE RESEARCH SCIENCES	143,729	168,729	+25,000
UNIVERSITY RESEARCH INITIATIVES	---	8,500	+8,500
GOVERNMENT/INDUSTRY COSPONSORSHIP OF UNIVERSITY RESEAR	---	8,000	+8,000
DEFENSE EXPERIMENTAL PROGRAM TO STIMULATE COMPETITIVE	9,590	9,590	---
CHEMICAL AND BIOLOGICAL DEFENSE PROGRAM	36,769	50,019	+13,250
TOTAL, BASIC RESEARCH	190,088	244,838	+54,750
APPLIED RESEARCH			
MEDICAL FREE ELECTRON LASER	9,668	9,668	---
HISTORICALLY BLACK & HISPANIC SERVNG INSTITU SCIENCES.	14,192	19,192	+5,000
LINCOLN LABORATORY RESEARCH PROGRAM	25,441	25,441	---
COMPUTING SYSTEMS AND COMMUNICATIONS TECHNOLOGY	342,614	345,614	+3,000
BIOLOGICAL WARFARE DEFENSE	147,533	156,533	+9,000
CHEMICAL AND BIOLOGICAL DEFENSE PROGRAM	104,385	167,885	+63,500
TACTICAL TECHNOLOGY	339,175	342,175	+3,000
MATERIALS AND ELECTRONICS TECHNOLOGY	502,044	518,544	+16,500
WMD DEFEAT TECHNOLOGY	249,786	255,786	+6,000
STRATEGIC DEFENSE TECHNOLOGIES	116,113	117,113	+1,000
MEDICAL TECHNOLOGY	10,084	10,084	---
SPECIAL OPERATIONS TECHNOLOGY DEVELOPMENT	13,109	13,109	---
SOF MEDICAL TECHNOLOGY DEVELOPMENT	2,162	2,162	---
TOTAL, APPLIED RESEARCH	1,876,306	1,983,306	+107,000
ADVANCED TECHNOLOGY DEVELOPMENT			
MEDICAL ADVANCED TECHNOLOGY	2,063	6,563	+4,500
SO/LIC ADVANCED DEVELOPMENT	32,682	34,682	+2,000
COMBATING TERRORISM TECHNOLOGY SUPPORT	46,719	93,819	+47,100
COUNTERPROLIFERATION ADVANCED DEVELOPMENT TECHNOLOGIES	74,456	76,456	+2,000
BALLISTIC MISSILE DEFENSE TECHNOLOGY	204,320	196,320	-8,000
JOINT DOD-DOE MUNITIONS TECHNOLOGY DEVELOPMENT	23,319	23,319	---
ADVANCED AEROSPACE SYSTEMS	361,067	364,067	+3,000
CHEMICAL AND BIOLOGICAL DEFENSE PROGRAM - ADVANCED DEV	117,343	176,843	+59,500
JOINT UNMANNED COMBAT AIR SYSTEMS (J-UCAS) ADVANCED TE	284,617	449,617	+165,000
SPECIAL TECHNICAL SUPPORT	---	6,000	+6,000

(DOLLARS IN THOUSANDS)

	BUDGET REQUEST	COMMITTEE RECOMMENDED	CHANGE FROM REQUEST
GENERIC LOGISTICS R&D TECHNOLOGY DEMONSTRATIONS	27,542	107,792	+80,250
STRATEGIC ENVIRONMENTAL RESEARCH PROGRAM	56,936	61,436	+4,500
JOINT WARFIGHTING PROGRAM	9,936	9,936	---
ADVANCED ELECTRONICS TECHNOLOGIES	218,151	224,151	+6,000
ADVANCED CONCEPT TECHNOLOGY DEMONSTRATIONS	213,901	224,901	+11,000
HIGH PERFORMANCE COMPUTING MODERNIZATION PROGRAM	186,666	209,666	+23,000
COMMAND, CONTROL AND COMMUNICATIONS SYSTEMS	225,784	225,784	---
SENSOR AND GUIDANCE TECHNOLOGY	337,117	344,617	+7,500
LAND WARFARE TECHNOLOGY	63,121	63,121	---
CLASSIFIED DARPA PROGRAMS	238,131	238,131	---
NETWORK-CENTRIC WARFARE TECHNOLOGY	125,124	125,124	---
DISTRIBUTED LEARNING ADVANCED TECHNOLOGY DEVELOPMENT	13,756	16,756	+3,000
SOFTWARE ENGINEERING INSTITUTE	21,599	21,599	---
QUICK REACTION SPECIAL PROJECTS	64,389	42,926	-21,463
JOINT WARGAMING SIMULATION MANAGEMENT OFFICE	46,017	46,017	---
TECHNOLOGY LINK	1,934	7,934	+6,000
COUNTERPROLIFERATION SUPPORT	1,958	1,958	---
SPECIAL OPERATIONS ADVANCED TECHNOLOGY DEVELOPMENT	48,803	48,803	---
TOTAL, ADVANCED TECHNOLOGY DEVELOPMENT	3,047,451	3,448,338	+400,887
DEMONSTRATION & VALIDATION PHYSICAL SECURITY EQUIPMENT	---	8,000	+8,000
JOINT ROBOTICS PROGRAM	11,771	19,771	+8,000
ADVANCED SENSOR APPLICATIONS PROGRAM	17,581	28,581	+11,000
ENVIRONMENTAL SECURITY TECHNICAL CERTIFICATION PROGRAM	32,546	35,046	+2,500
ADVANCED CONCEPTS, EVALUATIONS AND SYSTEMS	256,159	231,159	-25,000
BALLISTIC MISSILE DEFENSE TERMINAL DEFENSE SEGMENT	937,748	876,248	-61,500
BALLISTIC MISSILE DEFENSE MIDCOURSE DEFENSE SEGMENT	4,384,775	4,369,775	-15,000
BALLISTIC MISSILE DEFENSE BOOST DEFENSE SEGMENT	492,614	495,614	+3,000
CHEMICAL AND BIOLOGICAL DEFENSE PROGRAM - DEM/VAL	104,195	104,195	---
BALLISTIC MISSILE DEFENSE SENSORS	591,957	594,957	+3,000
BALLISTIC MISSILE DEFENSE SYSTEM INTERCEPTOR	511,262	398,262	-113,000
BALLISTIC MISSILE DEFENSE TEST & TARGETS	713,658	713,658	---
BALLISTIC MISSILE DEFENSE PRODUCTS	418,608	388,608	-30,000
BALLISTIC MISSILE DEFENSE SYSTEMS CORE	479,764	310,264	-169,500

(DOLLARS IN THOUSANDS)

	BUDGET REQUEST	COMMITTEE RECOMMENDED	CHANGE FROM REQUEST
HUMANITARIAN DEMINING	13,747	13,747	---
COALITION WARFARE	5,886	5,886	---
JOINT UNMANNED COMBAT AIR SYSTEMS (J-UCAS) ADVANCED CO	422,873	260,784	-162,089
REDUCTION OF TOTAL OWNERSHIP COST	27,351	10,351	-17,000
JOINT ELECTROMAGNETIC TECHNOLOGY (JET) PROGRAM	6,679	6,679	---
TOTAL, DEMONSTRATION & VALIDATION	9,429,174	8,871,585	-557,589
ENGINEERING & MANUFACTURING DEVELOPMENT CHEMICAL AND BIOLOGICAL DEFENSE PROGRAM - EMD	152,379	187,879	+35,500
MANPADS DEFENSE PROGRAM	14,135	9,635	-4,500
JOINT ROBOTICS PROGRAM - EMD	13,845	28,845	+15,000
ADVANCED IT SERVICES JOINT PROGRAM OFFICE (AITS-JPO)	18,183	18,183	---
JOINT TACTICAL INFORMATION DISTRIBUTION SYSTEM (JTIDS)	18,515	18,515	---
INFORMATION TECHNOLOGY DEVELOPMENT	10,683	10,683	---
INFORMATION TECHNOLOGY DEVELOPMENT	52,407	52,407	---
INFORMATION TECHNOLOGY DEVELOPMENT-STANDARD PROCUREMEN	6,690	6,690	---
FINANCIAL MANAGEMENT SYSTEM IMPROVEMENTS	94,767	49,767	-45,000
DEFENSE MESSAGE SYSTEM	6,623	6,623	---
INFORMATION SYSTEMS SECURITY PROGRAM	2,493	6,993	+4,500
GLOBAL COMBAT SUPPORT SYSTEM	17,867	17,867	---
JOINT COMMAND AND CONTROL PROGRAM (JC2)	3,000	4,500	+1,500
ELECTRONIC COMMERCE	3,466	3,466	---
ELECTRONIC COMMERCE	2,345	2,345	---
BMMP DOMAIN MANAGEMENT AND SYSTEMS INTEGRATION	7,472	7,472	---
DEFENSE ACQUISITION CHALLENGE PROGRAM	---	26,463	+26,463
TOTAL, ENGINEERING & MANUFACTURING DEVELOPMENT	424,870	458,333	+33,463
RDT&E MANAGEMENT SUPPORT SPECIAL TECHNICAL SUPPORT	19,274	27,274	+8,000
UNEXPLODED ORDNANCE DETECTION AND CLEARANCE	---	5,000	+5,000
TRANSFORMATION INITIATIVES PROGRAM	9,977	---	-9,977
DEFENSE READINESS REPORTING SYSTEM (DRRS)	19,691	19,691	---
JOINT SYSTEMS ARCHITECTURE DEVELOPMENT	4,989	4,989	---
THERMAL VICAR	7,263	7,263	---
TECHNICAL STUDIES, SUPPORT AND ANALYSIS	30,618	31,618	+1,000

(DOLLARS IN THOUSANDS)

	BUDGET REQUEST	COMMITTEE RECOMMENDED	CHANGE FROM REQUEST
CRITICAL TECHNOLOGY SUPPORT	1,937	1,937	---
BLACK LIGHT	21,535	21,535	---
FOREIGN MATERIAL ACQUISITION AND EXPLOITATION	35,572	37,072	+1,500
INTERAGENCY EXPORT LICENSE AUTOMATION	5,882	5,882	---
DEFENSE TRAVEL SYSTEM	28,508	28,508	---
JOINT THEATER AIR AND MISSILE DEFENSE ORGANIZATION	86,409	86,409	---
CLASSIFIED PROGRAM USD(P)	---	85,000	+85,000
FOREIGN COMPARATIVE TESTING	35,633	35,633	---
SUPPORT TO NETWORKS AND INFORMATION INTEGRATION	11,490	12,490	+1,000
GENERAL SUPPORT TO USD (INTELLIGENCE)	4,830	4,830	---
CHEMICAL AND BIOLOGICAL DEFENSE PROGRAM	42,652	42,652	---
CLASSIFIED PROGRAMS - C3I	---	25,000	+25,000
SMALL BUSINESS INNOVATION RESEARCH/CHALLENGE ADMINISTR	1,999	4,999	+3,000
DEFENSE TECHNOLOGY ANALYSIS	7,279	7,279	---
FORCE TRANSFORMATION DIRECTORATE	19,591	44,591	+25,000
DEFENSE TECHNICAL INFORMATION SERVICES (DTIC)	45,203	45,203	---
R&D IN SUPPORT OF DOD ENLISTMENT, TESTING & EVALUATION	10,598	10,598	---
DEVELOPMENT TEST AND EVALUATION	8,882	8,882	---
MANAGEMENT HEADQUARTERS (RESEARCH & DEVELOPMENT) DARP	46,689	46,689	---
INFORMATION TECHNOLOGY RAPID ACQUISITION	19,958	9,958	-10,000
INTELLIGENCE SUPPORT TO INFORMATION OPERATIONS (IO)	12,878	12,878	---
PENTAGON RESERVATION	13,884	13,884	---
MANAGEMENT HEADQUARTERS - MDA	141,923	100,023	-41,900
IT SOFTWARE DEV INITIATIVES	1,700	1,700	---
TOTAL, RDT&E MANAGEMENT SUPPORT	696,844	789,467	+92,623
OPERATIONAL SYSTEMS DEVELOPMENT PARTNERSHIP FOR PEACE (PFP) INFORMATION MANAGEMENT SYS	6,995	6,995	---
CHEMICAL AND BIOLOGICAL DEFENSE (OPERATIONAL SYSTEMS D	2,178	2,178	---
ISLAND SUN	1,663	1,663	---
C4I INTEROPERABILITY	41,074	44,074	+3,000
JOINT ANALYTICAL MODEL IMPROVEMENT PROGRAM	5,577	5,577	---
NATIONAL MILITARY COMMAND SYSTEM-WIDE SUPPORT	1,240	1,240	---
DEFENSE INFO INFRASTRUCTURE ENGINEERING AND INTEGRATIO	2,517	2,517	---
LONG HAUL COMMUNICATIONS (DCS)	11,401	11,401	---

(DOLLARS IN THOUSANDS)

	BUDGET REQUEST	COMMITTEE RECOMMENDED	CHANGE FROM REQUEST
MINIMUM ESSENTIAL EMERGENCY COMMUNICATIONS NETWORK	7,261	7,261	---
INFORMATION SYSTEMS SECURITY PROGRAM	11,135	11,135	---
INFORMATION SYSTEMS SECURITY PROGRAM	477,846	479,346	+1,500
C4I FOR THE WARRIOR	4,177	4,177	---
C4I FOR THE WARRIOR	24,712	24,712	---
GLOBAL COMMAND AND CONTROL SYSTEM	43,693	43,693	---
JOINT SPECTRUM CENTER	18,941	18,941	---
DEFENSE COLLABORATION TOOL SUITE (DCTS)	8,503	8,503	---
NET-CENTRIC ENTERPRISE SERVICES (NCES)	52,059	52,059	---
TELEPORT PROGRAM	10,272	10,272	---
SPECIAL APPLICATIONS FOR CONTINGENCIES	20,758	22,758	+2,000
CRITICAL INFRASTRUCTURE PROTECTION (CIP)	28,021	28,021	---
DEFENSE JOINT COUNTERINTELLIGENCE PROGRAM (JMIP)	32,939	32,939	---
DEFENSE JOINT COUNTERINTELLIGENCE PROGRAM (JMIP)	---	17,000	+17,000
NET CENTRICITY	214,222	144,222	-70,000
INDUSTRIAL PREPAREDNESS	11,005	37,505	+26,500
LOGISTICS SUPPORT ACTIVITIES	11,389	11,389	---
MANAGEMENT HEADQUARTERS (OJCS)	22,421	22,421	---
NATO JOINT STARS	30,399	30,399	---
SPECIAL OPERATIONS TECHNOLOGY DEVELOPMENT	---	5,000	+5,000
SPECIAL OPERATIONS ADVANCED TECHNOLOGY DEVELOPMENT	---	25,500	+25,500
SPECIAL OPERATIONS TACTICAL SYSTEMS DEVELOPMENT	311,966	369,566	+57,600
SPECIAL OPERATIONS INTELLIGENCE SYSTEMS DEVELOPMENT	25,015	37,015	+12,000
SOF OPERATIONAL ENHANCEMENTS	57,643	74,343	+16,700
TOTAL, OPERATIONAL SYSTEMS DEVELOPMENT	1,497,022	1,593,822	+96,800
CLASSIFIED PROGRAMS	3,578,082	3,461,582	-116,500
TOTAL, RESEARCH, DEVELOPMENT, TEST & EVAL, DW	20,739,837	20,851,271	+111,434

OPERATIONAL TEST AND EVALUATION, DEFENSE

Fiscal year 2004 appropriation	$305,861,000
Fiscal year 2005 budget request	305,135,000
Committee recommendation	309,135,000
Change from budget request	+4,000,000

This appropriation funds the Operational Test and Evaluation activities of the Department of Defense.

COMMITTEE RECOMMENDATION

The Committee recommends an appropriation of $309,135,000 for Operational Test and Evaluation, Defense. The following report and project level tables provide a summary of the Committee's recommendation.

EXPLANATION OF PROJECT LEVEL ADJUSTMENTS
[In thousands of dollars]

R-1		Budget Request	Committee Recommendation	Change from Request
2	**CENTRAL TEST AND EVALUATION INVESTMENT DEVELOPMENT**	**123,562**	**127,562**	**+4,000**
	Joint Gulf Range Complex Upgrade		4,000	

PROGRAM RECOMMENDED

The total program recommended in the bill will provide the following in fiscal year 2005.

(DOLLARS IN THOUSANDS)

	BUDGET REQUEST	COMMITTEE RECOMMENDED	CHANGE FROM REQUEST
OPERATIONAL TEST & EVAL, DEFENSE			
ADVANCED TECHNOLOGY DEVELOPMENT			
TEST & EVALUATION SCIENCE & TECHNOLOGY	16,295	16,295	---
TOTAL, ADVANCED TECHNOLOGY DEVELOPMENT	16,295	16,295	---
RDT&E MANAGEMENT SUPPORT			
CENTRAL TEST AND EVALUATION INVESTMENT DEVELOPMENT (CT	123,562	127,562	+4,000
OPERATIONAL TEST AND EVALUATION	42,390	42,390	---
LIVE FIRE TESTING	10,209	10,209	---
DEVELOPMENT TEST AND EVALUATION	112,679	112,679	---
TOTAL, RDT&E MANAGEMENT SUPPORT	288,840	292,840	+4,000
TOTAL, OPERATIONAL TEST & EVAL, DEFENSE	305,135	309,135	+4,000