

(2) A plan for a joint acquisition strategy for small arms modernization with emphasis on a possible near-term competition for a new pistol and carbine;

(3) Analysis of current small arms research and development programs; and

(4) An analysis of any ongoing small arms capability gap assessments being pursued by the individual military services.

Section 143—Requirement for Common Ground Stations and Payloads for Manned and Unmanned Aerial Vehicles

This section would require the Secretary of Defense to establish a policy and acquisition strategy for manned and unmanned vehicle intelligence, surveillance, and reconnaissance payloads and ground stations, to be applicable through the Department of Defense, to achieve integrated research, development, test and evaluation, and procurement commonality.

Payloads included within the policy and acquisition strategy, by vehicle class, would be: signals intelligence; electro-optical; synthetic aperture radar; ground moving target indicator; conventional explosive detection; foliage penetrating radar; laser designator; chemical, biological, radiological, nuclear, explosive detection; and national airspace operations avionics and sensors.

This section would also seek: commonality of ground systems by vehicle class; common management of vehicle and payloads; ground station interoperability standardization; open source software code; acquisition of technical data rights in accordance with section 2320 of title 10, United States Code; and acquisition of vehicles, payloads, and ground stations through competitive procurement.

Classes of vehicles for the purpose of this section are defined as:

(1) Tier II class: vehicles such as Silver Fox and Scan Eagle;

(2) Tactical class: vehicles such as RQ-7;

(3) Medium altitude class: vehicles such as MQ-1, MQ-1C, MQ-5, MQ-8, MQ-9, and Warrior Alpha; and

(4) High Altitude class: vehicles such as RQ-4, RQ-4N, unmanned airship systems, Constant Hawk, Angel Fire, Special Project Aircraft, Aerial Common Sensor, EP-3, Scathe View, Compass Call, and Rivet Joint.

Finally, this section would require a report be provided to the congressional defense committees, the House Permanent Select Committee on Intelligence and the Senate Select Committee on Intelligence within 120 days after the date of enactment of this Act on the policy and acquisition strategy established for intelligence, surveillance, and reconnaissance payloads and ground station to achieve integrated research, development, test and evaluation, and procurement commonality for manned and unmanned systems.

TITLE II—RESEARCH, DEVELOPMENT, TEST, AND EVALUATION

OVERVIEW

The budget request contained \$79.6 billion for research, development, test, and evaluation (RDT&E). The committee recommends \$79.7 billion, an increase of \$109.5 million to the budget request.

Title II-RDT and E
(Dollars in Thousands)

<u>Program Title</u>	<u>FY2009 Request</u>	<u>House Change</u>	<u>House Authorized</u>	<u>Conference House</u>
<u>TITLE II -- RESEARCH, DEVELOPMENT, TEST & EVALUATION</u>				
Research, Development, Test & Evaluation, Army	10,524,085	159,610	10,683,695	10,683,695
Research, Development, Test & Evaluation, Navy	19,337,238	432,500	19,769,738	19,769,738
Research, Development, Test & Evaluation, Air Force	28,066,617	171,732	28,238,349	28,238,349
Research, Development, Test & Evaluation, Defense-wide	21,499,229	-654,350	20,844,879	20,844,879
Operational Test & Evaluation	188,772	0	188,772	188,772
TOTAL RDT&E AUTHORIZATIONS	79,615,941	109,492	79,725,433	79,725,433

ARMY RESEARCH, DEVELOPMENT, TEST, AND EVALUATION

Overview

The budget request contained \$10.5 billion for Army research, development, test, and evaluation (RDT&E).

The committee recommends \$10.7 billion, an increase of \$159.6 million to the budget request.

Title II-RDT and E
(Dollars in Thousands)

<u>Program Element</u>	<u>Line</u>	<u>Program Title</u>	<u>FY2009 Request</u>	<u>House Change</u>	<u>House Authorized</u>
		RESEARCH, DEVELOPMENT, TEST & EVALUATION, ARMY			
		BASIC RESEARCH			
0601101A	1	IN-HOUSE LABORATORY INDEPENDENT RESEARCH	19,832		19,832
0601102A	2	DEFENSE RESEARCH SCIENCES	176,959	4,980	181,939
		Functionally Integrated Reactive Surface Technologies		[2,500]	
		Nanostructured Materials for Photovoltaic Applications		[2,000]	
		Solid State Shelter Lighting System		[480]	
		Nanocrystal Source Display		[1,500]	1,500
0601103A	3	UNIVERSITY RESEARCH INITIATIVES	76,980	5,500	82,480
		Science, Tech, Engineering, Mathematics at Coppin State		[1,000]	
		Program Increase		[4,500]	
0601104A	4	UNIVERSITY AND INDUSTRY RESEARCH CENTERS	105,622		105,622
		SUBTOTAL, BASIC RESEARCH, ARMY	379,393	11,980	391,373
		APPLIED RESEARCH			
0602105A	5	MATERIALS TECHNOLOGY	26,985	4,700	31,685
		Aircraft Skin Repair-Cold Spray		[3,000]	
		Ultrasonic Consolidation for Armor Applications		[1,700]	
0602120A	6	SENSORS AND ELECTRONIC SURVIVABILITY	46,147	9,330	55,477
		Dismounted Soldier Millimeter Wave BTID RF Tag		[2,000]	
		Command, Control, Communications and Computer Module		[1,500]	

Title II-RDT and E
(Dollars in Thousands)

<u>Program Element</u>	<u>Line</u>	<u>Program Title</u>	<u>FY2009 Request</u>	<u>House Change</u>	<u>House Authorized</u>
		Electromagnetic Geolocation		[2,830]	
		Semi-Autonomous or Unattended PsychOp and Recon Tool		[3,000]	
		Cyber Forensics and Tracking Capability Tool		[1,000]	1,000
0602122A	7	TRACTOR HIP	18,192		18,192
0602211A	8	AVIATION TECHNOLOGY	42,013	1,200	43,213
		Intensive Quenching for Advanced Weapons Systems		[1,200]	
0602270A	9	ELECTRONIC WARFARE TECHNOLOGY	16,611	7,000	23,611
		Silver Fox and Manta UAS		[4,000]	
		Knowledge Integration & Management Center of Excellence		[3,000]	
0602303A	10	MISSILE TECHNOLOGY	48,174	2,500	50,674
		Micro Safe and Arm Device for DOD Rocket Systems		[2,500]	
0602307A	11	ADVANCED WEAPONS TECHNOLOGY	19,664		19,664
0602308A	12	ADVANCED CONCEPTS AND SIMULATION	17,048		17,048
0602601A	13	COMBAT VEHICLE AND AUTOMOTIVE TECHNOLOGY	55,234	34,000	89,234
		DOD Hydrogen PEM Fuel Cell Medium		[8,000]	
		Nano-Based, Rust Corrosion-UV Protection System		[300]	
		Fire Resistant Fuels		[4,800]	
		Dual Stage Variable Energy Absorber (DSVEA)		[3,000]	
		Glass Ceramic Armor Technology for Vehicle Survivability		[6,000]	
		Rapid Up-Armor Synthesis and Crashworthiness Design		[2,000]	
		Torque-Vectoring Rollover Prevention Technology		[1,400]	
		Nanofluids for Advanced Mobility		[2,200]	

Title II-RDT and E
(Dollars in Thousands)

<u>Program Element</u>	<u>Line</u>	<u>Program Title</u>	<u>FY2009 Request</u>	<u>House Change</u>	<u>House Authorized</u>
0602618A	14	Tactical Metal Fabrication BALLISTICS TECHNOLOGY / ROBOTICS Unmanned Rotorcraft for Risk Reduction - BIRRRD Globally Accessible Manufacturing and Maintenance Activity	71,550	[6,300] 5,000 [1,500] [3,500]	76,550
0602622A	15	CHEMICAL, SMOKE AND EQUIPMENT DEFEATING TECH	2,295		2,295
0602623A	16	JOINT SERVICE SMALL ARMS PROGRAM	7,531		7,531
0602624A	17	WEAPONS AND MUNITIONS TECHNOLOGY Compact Automated Mechanical Clearance Platform	30,576	3,000 [3,000]	33,576
0602705A	18	ELECTRONICS AND ELECTRONIC DEVICES	45,278		45,278
0602709A	19	NIGHT VISION TECHNOLOGY Power Efficient Microdisplay Development Multi-Threat Detection Initiative MTDI Miniaturized Sensors for Small and Tactical UAV	25,647	10,650 [4,650] [3,000] [3,000]	36,297
0602712A	20	COUNTERMINE SYSTEMS	21,815	5,000	26,815
0602716A	21	Hawaii Undersea Chem Military Munitions Assessment Plan HUMAN FACTORS ENGINEERING TECHNOLOGY LWI Training based Collaborative Initiative	17,348	[5,000] 25,000 [25,000]	42,348
0602720A	22	ENVIRONMENTAL QUALITY TECHNOLOGY Range Scrap Disposal Integrated Enviro Control Sys and Cryogenic Agent Removal	16,064	6,250 [1,250] [5,000]	22,314
0602782A	23	COMMAND, CONTROL, COMMUNICATIONS TECHNOLOGY	24,014		24,014
0602783A	24	COMPUTER AND SOFTWARE TECHNOLOGY	5,495		5,495

Title II-RDT and E
(Dollars in Thousands)

<u>Program Element</u>	<u>Line</u>	<u>Program Title</u>	<u>FY2009 Request</u>	<u>House Change</u>	<u>House Authorized</u>
0602784A	25	MILITARY ENGINEERING TECHNOLOGY	52,066		52,066
0602785A	26	MANPOWER/PERSONNEL/TRAINING TECHNOLOGY	16,412		16,412
0602786A	27	WARFIGHTER TECHNOLOGY	21,948	5,100	27,048
		Advanced Thermal Processing of Packaged Combat Rations		[2,100]	
		Wearable Personal Area Network Technology		[3,000]	
0602787A	28	MEDICAL TECHNOLOGY	75,395	25,500	100,895
		Bio-Engineering for Enhancement of Soldier Survivability		[3,000]	
		Adv Functional Nanomaterials for Biological Processes		[2,500]	
		Depression and Mood Disorders Research		[1,000]	
		Pharmacologic Agents to Reduce Hearing Loss		[1,600]	
		Measuring and Protecting Against Traumatic Brain Injury		[3,000]	
		Minimizing Health Effects of Air Toxics		[1,200]	
		Neuropsychiatric and Post Traumatic Stress Treatment		[1,200]	
		Orthopedic Implant Design and Manufacturing		[2,000]	
		Plasma Technology Laboratory		[1,000]	
		Post Traumatic Stress Disorder Attention Modification		[1,500]	
		Military Photomedicine Program		[6,000]	
		Program increase		[1,500]	
SUBTOTAL, APPLIED RESEARCH, ARMY			723,502	145,230	868,732

Title II-RDT and E
(Dollars in Thousands)

<u>Program Element</u>	<u>Line</u>	<u>Program Title</u>	<u>FY2009 Request</u>	<u>House Change</u>	<u>House Authorized</u>
0603001A	29	ADVANCED TECHNOLOGY DEVELOPMENT WARFIGHTER ADVANCED TECHNOLOGY Ballistic Precision Aerial Delivery System Novel Flame Retardant Nylon Fabrics	46,793	6,800 [4,800] [2,000]	53,593
0603002A	30	MEDICAL ADVANCED TECHNOLOGY Center for Traumatic Injury to the Visual Sys and Brain Controlled Release of Anti-Inflammatory and Tissue Repair Corneal Wound Repair Cardiac Surgery Robotic Computerized Telemanipulation Chronic Tinnitus Treatment Program Clinical Technology Integration for Military Health Composite Tissue Allotransplantation Research Emergency Department Preparedness Project Magnetic Brain Stimulation for Traumatic Brain Injury Rehab Jt Med. Logistics AIT Modernization Init: Navy Hospital Ships Mild Traumatic Brain Injury and Triage Using Smart Sensors Infectious and Inflammatory Disease Center Institute of Surgical and Interventional Simulation Locomotor Translational for Traumatic Brain Injury National Trauma Institute TeraStack Pilot for Army Telemedicine Ultra-High Resolution Display	59,043	89,150 [5,000] [6,000] [6,000] [2,000] [3,700] [6,800] [5,000] [2,000] [1,000] [6,000] [3,200] [2,000] [3,000] [4,200] [3,000] [2,500] [5,200]	148,193

Title II-RDT and E
(Dollars in Thousands)

<u>Program Element</u>	<u>Line</u>	<u>Program Title</u>	<u>FY2009 Request</u>	<u>House Change</u>	<u>House Authorized</u>
		USF College of Public Health		[5,000]	
		Digital Pen		[250]	
		Personal Status Monitor (Nightengale)		[2,500]	
		PTSD Telemedicine Support		[2,200]	
		Shock Trauma Center Operating Room Equipment		[2,100]	
		Telepharmacy Remote Medicine Device Unit		[3,000]	
		Smisson Cartledge Infuser		[2,000]	
		Ultra High-Speed MEMS Electromagnetic Cell Sorter		[5,500]	
		Program Increase		[2,800]	2,800
0603003A	31	AVIATION ADVANCED TECHNOLOGY	57,277	29,900	87,177
		Polymer Matrix Technology for Rotorcraft Drive Systems		[5,000]	
		Mission Execution Technology Implementation		[10,000]	
		Non-Hazardous Infrared Anti-reflective Coatings for Sensors		[2,000]	
		Universal Control - Full Authority Digital Engine Control		[5,000]	
		Universal UAV-Resupply BURRO		[4,800]	
		Advanced Drive System Laser-Peening Technologies		[3,100]	
0603004A	32	WEAPONS AND MUNITIONS ADVANCED TECHNOLOGY	73,697	9,900	83,597
		Lens-Less Micro Seeker Sys for Small Steerable Projectiles		[5,000]	
		Precision Molding ManTech for Large IR Aspheric Optics		[2,900]	
		Chemical Mechanical Self-Destruct Fuze		[2,000]	
0603005A	33	COMBAT VEHICLE AND AUTOMOTIVE / FCS	107,992	42,950	150,942
		Fire Shield		[6,000]	

Title II-RDT and E
(Dollars in Thousands)

<u>Program Element</u>	<u>Line</u>	<u>Program Title</u>	<u>FY2009 Request</u>	<u>House Change</u>	<u>House Authorized</u>
		Long Range Power Source for Unmanned Ground Vehicles		[4,000]	
		Comm. Viable Si/C power Semiconductors Using Superlattice		[3,200]	
		Li - Iron Phosphate Battery System for Army Hybrid HMMWV		[4,000]	
		Anitballistic Windshield Armor		[5,000]	
		Dynamometer Facility Upgrade Program		[4,250]	
		Heavy Duty Hybrid Electric Vehicle		[5,000]	
		Advanced Drivetrains for Enhanced Mobility and Safety		[2,500]	
		Tac. Wheeled Vehicle Condition Based Maintenance Tech		[4,000]	
		Composites for Light Weight, Low Cost Transportation Sys		[5,000]	
		User Evaluation of LASSO Vehicles		[2,000]	2,000
0603006A	34	C3 ADVANCED TECH	9,183		9,183
0603007A	35	MANPOWER, PERSONNEL AND TRAINING ADVANCED TECH	6,853		6,853
0603008A	36	ELECTRONIC WARFARE ADVANCED TECHNOLOGY	50,961		50,961
		Applied Communications and Information Networking		[7,000]	7,000
0603009A	36b	Maritime C4ISR System	14,562	[1,000]	1,000
0603015A	37	TRACTOR HIKE	18,881	4,200	14,562
		NEXT GENERATION TRAINING & SIMULATION SYSTEMS		[4,200]	23,081
		Experiential Tech for Urban Warfare and Disaster Response		[6,500]	6,500
		Joint Fires & Effects Training System			11,575
0603020A	39	TRACTOR ROSE	11,575		11,575
0603100A	40	IED DEFEAT TECHNOLOGY DEVELOPMENT	0		0
0603103A	41	EXPLOSIVES DEMILITARIZATION TECHNOLOGY	10,564	2,000	12,564

Title II-RDT and E
(Dollars in Thousands)

<u>Program Element</u>	<u>Line</u>	<u>Program Title</u>	<u>FY2009 Request</u>	<u>House Change</u>	<u>House Authorized</u>
		Unserviceable Ammunition Demil - Tooele Army Depot		[2,000]	
0603105A	42	MILITARY HIV RESEARCH	7,116		7,116
0603125A	43	COMBATING TERRORISM, TECHNOLOGY DEVELOPMENT Army Field Test of Solar Power	13,064	2,000 [2,000]	15,064
0603238A	44	GLOBAL SURV/AIR DEF/PRECISION STRIKE TECH DEMO	0		0
0603270A	45	ELECTRONIC WARFARE TECHNOLOGY UWB-RWM for IED Countermeasures	23,996	1,500 [1,500]	25,496
0603313A	46	MISSILE AND ROCKET ADVANCED TECHNOLOGY	63,998		63,998
0603322A	47	TRACTOR CAGE	12,372		12,372
0603606A	48	LANDMINE WARFARE AND BARRIER ADVANCED TECH	30,797		30,797
0603607A	49	JOINT SERVICE SMALL ARMS PROGRAM Integrated Fire Control System for Small Arms	8,809	1,500 [1,500]	10,309
0603710A	50	NIGHT VISION ADVANCED TECHNOLOGY Hyperspectral Sensor for Improved Force Portection Video Enhancement for Night Vision and Low-Light Video Personal Miniature Thermal Viewer	39,916	16,100 [5,400] [2,000] [4,200] [4,500]	56,016
0603728A	51	Brownout Situational Awareness Sensor	15,519		15,519
0603734A	52	ENVIRONMENTAL QUALITY TECHNOLOGY DEMOS MILITARY ENGINEERING ADVANCED TECHNOLOGY Enhanced Holographic Imager Distributed Power from Wastewater Synthetic Automotive Virtual Environments	7,654	7,600 [2,800] [2,800] [2,000]	15,254

Title II-RDT and E
(Dollars in Thousands)

<u>Program Element</u>	<u>Line</u>	<u>Program Title</u>	<u>FY2009 Request</u>	<u>House Change</u>	<u>House Authorized</u>
0603772A	53	ADV TAC COMPUTER SCIENCE AND SENSOR TECH Foliage Penetrating Radar (FORESTER) Software Life Cycle Affordability Management	48,236	4,000 [4,000] [2,500]	52,236 2,500
		SUBTOTAL, ATD, ARMY	738,858	239,400	978,258
		ADVANCED COMPONENT DEVELOPMENT & PROTOTYPES			
0603024A	54	UNIQUE ITEM IDENTIFICATION (UID)	649		649
0603305A	55	ARMY MISSILE DEF SYS INTEGRATION (NON SPACE) Compact Pulsed Power for Defense Applications Composite Structure Design Deployable Space and Electronic Warfare Analysis Tool	14,005	6,500 [4,000] [2,500] [4,000]	20,505
0603308A	56	ARMY MISSILE DEFENSE SYSTEMS INTEGRATION (SPACE)	19,986		19,986
0603327A	57	AIR AND MISSILE DEFENSE SYSTEMS ENGINEERING Center for Defense Systems Research	116,410	1,000 [1,000]	117,410
0603460A	58	JOINT AIR-TO-GROUND MISSILE (JAGM)			0
0603619A	59	LANDMINE WARFARE AND BARRIER - ADV DEV	29,234		29,234
0603627A	60	SMOKE, OBSCURANT AND TARGET DEFEATING SYS	3,840		3,840
0603639A	61	TANK AND MEDIUM CALIBER AMMUNITION / FCS	45,866		45,866
0603653A	62	ADVANCED TANK ARMAMENT SYSTEM (ATAS) Stryker Common Active Protection System (APS) Radar Stryker family of vehicles research and development	108,012	10,200 [4,500] [5,700]	118,212

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Title II-RDT and E
(Dollars in Thousands)

<u>Program Element</u>	<u>Line</u>	<u>Program Title</u>	<u>FY2009 Request</u>	<u>House Change</u>	<u>House Authorized</u>
0603747A	63	SOLDIER SUPPORT AND SURVIVABILITY Headborne Energy Analysis and Diagnostic Sys (HEADS) Net Shaped Direct-Sinistered Silicon Carbide Torso Plate	30,716	6,000 [2,000] [4,000]	36,716
0603766A	64	TACTICAL ELECTRONIC SURVEILLANCE SYSTEM	[12275]		
0603774A	65	NIGHT VISION SYSTEMS ADVANCED DEVELOPMENT	2,588		2,588
0603779A	66	ENVIRONMENTAL QUALITY TECHNOLOGY Mobile Detection and Response System LEAD Environmental, Energy, and Transp. Management Renewable Energy Testing Center Green Range and Impact Zone Pilot Program Environmental Management Information Sys at Travis AFB Internet-Based Environmental Compliance Management Sys	5,355	15,300 [5,500] [500] [3,800] [2,500] [500] [2,500]	20,655
0603782A	67	WARFIGHTER INFORMATION NETWORK-TACTICAL	414,357	-33,100 [-33,100]	381,257
0603790A	68	WIN-T Increment 3 Reduction	5,041		5,041
0603801A	69	NATO RESEARCH AND DEVELOPMENT AVIATION - ADV DEV	7,455		7,455
0603804A	70	LOGISTICS AND ENGINEER EQUIPMENT - ADV DEV	44,141		44,141
0603805A	71	CSS CONTROL SYSTEM EVALUATION AND ANALYSIS	17,788		17,788
0603807A	72	MEDICAL SYSTEMS - ADV DEV Leishmania Skin Test	26,308	1,500 [1,500]	27,808
0603827A	73	SOLDIER SYSTEMS - ADVANCED DEVELOPMENT Ground Soldier Systems	36,558	-20,000 [-20,000]	16,558

Title II-RDT and E
(Dollars in Thousands)

<u>Program Element</u>	<u>Line</u>	<u>Program Title</u>	<u>FY2009 Request</u>	<u>House Change</u>	<u>House Authorized</u>
0603850A	74	INTEGRATED BROADCAST SERVICE	928,309	-8,600	919,709
		SUBTOTAL, ADV COMP DEV & PROTOTYPES, ARMY			
		SYSTEM DEVELOPMENT & DEMONSTRATION			
0603808A	75	CLASSIFIED PROGRAM	71,562		71,562
0604201A	76	AIRCRAFT AVIONICS	135,652		135,652
0604220A	77	ARMED RECONNAISSANCE HELICOPTER (ARH)	32,325	5,000	37,325
0604270A	78	ELECTRONIC WARFARE DEVELOPMENT (MIP) Hostile Fire Indicator for Rotorcraft	[11000]	[5,000]	
0604321A	79	ALL SOURCE ANALYSIS SYSTEM	16,807		16,807
0604328A	80	TRACTOR CAGE	0		0
0604329A	81	COMMON MISSILE	42,414		42,414
0604601A	82	INFANTRY SUPPORT WEAPONS	1,949		1,949
0604604A	83	MEDIUM TACTICAL VEHICLES	5,603		5,603
0604609A	84	SMOKE, OBSCURANT AND TARGET DEFEATING SYS	2,901	3,000	5,901
0604622A	85	FAMILY OF HEAVY TACTICAL VEHICLES Multi-Purpose ISO Container Transporters	14,214	[3,000]	14,214
0604633A	86	AIR TRAFFIC CONTROL	0		0
0604642A	87	LIGHT TACTICAL WHEELED VEHICLES	0		0
0604645A	88	ARMORED SYSTEMS MODERNIZATION (ASM)-SDD	200,099		200,099
0604646A	89	NON-LINE OF SIGHT LAUNCH SYSTEM			

Title II-RDT and E
(Dollars in Thousands)

<u>Program Element</u>	<u>Line</u>	<u>Program Title</u>	<u>FY2009 Request</u>	<u>House Change</u>	<u>House Authorized</u>
0604647A	90	NON-LINE OF SIGHT CANNON	89,841		89,841
0604660A	91	FCS MANNED GRD VEHICLES & COMMON GRD VEHICLE Program Reduction	774,257	-101,000	673,257
0604661A	92	FCS SYSTEMS OF SYSTEMS ENGR & PROGRAM MGMT Program Reduction	1,413,945	[-101,000]	1,281,945
0604662A	93	FCS RECONNAISSANCE (UAV) PLATFORMS Program Increase	34,379	[-132,000]	49,379
0604663A	94	FCS UNMANNED GROUND VEHICLES Program Increase	96,918	[15,000]	104,918
0604664A	95	FCS UNATTENDED GROUND SENSORS	12,967	8,000	12,967
0604665A	96	FCS SUSTAINMENT & TRAINING R&D	539,145	[8,000]	539,145
0604666A	97	MODULAR BRIGADE ENHANCEMENT Program Increase	64,900	10,000	74,900
0604710A	98	NIGHT VISION SYSTEMS	44,508	[10,000]	44,508
0604713A	99	COMBAT FEEDING, CLOTHING, AND EQUIPMENT	2,499		2,499
0604715A	100	NON-SYSTEM TRAINING DEVICES - SDD	35,424		35,424
0604741A	101	AIR DEFENSE CZ AND INTELLIGENCE - (C-RAM)	22,415		22,415
0604742A	102	CONSTRUCTIVE SIMULATION SYSTEMS DEVELOPMENT	26,244		26,244
0604746A	103	AUTOMATIC TEST EQUIPMENT DEVELOPMENT	23,582		23,582
0604760A	104	DISTRIBUTIVE INTERACTIVE SIMULATIONS (DIS)	16,095		16,095
0604780A	105	COMBINED ARMS TACTICAL TRAINER (CATT) CORE	29,468		29,468
0604783A	106	JOINT NETWORK MANAGEMENT SYSTEM	676		676

Title II-RDT and E
(Dollars in Thousands)

<u>Program Element</u>	<u>Line</u>	<u>Program Title</u>	<u>FY2009 Request</u>	<u>House Change</u>	<u>House Authorized</u>
0604802A	107	WEAPONS AND MUNITIONS - SDD	52,140		52,140
0604804A	108	LOGISTICS AND ENGINEER EQUIPMENT	37,718		37,718
0604805A	109	COMMAND, CONTROL, COMMUNICATIONS SYSTEMS	9,795		9,795
0604807A	110	MEDICAL MATERIEL/MEDICAL BIO DEF EQUIPMENT - SDD	34,971	3,000	37,971
		Rotary Valve Pressure Swing Absorption Oxygen Generator		[3,000]	
0604808A	111	LANDMINE WARFARE/BARRIER (FCS)	126,475	-62,200	64,275
		Landmine Warfare Barrier - SDD Reduction		[-62,200]	
0604812A	112	CLASSIFIED PROGRAM			
0604814A	113	ARTILLERY MUNITIONS / XM 982	78,197	-15,000	63,197
		Realign to Excalibur Projectile Procurement		[-15,000]	
0604817A	114	COMBAT IDENTIFICATION	10,909		10,909
0604818A	115	ARMY TACTICAL C&C HARDWARE & SOFTWARE	67,535		67,535
0604820A	116	RADAR DEVELOPMENT			
0604822A	117	GENERAL FUND ENTERPRISE BUSINESS SYSTEM (GFEBs)	60,308		60,308
0604823A	118	FIREFINDER	47,845		47,845
0604827A	119	SOLDIER SYSTEMS - WARRIOR	15,790		15,790
0604854A	120	ARTILLERY SYSTEMS	42,300	5,000	47,300
		M109A6 Paladin Virtual Sys Development and Modernization		[5,000]	
0604869A	121	PATRIOT/MEADS COMBINED AGGREGATE PROGRAM	431,270		431,270
0604870A	122	NUCLEAR ARMS CONTROL MONITORING SENSOR NET	6,260		6,260
0605013A	123	INFORMATION TECHNOLOGY DEVELOPMENT	73,740	3,000	76,740
		Health informatics initiative		[3,000]	

Title II-RDT and E
(Dollars in Thousands)

<u>Program Element</u>	<u>Line</u>	<u>Program Title</u>	<u>FY2009 Request</u>	<u>House Change</u>	<u>House Authorized</u>
0605450A	124	JOINT AIR-TO-GROUND MISSILE (JAGM)	118,517		118,517
		SUBTOTAL, SDD, ARMY	4,964,559	-258,200	4,706,359
		RDT&E MANAGEMENT SUPPORT			
0603808A	125	CLASSIFIED PROGRAM			21,416
0604256A	126	THREAT SIMULATOR DEVELOPMENT	21,416		13,498
0604258A	127	TARGET SYSTEMS DEVELOPMENT	13,498		64,618
0604759A	128	MAJOR T&E INVESTMENT	64,618		
0604812A	129	CLASSIFIED PROGRAM			19,339
0605103A	130	RAND ARROYO CENTER Program Increase	16,339	3,000 [3,000]	174,601
0605301A	131	ARMY KWAJALEIN ATOLL	174,601		40,271
0605326A	132	CONCEPTS EXPERIMENTATION PROGRAM Warfighting Study of Future Technologies and Tactics - Av Gunfire Detection System for Unmanned Aerial Vehicles	28,271	12,000 [3,000]	
0605502A	133	SMALL BUSINESS INNOVATIVE RESEARCH Electro-Magnetic Flak Impulse System		5,000 [5,000]	5,000
0605601A	134	ARMY TEST RANGES AND FACILITIES	342,079		342,079
0605602A	135	ARMY TECHNICAL TEST INSTRUMENTATION AND TARGETS MOTS All Sky Imager (MASI)	74,624	3,000 [3,000]	77,624
0605604A	136	SURVIVABILITY/LETHALITY ANALYSIS	41,066		41,066

Title II-RDT and E
(Dollars in Thousands)

<u>Program Element</u>	<u>Line</u>	<u>Program Title</u>	<u>FY2009 Request</u>	<u>House Change</u>	<u>House Authorized</u>
0605605A	137	DOD HIGH ENERGY LASER TEST FACILITY	2,835		2,835
0605606A	138	AIRCRAFT CERTIFICATION	5,054		5,054
0605702A	139	METEOROLOGICAL SUPPORT TO RDT&E ACTIVITIES	8,289		8,289
0605706A	140	MATERIEL SYSTEMS ANALYSIS	17,028		17,028
0605709A	141	EXPLOITATION OF FOREIGN ITEMS			
0605712A	142	SUPPORT OF OPERATIONAL TESTING	72,942		72,942
0605716A	143	ARMY EVALUATION CENTER	63,382		63,382
0605718A	144	SIMULATION & MODELING FOR ACQ, RQTS, & TNG	5,325		5,325
0605801A	145	PROGRAMWIDE ACTIVITIES	73,748		73,748
0605803A	146	TECHNICAL INFORMATION ACTIVITIES	42,905		42,905
0605805A	147	MUNITIONS STANDARDIZATION, EFFECT. AND SAFETY	20,857		20,857
0605857A	148	ENVIRONMENTAL QUALITY TECHNOLOGY MGMT SUPPORT	5,125		5,125
0605898A	149	MANAGEMENT HQ - R&D	15,665		15,665
0909999A	150	FINANCING FOR CANCELLED ACCOUNT ADJUSTMENTS	0		0
SUBTOTAL, RDT&E MANAGEMENT SUPPORT, ARMY			1,109,667	23,000	1,132,667
OPERATIONAL SYSTEMS DEVELOPMENT					
0603778A	151	MLRS PRODUCT IMPROVEMENT PROGRAM	59,749		59,749
0603820A	152	WEAPONS CAPABILITY MODIFICATIONS UAV	0		0
0102419A	153	AEROSTAT JOINT PROJECT OFFICE	356,434		356,434
0203726A	154	ADV FIELD ARTILLERY TACTICAL DATA SYSTEM	15,860	1,500	17,360

Title II-RDT and E
(Dollars in Thousands)

<u>Program Element</u>	<u>Line</u>	<u>Program Title</u>	<u>FY2009 Request</u>	<u>House Change</u>	<u>House Authorized</u>
0203735A	155	Fire Support Technology Improvement Program COMBAT VEHICLE IMPROVEMENT PROGRAMS	141,114	[1,500] 5,800	146,914
		Condition Based Maintenance for Military Vehicles		[1,000]	
		Ground Combat Systems Electronic Enhancements		[4,800]	
0203740A	156	MANEUVER CONTROL SYSTEM	37,151		37,151
0203744A	157	AIRCRAFT MOD/PRODUCT IMPROVEMENT PROGRAMS	452,787		452,787
0203752A	158	AIRCRAFT ENGINE COMPONENT IMPROVEMENT PROGRAM	332		332
0203758A	159	DIGITIZATION	9,534		9,534
0203759A	160	FORCE XXI BATTLE COMMAND, BRIGADE AND BELOW	38,418		38,418
0203764A	161	TACTICAL WHEELED VEHICLE IMPROVEMENT PROGRAM	0		0
0203801A	162	MISSILE/AIR DEFENSE PRODUCT IMPROVEMENT PROGRAM	37,871		37,871
0203802A	163	OTHER MISSILE PRODUCT IMPROVEMENT PROGRAMS	1,527	15,000	16,527
		Close Combat Missile Modernization (Javelin)		[10,000]	
		Program Increase		[5,000]	
0203808A	164	TRACTOR CARD	19,601		19,601
0208010A	165	JOINT TACTICAL COMMUNICATIONS PROGRAM (TRI-TAC)	920		920
0208053A	166	JOINT TACTICAL GROUND SYSTEM	1,957	6,000	7,957
		JTAGS Preplanned Product Improvement		[6,000]	
0208058A	167	JOINT HIGH SPEED VESSEL (JHSV)	2,936		2,936

Title II-RDT and E
(Dollars in Thousands)

<u>Program Element</u>	<u>Line</u>	<u>Program Title</u>	<u>FY2009 Request</u>	<u>House Change</u>	<u>House Authorized</u>
0301359A	168	SPECIAL ARMY PROGRAM	0		0
0303028A	169	SECURITY AND INTELLIGENCE ACTIVITIES	38,090		38,090
0303140A	170	INFORMATION SYSTEMS SECURITY PROGRAM	104,934	-6,000	98,934
0303141A	171	GLOBAL COMBAT SUPPORT SYSTEM Multi-Band Integrated SATCOM Terminal		[-6,000]	
0303142A	172	SATCOM GROUND ENVIRONMENT (SPACE)	106,327	-40,000	66,327
0303150A	173	WWMCCS/GLOBAL COMMAND AND CONTROL SYSTEM Global Command and Control System Army	12,922	[-1,000]	12,922
0303158A	174	JOINT COMMAND AND CONTROL PROGRAM (JC2)	15,203		-1,000
0305204A	175	TACTICAL UNMANNED AERIAL VEHICLES	50,976		15,203
0305206A	176	AIRBORNE RECONNAISSANCE SYSTEMS			50,976
0305208A	177	DISTRIBUTED COMMON GROUND/SURFACE SYSTEMS Blast Damage Assess. Risk Analysis and Mitigation App Constant Look Operational Support Environment (CLOSE) Asymmetric Threat Response and Analysis (ATRAP) Heuristic Internet Protocol Packet Inspection Engine		13,000 [4,000] [4,000] [5,000] [3,500]	13,000
0702239A	178	AVIONICS COMPONENT IMPROVEMENT PROGRAM	1,023		3,500 1,023

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Title II-RDT and E
(Dollars in Thousands)

<u>Program Element</u>	<u>Line</u>	<u>Program Title</u>	<u>FY2009 Request</u>	<u>House Change</u>	<u>House Authorized</u>
0708045A	179	END ITEM INDUSTRIAL PREPAREDNESS ACTIVITIES Vehicle Common Armor Manufacturing Process (VCAMP) Composite Rotorcraft Airframe Development Helicopter Vulnerability Reduction	69,084	9,000 [4,000] [2,000] [3,000]	78,084
1001018A	180	NATO JOINT STARS	0		0
9999999A	999	CLASSIFIED PROGRAMS	105,047		105,047
		SUBTOTAL, OPERATIONAL SYS DEVELOPMENT, ARMY	1,679,797	6,800	1,686,597
		Total, RDT&E Army	10,524,085	159,610	10,683,695

Items of Special Interest

Advanced lithium iron phosphate battery system for light tactical vehicles

The budget request contained \$107.9 million in PE 63005A for combat vehicle and automotive advanced technology, but contained no funds for advanced lithium iron phosphate battery systems for combat hybrid high mobility multi-purpose wheeled vehicles (HMMWV).

The committee understands that technology developed under a small business innovative research program uses advanced lithium iron phosphate battery systems for HMMWVs for demonstrations of “silent watch” missions. The committee notes this technology could provide a 5 to 10 times increase in capability over lead acid batteries that the military services currently use.

The committee recommends an increase of \$4.0 million in PE 63005A for the advancement and demonstration of a lithium iron phosphate battery system for use on a combat hybrid HMMWV platform.

Antiballistic windshield armor

The budget request contained \$107.9 million in PE 63005A for combat vehicle and automotive advanced technology, but contained no funds for antiballistic windshield armor (AWA) prototype demonstrations.

The AWA is a bolt-on device for tactical wheeled vehicles and is based on an oversized periscope concept using an upper and lower set of stainless mirrors backed by armor. The committee understands significant work is being performed to accelerate the development of the AWA design that could potentially provide improved blast protection and improved visibility for the warfighter during and following an enemy attack.

The committee recommends an increase of \$5.0 million in PE 63005A for the continued development and future demonstration of AWA prototypes.

Army intelligent agent software programs

The budget request contained \$3.4 million in PE 63006A for Vertical Integration of Space Technology Applications (VISTA). VISTA is an Army Space and Missile Defense Command (SMDC) sponsored program designed to use “intelligent agent” software to manage and distribute space-based capabilities to Army users operating at multiple echelons. The committee is aware of another SMDC program, Joint Awareness Warfighter-Space (JAWS), which is being developed to address many of the same operational needs that are used to justify the VISTA project. The committee is further aware that an operational prototype of JAWS is scheduled to be delivered to the Army Battle Lab for testing in January 2009, following three years of development.

The committee notes an opportunity to leverage these two efforts. The committee, therefore, directs the Secretary of Defense to examine the feasibility of merging the VISTA and JAWS projects to make optimal use of the Department’s investment. The Secretary shall submit a report describing the results of this examination to the congressional defense committees by March 1, 2009.

Army missile modernization

The budget request contained \$1.5 million in PE 23802A for Army missile product improvement research and development.

The committee notes with concern that the Army's fiscal year 2009 budget contains funds for neither upgrades to the Javelin and the ground launched version of the tube-launched, optically-tracked, wire-guided (TOW) missiles nor a development program for new missiles to replace the Javelin and TOW.

Given the rapid pace of counter-missile technologies, the committee believes it is imperative that the Army begin a research and development effort to upgrade or replace Javelin and TOW to ensure the United States maintains its technical superiority in battlefield missile systems. The committee urges the Army, as it considers its fiscal year 2010 budget, to fund a new research and development effort to address the need to upgrade or replace the successful Javelin and ground-launched TOW missile families.

The committee recommends an increase of \$5.0 million in PE 23802A for the Army to begin a missile upgrade or replacement research and development program for the Javelin and TOW missiles.

Chemical mechanical self-destruct fuze

The budget request contained \$73.7 million in PE 63004A for weapons and munitions advanced technology, but contained no funds for chemical-mechanical self-destruct fuze demonstrations.

The committee is aware a chemical-mechanical self-destruct fuze device is currently under development and has progressed through an initial proof-of-principle ballistic test with positive results. The committee understands this technology could decrease the rate of unexploded ordnance on the battlefield.

The committee recommends an increase of \$2.0 million in PE 63004A to support demonstration and qualification testing of a chemical-mechanical self-destruct fuze.

Common Missile Warning System

The committee is encouraged by the Army's fielding of the Common Missile Warning System, but remains concerned with the delay the Army is experiencing in the fielding of infra-red countermeasures (IRCM) laser-based systems on rotary aircraft. The Advanced Threat Infrared Countermeasures (ATIRCM) system has been in development since the mid-1990s. The committee understands that the Department of Defense has fielded other laser-based countermeasures and is considering additional developing technologies that will significantly reduce the size and weight of this capability when compared to current systems. Given the delays in the fielding of ATIRCM, the committee believes that the Department of the Army should take immediate steps to accelerate the fielding of laser-based countermeasures for the protection of Army rotary aircraft in theater.

The committee directs the Secretary of Defense to submit to the congressional defense committees, a report on laser-based countermeasures across the Department of Defense. This report shall be submitted within 60 days after the date of enactment of this Act and shall include the Army's plan to consider technologies other

than the ATIRCM system to provide a functional laser-based IRCM for both fixed- and rotary-wing platforms.

Condition-based maintenance

The committee recognizes the efforts underway to integrate condition-based maintenance (CBM) in the Department of the Army's Future Combat Systems (FCS) vehicles and other Army platforms. The CBM development program within FCS seeks to provide diagnostic and prognostic capabilities aimed at performing maintenance based on the actual condition of a component or system versus predetermined, time-phased maintenance. The committee understands that the Department of the Army may be pursuing development of similar CBM software programs for Army vehicles outside the work being conducted within the FCS program. The committee directs the Secretary of the Army to provide a report to the congressional defense committees by March 15, 2009, detailing all current and planned CBM software projects to include the cost of each project, expected maintenance cost savings, and requirements.

Data links aerial systems

The committee recognizes that a new radio software waveform, the high-band networking waveform (HNW), is intended to be the backbone line-of-sight communications data link for the Warfighter Information Network-Tactical (WIN-T) and Future Combat Systems (FCS) programs. HNW is being specifically designed to enable internet protocol net-centric operations, create a multi-point to multi-point network, and provide other advantages not previously available with the common data link (CDL) waveform, including the ability for radios to automatically establish communications with one another and form a robust network without operator intervention.

The committee is also aware that the Army is in the process of obtaining full government purpose rights for use of the HNW for the federal government. Once those rights are secured, the HNW would be available for use by all military services and maintained in Department of Defense libraries to ensure that future revisions or changes will be interoperable.

The committee directs the Secretary of the Army to provide a report to the congressional defense committees within 60 days after the date of enactment of this Act detailing its legislative requirements (related to required communications data links for aerial systems), for the transmission and reception of communications, intelligence, surveillance, reconnaissance data and other data, in support of service-unique and joint operations. The committee expects that the report will include joint service requirements as well as conclusions of previous related studies, including the WIN-T line-of-sight backbone study, the Navy joint-CDL working group report, and the Army's FCS network data link study.

Dynamometer facility upgrade program

The budget request contained \$107.9 million in PE 63005A for combat vehicle and automotive advanced technology, but contained no funds for the Dynamometer facility upgrade program.

The committee recognizes current dynamometers used by the Army for combat and tactical vehicle powertrain assessments lack

modern technology upgrades. The committee understands improved dynamometers could improve the Army's ability to rapidly assess and evaluate conventional and hybrid electric powertrains and their associated components. The committee believes this capability could provide improved knowledge regarding powertrain subsystem reliability, durability, and safety, as well as help identify any potential power train problems at the earliest stage of development.

The committee recommends an increase of \$4.3 million, in PE 63005A for the Dynamometer facility upgrade program.

Enhanced holographic imager

The budget request contained \$7.7 million in PE 63734A for military engineering advanced technology, but contained no funds for the final phase of development for the enhanced holographic imager.

The holographic imager system is used to produce three-dimensional imagery for the Army's tactical battlefield visualization program. The committee notes that digital holographic images have proven to be an extremely useful capability for deployed Army and Special Operations Command warfighters. The committee further notes that over 1,700 holographic images were provided to soldiers in theater in calendar year 2007. Planned efforts for the final phase will be to develop a field-deployable imager and to improve the process to produce holograms three times faster than the current system.

The committee recommends an increase of \$2.8 million in PE 63734A to complete the development of the enhanced holographic imager.

Future Combat Systems

The budget request contained \$3.6 billion for the Future Combat Systems (FCS) program.

In the committee report (H. Rept. 110-146) accompanying the National Defense Authorization Act for Fiscal Year 2008, the committee expressed its concern with the schedule delays, cost growth, and reduced scope of the FCS program since its inception in fiscal year 2003. The committee also notes that the Army's growing need for funding to achieve its many other priorities, including completion of modular unit conversions, growth in the size of the Army, reset of equipment used in combat, improving the capability of the Army National Guard and Army Reserve, and modernization of current Army equipment would eventually require the realignment of the FCS program to a more affordable and deliberate schedule. Over the past year, the committee's concerns have only grown more acute as additional information on the cost of achieving the Army's numerous major initiatives came into more specific relief and the FCS program continued to struggle with developing critical technology elements.

The committee continues to be concerned with specific aspects of the FCS program and its relationship to the Army's overall future needs. One element of concern includes the simultaneous development of the FCS communications network and FCS vehicles. It is the committee's understanding that FCS manned ground vehicles will depend upon a robust, pervasive, and high-performance communications network for much of their survivability. In addition,

the committee understands that some progress on development of the network has been made during the system development and demonstration phase. However, given the current lack of clear requirements, mature technology, and progress on vital complementary programs necessary to develop the network on schedule, the committee notes that there is significant risk that delays in achieving the FCS network could lead to fielding of FCS manned ground vehicles without the FCS network support the Army considers essential to achieve FCS vehicle survivability requirements.

A second area of concern is the current misalignment of FCS program testing events, knowledge points, and major program decisions. In its 2007 and 2008 reports on the FCS program, the Government Accountability Office noted that most major program and funding decisions occur before significant program test events intended to demonstrate progress on individual FCS program technologies and the ambitious FCS system of systems integration goals. One example is the program's current plan to request more than \$1.2 billion in procurement funding in the fiscal year 2011 budget more than two years prior to the first significant FCS network demonstration in late 2012. The Army also intends to request \$2.9 billion in FCS procurement funding in fiscal year 2012, which Congress would have to approve almost two years before the FCS milestone C low-rate initial production decision in fiscal year 2013. In addition, the committee notes that even some near-term elements of the FCS program, including the Non-Line of Sight Launch System, are scheduled for milestone C decisions on beginning low-rate initial production prior to completion of major testing events and required certifications. The committee believes that such contradictions of long-standing Department of Defense (DOD) procurement policies, including the concept of "fly before you buy," may lead to significant program delays and cost increases as additional development work occurs late in the program.

Overall, while the committee understands that the FCS program is an unprecedented development effort seeking to integrate 14 distinct elements, an entirely new battle command software system, and a complex wireless battlefield network, the committee does not believe that such an unusual and ambitious program structure obviates the need for the Army to follow established DOD acquisition policies. While some selected Army force protection programs have been permitted to bypass standard acquisition policies due to urgent combat needs, the committee does not believe that the FCS program meets that criteria, primarily due to its long delivery timelines for its major elements and the immaturity of many critical FCS technologies despite six years of system development and demonstration activities and an expenditure of \$15.0 billion in development funding. However, should elements of the FCS program be deemed appropriate to fill theater operational needs, the committee would support fielding of selected FCS elements using rapid equipping or other expedited procurement procedures outside the FCS program.

Future Combat Systems manned ground vehicles

The budget request contained \$774.3 million in PE 64660A for research and development of Future Combat Systems (FCS) manned ground vehicles.

In the committee report (H. Rept. 110–146) accompanying the National Defense Authorization Act for 2008, the committee noted its concern with the simultaneous nature of the development of FCS manned ground vehicles and the FCS communications network upon which the manned ground vehicles depend on to meet key survivability requirements. The committee notes that recent analysis by the Government Accountability Office points to likely delays to the FCS communications network development and continuing challenges with critical vehicle technology elements, including vehicle armor. In addition, the committee is concerned that the current program schedule will not provide Department of Defense and Army officials with adequate information at critical decision points related to FCS manned ground vehicles about the performance of the communications network. Absent such information, the committee remains concerned that the FCS vehicle designs could be based upon assumptions concerning the communications network that prove inaccurate, requiring significant vehicle design changes.

The committee recommends \$673.3 million, a decrease of \$101.0 million, in PE 64660A for FCS manned ground vehicle research and development. Within the amount provided, the committee expects the Army to prioritize common vehicle chassis work necessary to field the Non-Line of Sight Cannon.

Future Combat Systems modular brigade enhancement

The budget request contained \$64.9 million in PE 64666A for Future Combat Systems (FCS) modular brigade enhancement research and development.

The committee notes that this program element is the primary source of funds for activities of the Army Evaluation Task Force (AETF), a unit tasked with evaluation and development of near-term FCS program equipment, including FCS spin out 1 equipment, the small unmanned aerial vehicle, and small unmanned ground vehicle. The committee is concerned that requested funding in fiscal year 2009 is not sufficient to accommodate the evaluation and test activities necessary to meet the spin out 1 fielding timeline.

The committee recommends \$74.9 million, an increase of \$10.0 million, in PE 64666A for FCS modular brigade enhancement and AETF activities.

Future Combat Systems system of systems engineering and program management

The budget request contained \$1.4 billion in PE 64661A for Future Combat Systems (FCS) system of systems engineering and program management.

The committee notes that this program element includes the management reserve for the FCS program, which has been approximately seven percent of total program funding during the past two program years. In addition, the committee notes that this program element includes the contractor fees for the FCS program, which are calculated on a fixed formula based upon total contractor funding in the FCS program. The committee further notes that both of these elements can be adjusted based on funding adjustments to

other elements of the FCS program recommended by the committee.

The committee recommends \$1.3 billion, a decrease of \$132.0 million, in PE 64661A for FCS system of systems engineering and program management.

Future Combat Systems unmanned aerial vehicles

The budget request contained \$34.4 million for Future Combat Systems (FCS) unmanned aerial vehicles (UAV).

The committee notes that of the total \$34.4 million requested for FCS unmanned aerial vehicles, only \$14.3 million was requested for the FCS class I UAV, representing just four-tenths of one percent of total requested FCS funding. The committee notes that the Micro Air Vehicle, an early precursor to the FCS class I UAV, is already in use in Iraq by Navy explosive ordnance disposal teams, but that the FCS program's current schedule will not deliver a full-capability prototype class I UAV until the fourth quarter of fiscal year 2011. The committee supports additional funding for the FCS class I UAV in order to accelerate its readiness for fielding in an FCS spin out or directly to theater based on operational needs.

The committee recommends \$49.4 million, an increase of \$15.0 million, in PE 64662A for development of FCS unmanned aerial vehicles, in order to support accelerated development of the FCS class I UAV.

Future Combat Systems unmanned ground vehicles

The budget request contained \$96.9 million in PE 64663A for Future Combat Systems (FCS) unmanned ground vehicles.

The committee notes that of the total \$96.9 million requested for FCS unmanned ground vehicle development, only \$8.2 million was requested for the FCS small unmanned ground vehicle (SUGV), representing just two-tenths of one percent of total FCS requested funding. The SUGV is an FCS element based on the PackBot robot system in use in Iraq and Afghanistan today. The committee supports additional funding for the FCS SUGV in order to accelerate its readiness for fielding in an FCS spin out or directly to theater based on operational needs.

The committee recommends \$104.9 million, an increase of \$8.0 million, in PE 64663A for FCS unmanned ground vehicles, in order to support accelerated development of the FCS SUGV.

Glass ceramic armor technology for vehicle survivability

The budget request contained \$55.2 million in PE 62601A for combat vehicle and automotive technology, but contained no funds to develop transparent ceramic armor through Lawrence Livermore National Laboratory (LLNL).

The committee is aware that current transparent armor systems used on tactical and combat vehicles for protection against large improvised explosive devices and explosively formed penetrators are extremely heavy and impact vehicles' performance as well as decrease vehicles' life cycles. The committee notes that improvements in weight reduction without sacrificing survivability could benefit vehicle platforms that require improvements with balancing critical key performance parameters of payload, protection, and performance.

The committee recommends an increase of \$6.0 million in PE 62601A for the advancement of glass ceramic armor technology for vehicle survivability.

Global Command and Control System-Army

The budget request contained \$12.9 million in PE 33150A for the Global Command and Control System-Army.

The committee is concerned over a lack of commitment by the services to transition from service stove-piped command and control systems to a joint architecture, such as the Network Enabled Command and Control system. The services can no longer sustain a multitude of disparate systems, from a technical management or financial perspective. Yet there appears to be no clear strategy articulated to senior decision makers showing how the services will move from multiple independent systems, to a joint, federated approach. This approach does not necessarily entail adopting a single system, but until the services commit to a unified approach to commonality, the military services will continue to waste funds and inhibit the benefits accrued by jointness.

The committee recommends \$11.9 million, a decrease of \$1.0 million in PE 33150A.

Ground soldier systems concept development

The budget request contained \$36.6 million in PE 63827A for soldier systems advanced development of which \$25.5 million is for the ground soldier system, a “new start” development program.

The committee is concerned that the Army is proposing a “new start” system development and demonstration program for a soldier ensemble despite the service’s limited resources and the success of the Land Warrior (LW) system. The committee is aware that LW has been deployed in response to urgent operational needs statements from units in Operation Iraqi Freedom (OIF) and has proven to increase combat capability of the individual soldier, as well as the efficiency of small units. The operational use of LW in OIF has yielded soldier-driven improvements, primarily in weight reduction and has increased LW’s demand by deployed and “next-to-deploy” units. The committee notes the Army has requested \$102.0 million in the amended fiscal year 2008 budget request for ongoing military operations to provide LW systems for the next-to-deploy Stryker Brigade Combat Team. The committee believes the proposed level of funding for a new start ground soldier system program is not justified. The committee believes that additional resources should be allocated to the LW program in current and future budget requests and encourages the Army to continue to leverage and apply lessons learned from LW systems for next-generation soldier systems.

The committee recommends \$16.6 million, a decrease of \$20.0 million, in PE 63827A for the ground soldier system development program and realigns this funding to Other Procurement, Army budget activities to procure additional LW systems in response to urgent operational needs statements.

Heavy duty hybrid electric vehicle demonstration

The budget request contained \$107.9 million in PE 63005A for combat vehicle and automotive advanced technology, but contained

no funds for the demonstration of low-emission and fuel-efficient hybrid electric engine propulsion systems for heavy tactical wheeled vehicles.

The committee understands low emission and fuel efficient hybrid electric engine propulsion systems could be used to develop and demonstrate next generation hybrid electric powertrains on up to five heavy tactical wheeled vehicles. The committee notes these powertrains could operate on bio-diesel and could also demonstrate auxiliary power capability. The committee is aware that prior year funds have been appropriated for an Air Force first-generation hybrid electric heavy tactical wheeled vehicle program and the committee expects the Army to leverage results from the Air Force program.

The committee recommends an increase of \$5.0 million in PE 63005A for the continued refinement of system development and demonstration of a low emission and fuel efficient hybrid electric engine propulsion system for the Army's heavy tactical wheeled vehicle fleet.

High mobility multi-purpose wheeled vehicle bloc improvements

The budget request contained no funding in PE 64609A for light tactical vehicles to include the high mobility multi-purpose wheeled vehicle (HMMWV) bloc improvement program.

The HMMWV bloc improvement program could provide the Army with the ability to conduct assessments of technologies to better meet requirements and to react to evolving threats in combat theaters of operation. The committee understands this program could support readily available product improvements in payload, power, protection, range, and reliability. The committee encourages the Secretary of the Army to provide the necessary resources to continue to develop and insert critical technology product improvements into the HMMWV fleet.

Integrated fire control system for small arms

The budget request contained \$8.8 million in PE 63607A for the joint service small arms program, but contained no funds for an integrated fire control system for small arms.

The committee understands the joint service small arms capability assessment defined a list of 14 desired capabilities for existing small arms platforms in the relevant technology areas of technical fire control, tactical fire control in the small unit, and new concepts and applications. The committee recognizes an integrated fire control system could address 1 of these 14 desired capabilities and would enhance the warfighter's real-time cognition and decision-making ability especially in urban, counter-insurgent, and non-linear combat environments.

The committee recommends \$10.3 million, an increase of \$1.5 million, in PE 63607A, to further the development of an integrated fire control system for existing small arms platforms.

Joint Cargo Aircraft program

The Army budget request contained \$267.2 million for procurement of seven Joint Cargo Aircraft (JCA).

The committee understands the Army plans to procure JCA to replace its C-23 and CH-47 fleets of aircraft that support the

Army's intra-theater time-sensitive cargo mission. The JCA sustainment strategy was completed in February 2007, but many details, such as core depot maintenance capabilities, distribution of depot maintenance funds between contractor logistics support and organic performance, and determination of public and private partnering will not be finalized until low-rate initial production.

The committee notes that the Secretary of the Army plans to fund procurement of initial spares, support equipment, training simulators, post-production modifications, and system engineering and management items through the Operations and Maintenance, Army (OMA) appropriation account. The committee is concerned by this approach because Congress has less oversight and more difficulty tracking obligations and expenditures for these items, and notes that these items are traditionally procured through research and development, or procurement appropriation accounts. Of further concern, the committee notes that the April 17, 2008, Undersecretary of Defense for Acquisition, Technology, and Logistics (USD(AT&L)) acquisition program baseline documentation states that "operations and maintenance costs are not tracked and are not breachable."

The committee includes a provision, section 216, in title II of this Act that would prohibit the Secretary of the Army from funding initial spares, support equipment, training simulators, post-production modifications, and system engineering and management items through the O&M appropriations account.

Landmine Warfare/Barrier—system development and demonstration

The budget request contained \$126.5 million in PE 64808A for Landmine Warfare/Barrier system development and demonstration.

The committee notes that \$74.0 million of this amount is for continuing work on the Intelligent Munitions System (IMS), a system that the Army decided to remove from the Future Combat Systems (FCS) program, creating a reduced demand for the IMS system. The committee further notes that \$52.5 million of the request is for the Ground Standoff Mine Detection System and the Airborne Surveillance, Target, Acquisition, and Minefield Detection System, two programs that are developing sensors for FCS platforms that will not be deployed until 2014. The committee is concerned that these sensor programs are not properly aligned with the development timelines of the FCS systems that will use them.

The committee recommends \$64.3 million, a decrease of \$62.2 million, in PE 64808A for Landmine Warfare/Barrier.

Multi-threat explosive detection initiative

The budget request contained \$25.6 million in PE 62709A for night vision technology, but contained no funds for eye-safe standoff detection of multiple threat explosives technology.

The committee notes the continued need to accomplish standoff detection of multiple threat explosive devices, even at trace amounts.

The committee recommends an increase of \$3.0 million in PE 62709A for the eye-safe standoff multiple threat explosive detection initiative.

Near-net shaped direct-sinistered silicon carbide torso plate technology

The budget request contained \$30.7 million in PE 63747A for soldier support and survivability, but contained no funds for the expansion of near-net shaped direct-sinistered silicon carbide torso plate technology.

The committee understands near-net shaped direct-sinistered silicon carbide torso plate technology could expand alternate methods for manufacturing critical ceramic components used for vehicle and personnel protection programs. The committee notes these methods could provide for significant advances in life cycle costs, performance, and weight reduction.

The committee recommends an increase of \$4.0 million in PE 63747A to evaluate near-net shaped direct-sinistered silicon carbide torso plate technology.

Platform soldier mission readiness system for tactical wheeled vehicles

The committee understands platform soldier mission readiness systems (PSMRS) is the central condition-based maintenance software solution for the Army's Future Combat Systems (FCS). Condition-based maintenance provides diagnostic and prognostic capabilities aimed at performing maintenance based on the actual condition of a component or system versus predetermined time-phased maintenance. The committee understands that PSMRS software could be spiraled from FCS into the tactical wheeled vehicle (TWV) fleet that would potentially achieve a 30 percent reduction in annual maintenance costs. The committee encourages the Secretary of the Army to develop a plan that would utilize a PSMRS program as part of the TWV fleet modernization effort. The committee understands this program could be implemented at the Army's Center of Industrial and Technical Excellence for Ground Combat and Tactical Systems.

Polymer matrix composites for rotorcraft drive systems

The budget request contained \$57.3 million in PE 63003A for aviation advanced technology, but contained no funds for the demonstration of structural composite rotorcraft drive system components.

The committee notes the opportunity to reduce costs of production, operations, and support of rotorcraft through the use of polymer matrix composite (PMC) technologies for major components such as rotorcraft drive system components.

The committee recommends an increase of \$5.0 million in PE 63003A to demonstrate full-scale design, fabrication, and testing of PMC rotorcraft drive systems.

RAND Arroyo Center

The budget request contained \$16.3 million in PE 65103A for the RAND Arroyo Center.

In the committee report (H. Rept. 110-146) accompanying the National Defense Authorization Act for Fiscal Year 2008, the committee expressed its concern about reductions in the Army's budget request for the RAND Arroyo Center, which is one of the Army's primary federally funded research and development centers. The

committee notes with concern that funding requested for fiscal year 2009 remained at the same level as fiscal year 2008. The committee continues to support stable funding for the RAND Arroyo Center and encourages the Army in its fiscal year 2010 budget submission to increase funding for this activity.

The committee recommends \$19.3 million, an increase of \$3.0 million, in PE 65103A for the RAND Arroyo Center.

Stryker family of vehicles research and development

The budget request contained \$108.0 million in PE 63653A for research and development of upgrades to the Stryker family of vehicles.

The committee notes that, subsequent to the submission of the fiscal year 2009 budget request, the Army comptroller requested the committee move \$38.7 million from Stryker program procurement to Stryker research and development to ensure full funding for the Stryker product improvement program (PIP). However, this request assumed committee approval of a fiscal year 2008 reprogramming that would have reduced Stryker research and development by \$33.0 million. Because this reprogramming was not approved, only \$5.7 million in additional funds for Stryker research and development are needed in fiscal year 2009 to fully fund the Stryker PIP.

The committee recommends an increase of \$5.7 million in PE 63653A for Stryker vehicle research and development.

Torque-vectoring rollover prevention technology

The budget request contained \$55.2 million in PE 62601A for combat vehicle and automotive technology, but contained no funds for torque-vectoring rollover prevention technology.

The committee understands torque-vectoring allows active control of wheel speed ratio and torque distribution, typically through the application of multi-plate wet clutches coupled with advanced gear-train technology. The committee is aware domestic torque-vectoring technology could increase stability and performance in light-weight tactical wheeled vehicles.

The committee recommends an increase of \$1.4 million in PE 62601A for the development of torque-vectoring rollover prevention technology in light tactical wheeled vehicles.

Warfighter Information Network—Tactical, increment 3, program

The budget request contained \$414.4 million in PE 63782A for Warfighter Information Network—Tactical (WIN-T) research and development.

The committee notes that Increment 3 of the WIN-T program has not had an updated acquisition program baseline for more than two years. As a result, the committee is concerned that the \$330.5 million in this program element for WIN-T Increment 3 is not based on a thorough understanding of program funding needs. In addition, the committee remains concerned that the WIN-T Increment 3 program has yet to complete the independent cost estimate or technology development validation required by the June 2007 Nunn-McCurdy program recertification.

The committee recommends \$381.3 million, a decrease of \$33.1 million, in PE 63782A for WIN-T research and development. The

committee expects the Army to fully fund WIN-T Increment 2 funding requested in this program element.

Weapon shot counter technology

The committee is aware that weapon shot counter technology for small arms weapons has been developed and tested by the Naval Surface Warfare Center and is being fielded by the United States Special Operations Command on the M4 carbine, MK11, and MK 12 sniper rifles. Rounds fired data allows weapons to be maintained at a high level of readiness with use-based technology rather than the antiquated calendar based maintenance. The committee notes preventive and predictive maintenance allows high wear parts such as barrels and bolts to be replaced prior to catastrophic failure and eliminates unnecessary weapon rebuilds and replacements. The committee strongly encourages the Secretary of the Army to evaluate the viability of fielding this technology for small arms weapons.

Wearable personal area network technology

The budget request contained \$21.9 million in PE 62786A for warfighter technology, but contained no funds for wearable personal area network technology.

The committee understands wearable personal area network technology would develop clothing that could integrate electrical power distribution, data transmission, and communication networks to provide military personnel with the capability to operate and control a suite of miniature, personal communication systems. The committee notes this technology could provide critical weight reduction to the combat carrying load of the individual warfighter and improve combat effectiveness.

The committee recommends an increase of \$3.0 million in PE 62786A for wearable personal area network technology.

NAVY RESEARCH, DEVELOPMENT, TEST, AND EVALUATION

Overview

The budget request contained \$19.3 billion for Navy research, development, test, and evaluation (RDT&E).

The committee recommends \$19.8 billion, an increase of \$432.5 million to the budget request.

Title II-RDT and E
(Dollars in Thousands)

<u>Program Element</u>	<u>Line</u>	<u>Program Title</u>	<u>FY2009 Request</u>	<u>House Change</u>	<u>House Authorized</u>
		RESEARCH, DEVELOPMENT, TEST & EVALUATION, NAVY			
		BASIC RESEARCH			
0601103N	1	UNIVERSITY RESEARCH INITIATIVES	103,707	7,000	110,707
		Ship Model Testing Facility		[7,000]	
0601152N	2	IN-HOUSE LABORATORY INDEPENDENT RESEARCH	17,298		17,298
0601153N	3	DEFENSE RESEARCH SCIENCES	407,271	3,000	410,271
		Energetics S&T Workforce		[3,000]	
		SUBTOTAL, BASIC RESEARCH, NAVY	528,276	10,000	538,276
		APPLIED RESEARCH			
0602114N	4	POWER PROJECTION APPLIED RESEARCH	79,913	3,900	83,813
		High Energy Conventional Energetics		[1,500]	
		Marine Mammal Hearing and Echolocation Research		[2,400]	
0602123N	5	FORCE PROTECTION APPLIED RESEARCH	131,310	15,200	146,510
		Optical Recognition Protocol for Biologics Detection		[3,200]	
		Composite Sea Lion Craft Project		[5,000]	
		Medium Voltage Distribution Employing High Fidelity Tech		[5,000]	
		Autonomous Superconducting Fault Current Limiting Sys		[2,000]	
0602131M	6	MARINE CORPS LANDING FORCE TECHNOLOGY	36,480	4,000	40,480
		Warfighter Rapid Awareness Processing Technology		[4,000]	

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<u>Program Element</u>	<u>Line</u>	<u>Program Title</u>	<u>FY2009 Request</u>	<u>House Change</u>	<u>House Authorized</u>
0602234N	7	MATERIALS, ELECTRONICS AND COMPUTER TECHNOLOGY Infrared Materials Laboratories	0	3,000 [3,000]	3,000
0602235N	8	COMMON PICTURE APPLIED RESEARCH Test Environment for Adv Team Collaboration Missions All-Weather Sense and Avoid for UAVs	77,054	4,500 [2,000] [2,500]	81,554
0602236N	9	WARFIGHTER SUSTAINMENT APPLIED RESEARCH Remote Fuel Assessment System	93,862	2,000 [2,000]	95,862
0602271N	10	RF SYSTEMS APPLIED RESEARCH Center for Hetero-Functional Materials	54,830	1,000 [1,000]	55,830
0602435N	11	OCEAN WARFIGHTING ENVIRONMENT APPLIED RESEARCH Autonomous Undersea Vehicle Applications Center	47,278	2,000 [2,000]	49,278
0602651M	12	JOINT NON-LETHAL WEAPONS APPLIED RESEARCH	6,084		6,084
0602747N	13	UNDERSEA WARFARE APPLIED RESEARCH	58,658		58,658
0602782N	14	MINE AND EXPEDITIONARY WARFARE APPLIED RESEARCH	47,869		47,869
		SUBTOTAL, APPLIED RESEARCH, NAVY	633,338	35,600	668,938
0603114N	15	ADVANCED TECHNOLOGY DEVELOPMENT POWER PROJECTION ADVANCED TECHNOLOGY Hyperspectral Targeting Sensor Countermine Lidar UAV-based System (CLUBS) Free Space Optical Communications Interrogator	60,360	18,700 [3,000] [2,200] [6,000]	79,060

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(Dollars in Thousands)

<u>Program Element</u>	<u>Line</u>	<u>Program Title</u>	<u>FY2009 Request</u>	<u>House Change</u>	<u>House Authorized</u>
0603123N	16	Electromagnetic Railgun Program High Speed Anti-Radiation Demonstrator FORCE PROTECTION ADVANCED TECHNOLOGY Sea Fighter	55,099	[5,000] [2,500] 29,300 [10,000]	84,399
		High Strength Flame Resistant LCP Reinforced Netting Superconducting DC Homopolar Motor Multi-Fuel Combustor for Shipboard Fuel Cell Systems Power Node Switching and Control Center Repair Cell/Engineering Education Outreach Program Integrated Ship and Motion Control Technology Pure Hydrogen Supply from Logistic Fuels		[3,000] [2,000] [2,000] [3,000] [1,000] [4,300] [4,000]	
0603235N	17	COMMON PICTURE ADVANCED TECHNOLOGY	104,578		104,578
0603236N	18	High Integrity Global Positioning Systems (HIGPS) WARFIGHTER SUSTAINMENT ADVANCED TECHNOLOGY Helo Ruggedized Avionics Displays System for Intelligent Task Assignment & Readiness Deployed ASW Sustainment Training	112,520	[-61,200] 13,800 [6,800] [3,000] [4,000]	-61,200 126,320
0603271N	19	RF SYSTEMS ADVANCED TECHNOLOGY	37,058		37,058
0603640M	20	USMC ADVANCED TECHNOLOGY DEMONSTRATION (ATD) Sniper Defeat and Combat Situational Awareness Ballistic Helmet Development New Class of Backpacks for Marine Electricity Independence	100,787	10,500 [8,500] [1,500] [500]	111,287

Title II-RDT and E
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<u>Program Element</u>	<u>Line</u>	<u>Program Title</u>	<u>FY2009 Request</u>	<u>House Change</u>	<u>House Authorized</u>
0603651M	21	JOINT NON-LETHAL WEAPONS TECHNOLOGY DEV	11,020		11,020
0603729N	22	WARFIGHTER PROTECTION ADVANCED TECHNOLOGY	12,129		12,129
0603747N	23	UNDERSEA WARFARE ADVANCED TECHNOLOGY	81,490	2,500	83,990
		Navy - Use of UNOLS Fleet		[2,500]	
0603758N	24	NAVY WARFIGHTING EXPERIMENTS AND DEMOS	70,216		70,216
0603782N	25	MINE AND EXPEDITIONARY WARFARE ADVANCED TECH	33,426		33,426
		SUBTOTAL, ATD, NAVY	678,683	13,600	692,283
		ADVANCED COMPONENT DEVELOPMENT & PROTOTYPES			
0603207N	26	AIR/OCEAN TACTICAL APPLICATIONS	66,133		66,133
0603216N	27	AVIATION SURVIVABILITY	5,917	6,200	12,117
		Trigger and Alert Sonobuoy System		[2,500]	
		Port and Harbor Security Enhancement - AUV Platforms		[3,700]	
0603237N	28	DEPLOYABLE JOINT COMMAND AND CONTROL	5,905		5,905
0603254N	29	ASW SYSTEMS DEVELOPMENT	28,799	14,200	42,999
		Marine Mammal Awareness, Alert and Response Systems		[6,000]	
		Tactical E-Field Buoy Development		[7,000]	
		Holographic Optical Filters for LIDAR		[1,200]	
0603261N	30	TACTICAL AIRBORNE RECONNAISSANCE	4,298	5,000	9,298
		Peer-Reviewed Research Extremity War Injuries		[5,000]	
0603382N	31	ADVANCED COMBAT SYSTEMS TECHNOLOGY	4,367		4,367

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<u>Program Element</u>	<u>Line</u>	<u>Program Title</u>	<u>FY2009 Request</u>	<u>House Change</u>	<u>House Authorized</u>
0603502N	32	SURFACE AND SHALLOW WATER MINE CM	119,164		119,164
0603506N	33	SURFACE SHIP TORPEDO DEFENSE	49,171		49,171
0603512N	34	CARRIER SYSTEMS DEVELOPMENT	120,511	3,000	123,511
		Improved Corrosion Protection for EMALS		[3,000]	
0603513N	35	SHIPBOARD SYSTEM COMPONENT DEVELOPMENT	4,003	10,500	14,503
		Power Conversion - High Density Power Generation Pkgs		[1,500]	
		Data Acquisition Reporting and Trending System (DARTS)		[3,000]	
		Diagnostic/Prognostic Pump System		[2,000]	
		High Temp Superconductor Propulsion Motor; DDG & CG(X)		[2,000]	
		IR LED Free Space Optics Communications Advancement		[2,000]	
0603525N	36	PILOT FISH	86,017		86,017
0603527N	37	RETRACT LARCH	93,078		93,078
0603536N	38	RETRACT JUNIPER	159,175		159,175
0603542N	39	RADIOLOGICAL CONTROL	1,094		1,094
0603553N	40	SURFACE ASW	29,574	3,900	33,474
		Connectory Expansion for Rapid ID of Tech Sources		[1,300]	
		Sonobuoy Flight Vehicle		[2,600]	
0603559N	41	SSGN CONVERSION	0		0
0603561N	42	ADVANCED SUBMARINE SYSTEM DEVELOPMENT	141,720	28,500	170,220
		SSGN/Virginia Payload Tube Development		[15,000]	
		HBCU Applied Research Incubator		[3,500]	
		Sea Based Strategic Deterrent (UMLS)		[10,000]	

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<u>Program Element</u>	<u>Line</u>	<u>Program Title</u>	<u>FY2009 Request</u>	<u>House Change</u>	<u>House Authorized</u>
0603562N	43	SUBMARINE TACTICAL WARFARE SYSTEMS	10,212		10,212
0603563N	44	SHIP CONCEPT ADVANCED DESIGN Analytics for Shipboard Monitoring Systems (ASMS)	31,111	1,000	32,111
0603564N	45	SHIP PRELIMINARY DESIGN & FEASIBILITY STUDIES Naval Ship Hydrodynamic Test Facilities, NSWC, Carderock	14,627	10,000	24,627
0603570N	46	ADVANCED NUCLEAR POWER SYSTEMS	158,270	[10,000]	158,270
0603573N	47	ADVANCED SURFACE MACHINERY SYSTEMS	0		0
0603576N	48	CHALK EAGLE	352,858		352,858
0603581N	49	LITTORAL COMBAT SHIP (LCS)	371,008		371,008
0603582N	50	COMBAT SYSTEM INTEGRATION	54,401		54,401
0603609N	51	CONVENTIONAL MUNITIONS	8,124		8,124
0603611M	52	MARINE CORPS ASSAULT VEHICLES / EFV Marine Corps Assault Vehicle Reduction	316,052	-40,200	275,852
0603612M	53	USMC MINE COUNTERMEASURES SYSTEMS - ADV DEV	0	[-40,200]	0
0603635M	54	USMC GROUND COMBAT/SUPPORT SYSTEM / JLTV Center for Geospatial Intelligence and Investigation Urban Operations Laboratory	59,049	7,000	66,049
0603654N	55	JOINT SERVICE EXPLOSIVE ORDNANCE DEVELOPMENT	115,086	[1,000]	115,086
0603658N	56	COOPERATIVE ENGAGEMENT	38,316	[6,000]	38,316
0603713N	57	OCEAN ENGINEERING TECHNOLOGY DEVELOPMENT	7,737		7,737
0603721N	58	ENVIRONMENTAL PROTECTION	19,632		19,632
0603724N	59	NAVY ENERGY PROGRAM	5,611		5,611

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(Dollars in Thousands)

<u>Program Element</u>	<u>Line</u>	<u>Program Title</u>	<u>FY2009 Request</u>	<u>House Change</u>	<u>House Authorized</u>
0603725N	60	FACILITIES IMPROVEMENT Critical Components for Ocean Alternate Energy Options Wave Energy PowerBuoy Generating System Swimmer Detection Sonar Network - PNS Hydrokinetic Power Generator Regenerative Fuel Cell Back-Up Power	4,086	16,200 [2,500] [3,500] [5,500] [2,000] [2,700]	20,286
0603734N	61	CHALK CORAL	117,543		117,543
0603739N	62	NAVY LOGISTIC PRODUCTIVITY In Transit Visibility System	2,846	1,000 [1,000]	3,846
0603746N	63	RETRACT MAPLE	138,091		138,091
0603748N	64	LINK PLUMERIA	60,444		60,444
0603751N	65	RETRACT ELM	139,139		139,139
0603755N	66	SHIP SELF DEFENSE	11,001		11,001
0603764N	67	LINK EVERGREEN	75,995		75,995
0603787N	68	SPECIAL PROCESSES	60,678		60,678
0603790N	69	NATO RESEARCH AND DEVELOPMENT	10,129		10,129
0603795N	70	LAND ATTACK TECHNOLOGY Affordable Weapons System Extended Range Guided Munition Program Delay	40,028	-23,800 [15,000] [-38,800]	16,228
0603851M	71	NONLETHAL WEAPONS	46,902		46,902
0603860N	72	JOINT PRECISION APPROACH AND LANDING SYSTEMS	99,929		99,929
0603879N	73	SINGLE INTEGRATED AIR PICTURE SYSTEM ENGINEER	41,807		41,807

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<u>Program Element</u>	<u>Line</u>	<u>Program Title</u>	<u>FY2009 Request</u>	<u>House Change</u>	<u>House Authorized</u>
0603889N	74	COUNTERDRUG RDT&E PROJECTS	0	1,500	1,500
		CRISSTL Ball		[1,500]	
0603925N	75	DIRECTED ENERGY AND ELECTRIC WEAPON SYSTEMS	0		0
0604272N	76	TACTICAL AIR DIRECTIONAL INFRARED CM	63,244	4,500	67,744
		Compact Ultra-fast Laser System Development		[4,500]	
0604327N	77	HARD AND DEEPLY BURIED TARGET DEFEAT SYSTEM	0		0
0604450N	78	JOINT AIR-TO-GROUND MISSILE (JAGM)	0		0
0604707N	79	SEW ARCHITECTURE/ENGINEERING SUPPORT	47,518		47,518
		SUBTOTAL, ACD & PROTOTYPES, NAVY	3,440,400	48,500	3,488,900
		SYSTEM DEVELOPMENT & DEMONSTRATION			
0604212N	80	OTHER HELO DEVELOPMENT	58,210		58,210
0604214N	81	AV-8B AIRCRAFT - ENG DEV	29,924		29,924
0604215N	82	STANDARDS DEVELOPMENT	71,920	2,000	73,920
		Navy METCAL		[2,000]	
0604216N	83	MULTI-MISSION HELICOPTER UPGRADE DEVELOPMENT	70,329		70,329
0604218N	84	AIR/OCEAN EQUIPMENT ENGINEERING	5,750		5,750
0604221N	85	P-3 MODERNIZATION PROGRAM	3,589		3,589
0604230N	86	WARFARE SUPPORT SYSTEM	8,611	5,000	13,611
		Wireless Imaging and Sensor - AT Force Protection Initiative		[5,000]	
0604231N	87	TACTICAL COMMAND SYSTEM	128,742		128,742

Title II-RDT and E
(Dollars in Thousands)

<u>Program Element</u>	<u>Line</u>	<u>Program Title</u>	<u>FY2009 Request</u>	<u>House Change</u>	<u>House Authorized</u>
		Global Command and Control System Maritime			
0604234N	88	ADVANCED HAWKEYE	484,159	[-1,000]	-1,000
0604245N	89	H-1 UPGRADES	3,795		484,159
0604261N	90	ACOUSTIC SEARCH SENSORS	45,790		3,795
0604262N	91	V-22A	68,763		45,790
0604264N	92	AIR CREW SYSTEMS DEVELOPMENT	16,192		68,763
0604269N	93	EA-18	128,906		16,192
0604270N	94	ELECTRONIC WARFARE DEVELOPMENT	106,932		128,906
0604273N	95	VH-71A EXECUTIVE HELO DEVELOPMENT	1,047,835		106,932
0604280N	96	JOINT TACTICAL RADIO SYSTEM - NAVY (JTRS-NAVY)	834,650		1,047,835
0604300N	97	SC-21 TOTAL SHIP SYSTEM ENGINEERING	678,936		834,650
0604307N	98	SURFACE COMBATANT COMBAT SYSTEM ENGINEERING	188,500	3,000	678,936
		DDG-51 Class Permanent Magnet Hybrid Electric Propulsion		[3,000]	191,500
0604311N	99	LPD-17 CLASS SYSTEMS INTEGRATION	985		985
0604329N	100	SMALL DIAMETER BOMB (SDB)	19,574		19,574
0604366N	101	STANDARD MISSILE IMPROVEMENTS	234,653		234,653
0604373N	102	AIRBORNE MCM	39,882		39,882
0604378N	103	INTEGRATED FIRE CONTROL - COUNTER AIR SYS ENG	10,533		10,533
0604501N	104	ADVANCED ABOVE WATER SENSORS	153,558	5,000	158,558
		National RF R&D and Tech Transfer Center		[5,000]	
0604503N	105	SSN-688 AND TRIDENT MODERNIZATION	143,453		143,453
0604504N	106	AIR CONTROL	8,191		8,191

Title II-RDT and E
(Dollars in Thousands)

<u>Program Element</u>	<u>Line</u>	<u>Program Title</u>	<u>FY2009 Request</u>	<u>House Change</u>	<u>House Authorized</u>
0604512N	107	SHIPBOARD AVIATION SYSTEMS	42,843		42,843
0604518N	108	COMBAT INFORMATION CENTER CONVERSION	14,792		14,792
0604558N	109	NEW DESIGN SSN	167,357	2,000	169,357
		Large Scale Demonstration Item for VA-Class Bow Dome		[2,000]	
0604561N	110	SSN-21 DEVELOPMENTS	0		0
0604562N	111	SUBMARINE TACTICAL WARFARE SYSTEM	58,592		58,592
0604567N	112	SHIP CONTRACT DESIGN/ LIVE FIRE T&E	72,932	73,200	146,132
		Automated Fiber Optic Manufacturing Initiative		[4,500]	
		MPF(F) Research and Development		[68,700]	
0604601N	113	MINE DEVELOPMENT	2,008		2,008
0604603N	114	UNGUIDED CONVENTIONAL AIR-LAUNCHED WEAPONS	0		0
0604610N	115	LIGHTWEIGHT TORPEDO DEVELOPMENT	50,732		50,732
0604654N	116	JOINT SERVICE EXPLOSIVE ORDNANCE DEVELOPMENT	10,858		10,858
0604703N	117	PERSONNEL, TRAINING, SIM, AND HUMAN FACTORS	5,263		5,263
0604727N	118	JOINT STANDOFF WEAPON SYSTEMS	22,510		22,510
0604755N	119	SHIP SELF DEFENSE (DETECT & CONTROL)	35,999		35,999
0604756N	120	SHIP SELF DEFENSE (ENGAGE: HARD KILL)	36,238		36,238
0604757N	121	SHIP SELF DEFENSE (ENGAGE: SOFT KILL/EW)	57,574		57,574
0604761N	122	INTELLIGENCE ENGINEERING	13,750		13,750
0604771N	123	MEDICAL DEVELOPMENT	7,833	7,000	14,833
		Reducing Operational Stress		[5,000]	
		U.S. Navy Pandemic Influenza Vaccine Program		[2,000]	

Title II-RDT and E
(Dollars in Thousands)

<u>Program Element</u>	<u>Line</u>	<u>Program Title</u>	<u>FY2009 Request</u>	<u>House Change</u>	<u>House Authorized</u>
0604777N	124	NAVIGATION/ID SYSTEM	49,007		49,007
0604784N	125	DISTRIBUTED SURVEILLANCE SYSTEM Augmentation for Force Protection at NAWCAD	0	2,000	2,000
				[2,000]	
0604800N	126	JOINT STRIKE FIGHTER (JSF) JSF Competitive Engine	1,532,748	262,500	1,795,248
				[247,500]	
				[15,000]	
0605013M	127	F135 Technology Insertion INFORMATION TECHNOLOGY DEVELOPMENT	30,238		30,238
0605013N	128	INFORMATION TECHNOLOGY DEVELOPMENT	72,497		72,497
0605172N	129	MULTINATIONAL INFORMATION SHARING (MNIS)	0		0
0605212N	130	CH-53K RDTE	570,484		570,484
0605430N	131	C/KC-130 AVIONICS MODERNIZATION PROGRAM (AMP)	24,407		24,407
0605450N	132	JOINT AIR-TO-GROUND MISSILE (JAGM)	62,324		62,324
0605500N	133	MULTI-MISSION MARITIME AIRCRAFT (MMA)	1,132,026		1,132,026
0304785N	134	TACTICAL CRYPTOLOGIC SYSTEMS	16,678		16,678
		SUBTOTAL SDD, NAVY	8,682,052	360,700	9,042,752
0604256N		RDT&E MANAGEMENT SUPPORT			
0604258N	135	THREAT SIMULATOR DEVELOPMENT	24,959		24,959
0604759N	136	TARGET SYSTEMS DEVELOPMENT	80,337		80,337
	137	MAJOR T&E INVESTMENT Air Combat Enviro Test and Evaluation Facility Upgrades	42,391	6,500	48,891
				[3,000]	

Title II-RDT and E
(Dollars in Thousands)

<u>Program Element</u>	<u>Line</u>	<u>Program Title</u>	<u>FY2009 Request</u>	<u>House Change</u>	<u>House Authorized</u>
		Improved Interoperability to support NAVAIR and GWOT		[1,500]	
		SURETRAK Re-architecture and Sensor Augmentation		[2,000]	
0605152N	138	STUDIES AND ANALYSIS SUPPORT - NAVY	8,084		8,084
0605154N	139	CENTER FOR NAVAL ANALYSES	49,745		49,745
0605155N	140	FLEET TACTICAL DEVELOPMENT	0		0
0605502N	141	SMALL BUSINESS INNOVATIVE RESEARCH	0		0
0605804N	142	TECHNICAL INFORMATION SERVICES	713		713
0605853N	143	MANAGEMENT, TECHNICAL & INTERNATIONAL SUPPORT	51,568		51,568
0605856N	144	STRATEGIC TECHNICAL SUPPORT	3,597		3,597
0605861N	145	RDT&E SCIENCE AND TECHNOLOGY MANAGEMENT	69,913		69,913
0605862N	146	RDT&E INSTRUMENTATION MODERNIZATION	0		0
0605863N	147	RDT&E SHIP AND AIRCRAFT SUPPORT	195,017		195,017
0605864N	148	TEST AND EVALUATION SUPPORT	356,254		356,254
0605865N	149	OPERATIONAL TEST AND EVALUATION CAPABILITY	12,195		12,195
0605866N	150	NAVY SPACE AND ELECTRONIC WARFARE SUPPORT	2,708		2,708
0605867N	151	LINK CRIMSON	25,358		25,358
0605873M	152	MARINE CORPS PROGRAM WIDE SUPPORT	24,687		24,687
0305885N	153	TACTICAL CRYPTOLOGIC ACTIVITIES	1,998		1,998
0804758N	154	SERVICE SUPPORT TO JFCOM, JNTC	5,148		5,148
0909999N	155	FINANCING FOR CANCELLED ACCOUNT ADJUSTMENTS	0		0
		SUBTOTAL, RDT&E MANAGEMENT SUPPORT, NAVY	954,672	6,500	961,172

Title II-RDT and E
(Dollars in Thousands)

<u>Program Element</u>	<u>Line</u>	<u>Program Title</u>	<u>FY2009 Request</u>	<u>House Change</u>	<u>House Authorized</u>
OPERATIONAL SYSTEMS DEVELOPMENT					
0603660N	156	ADVANCED DEVELOPMENT PROJECTS			
0604227N	157	HARPOON MODIFICATIONS	68,214		68,214
0604402N	158	UCAV PROTOTYPE DEVELOPMENT	275,823		275,823
0101221N	159	STRATEGIC SUB & WEAPONS SYSTEM SUPPORT	80,120	-5,600	74,520
		Reliable Replacement Warhead (RRW)		[-23,300]	
		Arming, Fuzing, and Firing Systems		[13,300]	
		Advanced LINAC Facility		[4,400]	
0101224N	160	SSBN SECURITY TECHNOLOGY PROGRAM	34,131		34,131
0101226N	161	SUBMARINE ACOUSTIC WARFARE DEVELOPMENT	7,384		7,384
0101402N	162	NAVY STRATEGIC COMMUNICATIONS	47,495		47,495
0203761N	163	RAPID TECHNOLOGY TRANSITION (RTT)	34,469		34,469
0204136N	164	F/A-18 SQUADRONS	71,232		71,232
0204152N	165	E-2 SQUADRONS	54,096		54,096
0204163N	166	FLEET TELECOMMUNICATIONS (TACTICAL)	26,696		26,696
0204229N	167	TOMAHAWK AND TOMAHAWK MISSION PLANNING CENTER	14,212	3,000	17,212
		Low-Cost Image-Based Navigation and Precision Targeting		[3,000]	
0204311N	168	INTEGRATED SURVEILLANCE SYSTEM	20,565		20,565
0204413N	169	AMPHIBIOUS TACTICAL SUPPORT UNITS	2,325		2,325
0204571N	170	CONSOLIDATED TRAINING SYSTEMS DEVELOPMENT	28,017		28,017
0204574N	171	CRYPTOLOGIC DIRECT SUPPORT	1,441		1,441

Title II-RDT and E
(Dollars in Thousands)

<u>Program Element</u>	<u>Line</u>	<u>Program Title</u>	<u>FY2009 Request</u>	<u>House Change</u>	<u>House Authorized</u>
0204575N	172	ELECTRONIC WARFARE (EW) READINESS SUPPORT	24,276		24,276
0205601N	173	HARM IMPROVEMENT Advanced Anti-Radiation Guided Missile Derivative	31,427	3,000 [3,000]	34,427
0205604N	174	TACTICAL DATA LINKS	4,247		4,247
0205620N	175	SURFACE ASW COMBAT SYSTEM INTEGRATION	21,720		21,720
0205632N	176	MK-48 ADCAP MK-48 Post Launch Comm System	15,879	1,000 [1,000]	16,879
0205633N	177	AVIATION IMPROVEMENTS Ultraviolet-cure Structural Repair Adhesives Helo Laminate Widescreen Development	122,906	3,200 [2,000] [1,200]	126,106
0205658N	178	NAVY SCIENCE ASSISTANCE PROGRAM	3,625		3,625
0205675N	179	OPERATIONAL NUCLEAR POWER SYSTEMS	71,576		71,576
0206313M	180	MARINE CORPS COMMUNICATIONS SYSTEMS	273,696		273,696
0206623M	181	USMC GROUND COMBAT/SUPPORTING ARMS SYSTEMS Marine Corps Shotgun Modernization Program Enhanced Military Vehicle Maintenance Dev and Test Program for EMI Hardened Test Shelter	136,080	9,000 [3,000] [4,000] [2,000]	145,080
0206624M	182	MARINE CORPS COMBAT SERVICES SUPPORT	9,646		9,646
0207161N	183	TACTICAL AIM MISSILES	6,679		6,679
0207163N	184	ADVANCED MEDIUM RANGE AIR-TO-AIR MISSILE (AMRAAM)	8,556		8,556

Title II-RDT and E
(Dollars in Thousands)

<u>Program Element</u>	<u>Line</u>	<u>Program Title</u>	<u>FY2009 Request</u>	<u>House Change</u>	<u>House Authorized</u>
0208058N	185	JOINT HIGH SPEED VESSEL (JHSV)	11,960		11,960
0301303N	186	MARITIME INTELLIGENCE			
0301323N	187	COLLECTION MANAGEMENT			
0301327N	188	TECHNICAL RECONNAISSANCE AND SURVEILLANCE			
0301372N	189	CYBER SECURITY INITIATIVE - GDIP			
0303109N	190	SATELLITE COMMUNICATIONS (SPACE)	652,463	6,000	658,463
		Joint-integrated Sys Tech for Advanced Digital Networking		[6,000]	
0303140N	191	INFORMATION SYSTEMS SECURITY PROGRAM	27,037		27,037
0303158M	192	JOINT COMMAND AND CONTROL PROGRAM (JC2)	2,000		2,000
0303158N	193	JOINT COMMAND AND CONTROL PROGRAM (JC2)	4,148		4,148
0305149N	194	COBRA JUDY	101,114		101,114
0305160N	195	NAVY METEOROLOGICAL AND OCEAN SENSORS-SPACE	8,208		8,208
0305192N	196	MILITARY INTELLIGENCE PROGRAM (MIP) ACTIVITIES	4,614		4,614
0305204N	197	TACTICAL UNMANNED AERIAL VEHICLES	45,717		45,717
0305205N	198	ENDURANCE UNMANNED AERIAL VEHICLES	480,098	-62,000	418,098
		BAMS Program		[-62,000]	
0305206N	199	AIRBORNE RECONNAISSANCE SYSTEMS	55,719		55,719
0305207N	200	MANNED RECONNAISSANCE SYSTEMS	13,982		13,982
0305208N	201	DISTRIBUTED COMMON GROUND/SURFACE SYSTEMS	44,540		44,540
0307207N	202	AERIAL COMMON SENSOR (ACS)	74,604		74,604

Title II-RDT and E
(Dollars in Thousands)

<u>Program Element</u>	<u>Line</u>	<u>Program Title</u>	<u>FY2009 Request</u>	<u>House Change</u>	<u>House Authorized</u>
0308601N	203	MODELING AND SIMULATION SUPPORT	8,007		8,007
0702207N	204	DEPOT MAINTENANCE (NON-IF)	21,130		21,130
0702239N	205	AVIONICS COMPONENT IMPROVEMENT PROGRAM	1,877		1,877
0708011N	206	INDUSTRIAL PREPAREDNESS	56,681		56,681
0708730N	207	MARITIME TECHNOLOGY (MARITECH)	0		0
0909999N	999	CLASSIFIED PROGRAMS	1,309,385		1,309,385
		SUBTOTAL, OPERATIONAL SYS DEVELOPMENT, RDT&E	4,419,817	-42,400	4,377,417
		Total, RDT&E Navy	19,337,238	432,500	19,769,738

Items of Special Interest

Advanced anti-radiation guided-missile weapon data link program

The budget request contained \$60.4 million in PE 63114N for power projection advanced technology programs, but contained no funds for a flight demonstration of the advanced anti-radiation guided-missile (AARGM) weapon data link program.

The AARGM is a medium-range, supersonic, air-launched tactical missile designed to attack enemy radars. The AARGM weapon data link program demonstrates an ability to use a new data link program, developed by the Defense Advanced Research Projects Agency, to replace the two data links currently used on the AARGM with one data link that also provides an expanded capability against moving targets while reducing data link costs.

The committee recommends an increase of \$1.5 million in PE 63114N for the AARGM weapon data link flight demonstration. Subsequent to a successful flight demonstration, the committee expects the Department of the Navy to incorporate the AARGM weapon data link as part of its AARGM product improvement program.

Advanced electric motor development

The budget request contained a total of \$256.5 million in PE 63513N, PE 64307N, and PE 63123N for advanced shipboard component development programs.

The committee strongly supports the Navy's research and technology efforts to design and develop the next generation of advanced electric motors. The committee understands that promising technologies exist in high temperature superconducting motors, permanent magnet motors, and direct current (DC) homopolar motors. The committee is committed to the concept of the all-electric integrated propulsion and distribution systems for future classes of naval vessels and recognizes that adequate funding for the testing of multiple promising technologies is in the best interest of the future naval force.

The committee recommends increases of \$4.0 million in PE 63513N, \$3.0 million in PE 64307N, and \$4.0 million in PE 63123N for continued design, development, and testing of high temperature superconducting, permanent magnet, and DC homopolar advanced electric motors.

Affordable weapon system

The budget request contained \$40.0 million in PE 63795N for land attack technology, but contained no funds for the affordable weapon system (AWS) project.

The committee understands that AWS is an advanced technology initiative intended to identify and mature capabilities that should lead to a precision guided weapon capable of kinetically engaging targets at stand-off ranges with a fly-away cost goal of less than \$0.3 million per weapon. The committee notes the development of an affordable strike weapon against moving and urban targets has been identified by the Department of the Navy as a warfighting science and technology gap.

The committee notes the Tomahawk Land Attack Missile (TLAM), Block IV is an example of an increasingly expensive strike

weapon. The committee notes the Navy signed a five year, multi-year procurement contract in fiscal year 2004 for 2,200 TLAM Block IV missiles at a unit cost of \$0.7 million per missile. The committee notes for fiscal year 2009, the Department of the Navy will not procure TLAM Block IV missiles using multi-year procurement contract authority but will use annual procurement contract authority. The committee is concerned by the Navy's approach to Tomahawk Block IV missile procurement and notes that the Navy plans to obligate \$281.1 million for procurement of 207 missiles, resulting in a unit cost of \$1.4 million per missile. The committee notes this is an 86 percent unit cost increase of \$0.6 million per missile in fiscal year 2009, as compared to the unit cost of a missile procured under the previous multi-year procurement contract authority.

The committee commends the Naval Air Systems Command's decision to restructure the AWS project into 2, 12-month phases that, with the proper funding, allow the Navy to evaluate a broad scope of innovative industrial base ideas that could potentially meet the Department's requirements for an affordable weapon. The committee understands the results of the two-phased approach should support the development of an initial capabilities document, which may lead to a new start program for AWS beginning in fiscal year 2010, with a goal of first article delivery in fiscal year 2016. The committee notes that AWS phase two, scheduled to begin in September, 2008, would evaluate material approaches, further refine concept of operations and system architecture, and construct a comprehensive risk assessment of material solutions provided by industry.

However, the committee is concerned that the current budget request and prior year appropriations for AWS would only allow two concepts to be carried forward into phase two, instead of continuing to develop each concept found to have merit. The committee strongly encourages the Secretary of the Navy to maximize industry participation for the AWS project and understands that awarding more than two phase-two contracts would provide the Secretary additional system concepts and options to consider for AWS.

The committee recommends an increase of \$15.0 million in PE 63795N for AWS. Additionally, the committee strongly encourages the Secretary of the Navy to examine more cost-effective alternative courses of action concerning the procurement of the TLAM Block IV.

All-weather sense-and-avoid system for unmanned aerial vehicles

The budget request contained \$77.1 million in PE 62235N for common picture applied research, but contained no funds for continued development of the all-weather sense-and-avoid system for unmanned aerial vehicles (UAV).

The committee notes that UAVs operate in the national airspace, crowded theaters of operation, and in hazardous weather. Currently, UAVs lack adequate collision avoidance systems. The committee further notes that \$2.4 million was appropriated by Congress for fiscal year 2008, and understands that additional funding in fiscal year 2009 would complete the development, prototype fabrication, and laboratory testing of the all-weather sense-and-avoid system for UAVs in a ground-based vehicle.

The committee recommends \$81.6 million, an increase of \$2.5 million, in PE 62235N for continued development of the all-weather sense-and-avoid system for UAVs.

Composite Sea Lion craft project

The budget request contained \$131.3 million in PE 62123N for force protection applied research but contained no funds for the manufacture of a composite craft based on the aluminum Sea Lion craft developed by the Naval Surface Warfare Center for use in the special operations forces.

The committee understands that the manufacture of a composite craft based on the Sea Lion hull design will allow the Navy to determine which type of craft, aluminum or composite, best serves the needs of the special operations forces and the Navy Expeditionary Combat Command.

The committee recommends an increase of \$5.0 million in PE 62123N for the manufacture of a composite craft using the Sea Lion hull form.

Extended range guided-munition

The budget request contained \$40.0 million in PE 63795N for land attack technology.

The committee notes that \$38.8 million of the funding requested in this program element was for the extended range guided munition (ERGM) program. However, this program is under a stop work order by the Navy pending a possible program cancellation by the Undersecretary of Defense, Acquisition, Technology, and Logistics. The committee further notes that as of early April 2008, only 15 percent of \$51.1 million in fiscal year 2008 program funds were obligated due to the delay in the program.

The committee believes the Navy has justifiable concerns regarding the performance of ERGM, especially after expending over \$600.0 million for research and development. Nevertheless, the Marine Corps still requires long-range precision fire support. The committee is concerned that the Navy is no closer to fulfilling the naval surface fire support requirement than it was at the inception of the ERGM program. However, Congress has previously supported significant funding to develop alternatives, such as the ballistic-trajectory extended range munition (B-TERM), that may prove to be promising approaches to addressing the requirement. The committee directs the Secretary of the Navy to submit a report to the congressional defense committees within 90 days from the date of enactment of this Act containing an assessment of appropriate alternatives, an estimate of necessary resources, and a suitable program schedule to field a capability to support the Marine Corps requirement for extended range munitions capability.

The committee recommends \$1.2 million, a decrease of \$38.8 million, in PE 63795N for land attack technology.

Global Command and Control System—Maritime

The budget request contained \$128.7 million in PE 64231N for tactical command systems, including some funds for the Global Command and Control System—Maritime.

The committee is concerned over a lack of commitment by the services to transition from service stove-piped command and con-

trol systems to a joint architecture, such as the Network Enabled Command and Control system. The services can no longer sustain a multitude of disparate systems, from a technical management or financial perspective. Yet there appears to be no clear strategy articulated to senior decision makers showing how the services will move from multiple independent systems, to a joint, federated approach. This approach does not necessarily entail adopting a single system, but until the services commit to a unified approach to commonality, the military services will continue to waste funds and inhibit the benefits accrued by jointness.

The committee recommends \$127.7 million, a decrease of \$1.0 million in PE 64231N.

Helicopter windscreen laminate appliqués

The budget request contained \$122.9 million in PE 25633N for aviation improvements, but contained no funds for development of helicopter windscreen laminate appliqués.

The committee understands that helicopter windscreens are subject to erosive effects of environmental conditions, which can lead to significant degradation of visibility for the aircrew, especially during low visibility and night missions. The committee notes that a multi-layered protective laminate appliqué could be developed and applied to helicopter windscreens that would allow maintenance personnel to quickly restore windscreen visibility for the aircrew prior to flight by peeling away degraded layers, thus increasing success of mission operations and safety for the aircrew.

The committee recommends an increase of \$1.2 million in PE 25633N for aviation improvements and development of helicopter windscreen laminate appliqués.

High-Integrity Global Positioning Systems

The budget request contained \$61.2 million in PE 63235N for High-Integrity Global Positioning Systems (HIGPS).

HIGPS is designed to develop the technology required to demonstrate the capability to use the existing Iridium satellite constellation to enhance current GPS navigation and timing capabilities. The benefits of this approach have not been sufficiently proven and the committee does not recommend funding for this request.

The committee recommends no funds in PE 63235N for High-Integrity Global Positioning Systems.

Hyper-spectral targeting sensor

The budget request contained \$60.4 million in PE 63114N for power projection advanced technology, but contained no funds to develop a hyper-spectral targeting sensor for unmanned aerial systems (UAS).

The committee notes that tactical UASs are being developed by the Department to provide intelligence, surveillance, and reconnaissance during military operations. The committee understands that a capability shortfall exists for an advanced technology sensor package that can operate on UASs from medium-to-long stand-off distances and at low-to moderate-grazing angles to mitigate exposure to defensive ground-fire and increase mission accomplishment. The committee also understands there is a requirement to collect and process specific wavelength-sensitive and high-quality image

data, suitable for use with advanced algorithms that can yield actionable data in real time.

The committee recommends an increase of \$3.0 million in PE 63114N for power projection advanced technology for development of a hyper-spectral targeting sensor for UASs.

Large-scale demonstration item for VA-Class bow dome

The budget request contained \$167.4 million in PE 64558N for new design SSN, but contained no funds for development of a large-scale *Virginia* class submarine bow dome utilizing composite manufacturing technology.

The committee understands that certifying a composite process to manufacture bow domes for *Virginia* Class submarines has potential benefits of reduced cost and an expanded supply base compared to the current process of manufacturing rubberized bow domes with an auto-clave process.

The committee recommends an increase of \$2.0 million in PE 64558N for the manufacture of a large scale composite bow dome as a proof of concept demonstration model.

Marine Corps assault vehicles

The budget request contained \$316.1 million in PE 63611M for expeditionary fighting vehicle (EFV) research and development.

The committee is concerned that plans to begin fabrication of new EFV prototypes in fiscal year 2009 have not sufficiently addressed the need to enhance protection of the EFV from mines and improvised explosive devices in some operational scenarios.

The committee recommends \$275.9 million, a decrease of \$40.2 million, in PE 63611M for EFV research and development.

Marine Corps shotgun modernization program

The budget request contained \$136.1 million in PE 26623M for Marine Corps ground combat/supporting arms systems, but contained no funds for the Marine Corps shotgun modernization program.

The Marine Corps shotgun modernization program transitions LTLX-7000 technology into current M1014 combat shotgun platforms through a series of spiral developments. The committee understands LTLX-7000 technology uses a simple and robust sighting system, as well as a unique gas bleeding system to adjust the muzzle velocity of less than lethal (LTL) projectiles so that the LTL projectile hits desired targets at any range with the desired effect. The committee is aware that certain LTL projectiles can be lethal when fired at close range. The committee is aware LTLX-7000 technology could provide the user with flexibility to adjust muzzle velocity to address any situation and prevent unnecessary casualties.

The committee recommends an increase of \$3.0 million in PE 26623M to accelerate the Marine Corps shotgun modernization program.

Marine mammal awareness, alert and response systems

The budget request contained \$28.8 million in PE 63254N for anti-submarine warfare (ASW) systems development but contained

no funds for the marine mammal awareness, alert and response systems.

The committee is concerned with both the need to protect marine mammals from adverse effects of mid-frequency sonar and the need for the Navy to train using mid-frequency sonar in a realistic environment. The committee understands that development of the marine mammal awareness, alert and response system would significantly increase the Navy's ability to monitor marine mammal activity in the vicinity of training exercises using mid-frequency sonar.

The committee recommends an increase of \$6.0 million in PE 63254N for the development of the marine mammal awareness, alert and response system.

MK-48 torpedo technology development

The budget request contained \$15.9 million in PE 25632N for MK-48 torpedo advanced capability (TADCAP) development, but contained no funds for a post-launch communication system for use in the littorals.

The committee understands that the Chief of Naval Operations has stressed that successful operations in shallow water is a critical necessity to counter submarine threats. Torpedo testing in shallow water has demonstrated that in-service MK-48 TADCAP has less than full capability in a shallow water engagement environment. The committee notes that traditional weighted and hollow flexible-hose and guidance wire communications technologies can not satisfy future operating environment requirements, and that a high bandwidth post-launch communications system is needed to ensure the MK-48 TADCAP is capable of meeting requirements in the littoral environment.

The committee recommends an increase of \$1.0 million in PE 25632N for development of a post-launch communication system for the MK-48 TADCAP.

Naval Ship Hydrodynamic Test Facilities, NSWC, Carderock

The budget request contained \$14.6 million in PE 63564N for ship preliminary design and feasibility studies but contained no funds to replace the wave makers at the Naval Ship Hydrodynamic Test Center, Naval Surface Warfare Center (NSWC).

The committee understands the wave makers at the NSWC are essential for assessing current and future naval ship designs. Also, the current wave makers are unable to produce consistent test waves and are in need of replacement.

The committee recommends an increase of \$10.0 million in PE 63564N for the replacement of the wave makers at the Naval Ship Hydrodynamic Test Center, Naval Surface Warfare Center.

Navy strategy for maritime domain awareness

The committee applauds the Navy for working to accelerate the deployment of a capability for achieving maritime domain awareness (MDA), which is vital for homeland protection and the projection of naval power. The committee is concerned at the lack of a clearly articulated Navy strategy for achieving both the near-term capabilities and long-range vision laid out in the "National Plan to Achieve Maritime Domain Awareness" issued by the Department of Homeland Security, in October 2005.

The committee directs the Secretary of the Navy to submit to the congressional defense committees a report on his strategy for continued development of MDA capability within 180 days after the date of enactment of this Act. This strategy shall address, at minimum, the following issues:

(1) The definitions for spirals one and two (including descriptions of the capabilities to be delivered and the funding needed for these capabilities) and how are they linked to the “National Plan to Achieve Maritime Domain Awareness;”

(2) Capabilities planned for inclusion in future spirals for MDA;

(3) A certification that current and future spirals will integrate into the enterprise Naval Networking Environment, as well as proposed future iterations;

(4) An explanation of how technologies being developed in the science and technology community spin into future MDA spirals;

(5) Supporting capabilities being provided by international or interagency partners (including funding levels), and a description of how these capabilities will be integrated into current and future spirals; and

(6) The governance structure for determining program management oversight.

Elsewhere in this title, the committee recommends the budget requested funding levels for the procurement and research and development programs necessary for development of MDA capability.

Non-lethal weapons and technology

The committee notes the increasing potential in the emerging role of non-lethal weapons and the continued development of non-lethal weapons technologies and capabilities. The committee believes that the use of these technologies could prove valuable in reducing risks to the warfighter and to non-combatants in areas of ongoing military operations and in potential future missions of humanitarian support, stability, and reconstruction operations, or defense support to civil authorities. In this regard, the committee urges the Department to pursue a greater number of development and employment strategies for the ultimate fielding of such systems and encourages the continued efforts toward developing active denial technologies, including the Active Denial System (ADS), optical incapacitation, and acoustic devices.

The committee strongly encourages the Department of Defense to ensure that the non-lethal weapons science and technology base is adequately funded so that investments in these technologies can lead expeditiously to the development and deployment of advanced non-lethal weapons systems and capabilities that enhance the safety of U.S. armed forces and improve opportunities for mission success. The committee also encourages the Department to ensure that policy, doctrine, and tactics are developed in parallel through increased experimentation, as those elements are necessary to promote technology maturation and to ensure the rapid fielding of non-lethal systems.

Recapitalization of anti-submarine warfare aircraft

The budget request contained \$1.2 billion for development and procurement of three P-8 developmental test aircraft. The budget request contained \$301.5 million for development and procurement of P-3C modernization and sustainment programs. The Chief of Naval Operations' unfunded requirements list contained \$100.0 million for P-8 Multi-Mission Aircraft (MMA) to accelerate replacement of the P-3C aircraft by nine months, and \$448.3 million for P-3C unplanned aircraft grounding-item repairs.

The committee understands the Navy recently determined that the P-3C fleet is experiencing structural fatigue in wing struts at a rate greater than originally estimated. As a result, thirty nine of 123 mission capable P-3C aircraft evaluated were grounded in November 2007.

The committee understands that with implementation of a structural fatigue recovery plan, there is sufficient service life remaining in the P-3C fleet to provide needed operational capability until the replacement P-8 MMA reaches initial operational capability status in fiscal year 2013, and full operational capability status in fiscal year 2019, when the last aircraft of the P-3C fleet will be retired.

The committee notes the Secretary of the Navy is contemplating accelerating initial operational capability status of the P-8 MMA by approximately nine months. Due to the two most recent Navy assessments of the contractor's performance as suboptimal, the committee is concerned with program acceleration. The committee notes that program officials conducted a \$900.0 million baseline restructuring of the program in January 2007, and reduced the planned procurement of seven test aircraft to five aircraft. Even with the reduction in planned test aircraft, the testing schedule has not been modified, adding additional risk to the program.

Due to these concerns, the committee expects the Secretary of the Navy and the Undersecretary of Defense for Acquisition, Technology and Logistics to review program execution prior to making a decision to accelerate P-8 MMA initial operational capability.

The committee recommends \$448.3 million in title XV of this Act for P-3C unplanned aircraft grounding-item repairs.

Reliable Replacement Warhead

The budget request contained \$80.1 million in PE 11221N, Strategic Submarine and Weapons Systems Support, including \$23.3 million for the proposed Reliable Replacement Warhead (RRW).

According to the President's budget justification materials, these funds were requested to enable the Navy to support the RRW Phase 2a design and cost study, and to support RRW Phase 3 Engineering Development, in concert with the National Nuclear Security Administration. The committee finds that the activities described in the budget request are premature and not executable in fiscal year 2009. Subsequent to the release of the fiscal year 2009 budget request, the Office of the Secretary of Defense and the Navy described the requested funds as designed not to support the RRW program, but instead to support research on integrated Arming, Fuzing, and Firing (AF&F) systems that could be suitable with either an RRW or an existing weapon refurbished through a Life Extension Program. The committee understands that integrated

AF&F designs with applicability across multiple platforms could yield important benefits.

The committee recommends \$74.5 million, a decrease of \$5.6 million, in PE 11221N for Strategic Submarine and Weapons Systems Support. Within this total for PE 11221N, the committee authorizes no funds for the RRW program. The committee authorizes \$13.3 million within PE 11221N, Strategic Submarine and Weapons Systems Support, for research into integrated AF&F systems.

Report on energetic materials research development and manufacturing technology

The committee notes the recent reports on the advances in energetic materials research, development, and manufacturing technologies by foreign countries, and urges the Department of Defense (DOD) to conduct a risk assessment that would address national security threats arising from new and unanticipated energetic materials that may be developed by foreign governments. Additionally the committee is concerned that the investment required to adequately sustain a robust energetics research, development, and manufacturing technology program has not been maintained. The committee urges the Department to adequately invest in this area to ensure that the United States retains sufficient explosive production capacity, continues to develop future innovative munitions, and continues to develop the next-generation of energetics scientists and engineers. The committee believes a loss of this military-unique capability and crucial workforce would have significant ramifications for future weapons systems, military operations, and homeland security.

Accordingly, the committee directs the Secretary of Defense, in consultation with the Secretary of Energy, the Director of National Intelligence, and the Secretary of Homeland Security, to assess the current state of, and future advances in research, development, and manufacturing technology of energetic materials in both foreign countries and in the United States. At a minimum, the report shall include those DOD programmatic and budgetary recommendations that will ensure advanced energetic materials and equally critical energetic science and technology expertise are available to meet future national security requirements and should include the risk to national security if the funding level continues to decline.

The committee recognizes the initial work done by the Department of the Navy in launching an energetics science and technology workforce revitalization initiative and encourages the Secretary of Defense to utilize that initiative as the basis for developing the report. The report shall be submitted to the congressional defense committees by March 1, 2009.

Ruggedized helicopter avionics displays

The budget request contained \$112.5 million in PE 63236N for warfighter sustainment advanced technology, but contained no funds to continue the development of ruggedized avionics displays for Navy and Marine Corps helicopter systems.

The committee understands that helicopter vibrations and adverse environmental flying conditions reduce the useful service-life of helicopter displays, which increases display failure rate, increases maintenance personnel workload, and has the potential to

decrease safety margins of aircrews during critical phases of flight. The committee notes that funding was appropriated in fiscal year 2008 to develop ruggedized helicopter displays and instrumentation for avionics. Ruggedized display systems should have the capability to operate in harsh conditions without the use of air vents for cooling, and should offer better performance, longer service-life, and reduced total life-cycle cost.

The committee recommends an increase of \$6.8 million in PE 63236N for continued development of ruggedized avionics displays for Navy and Marine Corps helicopter systems.

Sea-based strategic deterrent/undersea launched missile study

The budget request contained \$141.7 million in PE 63561N for advanced submarine system development but contained no funds for design and development of a sea-based strategic undersea launched missile.

The committee is concerned that the Department of Defense has no coherent plan for undersea launched strategic deterrent weapons systems to eventually replace the current undersea strategic force. The committee believes that research and development is necessary now to ensure undersea launched weapons capability is available in the future.

The committee recommends an increase of \$5.0 million in PE 63561N to begin initial studies and concept designs of future undersea launched weapons systems.

Seafighter

The budget request contained \$55.1 million for force protection advanced technology but contained no funds for continuing the upgrades to make the research and development vessel Seafighter as deployable fleet asset.

The committee is committed to the continued use of Seafighter as both a research and development craft and a deployable Navy asset. The design and development of Seafighter benefited the Navy and Coast Guard in the design and construction the Littoral Combat Ships and the National Security Cutter. Seafighter is a vital asset for continued research and development testing of emerging technologies useful in the littoral warfare environment.

The committee recommends an increase of \$10.0 million in PE 63123N to include the addition of offensive and defensive armament, the improvement of ship survivability systems, and the completion of command and control hull, mechanical, and electrical upgrades.

SSGN/Virginia payload tube development

The budget request contained \$141.7 million in PE 63561N for advanced submarine system design but contained no funds for continued design and development efforts of a large diameter weapons launch tube for *Virginia* class submarines.

The committee understands that development of a large diameter launch tube for *Virginia* class submarines will increase combat capability and reduce overall construction costs. The large diameter tube also has the potential to field new technologies, such as undersea autonomous vehicles, as those technologies mature.

The committee recommends an increase of \$15.0 million in PE 63561N for design and development of a large diameter weapons launch tube for Virginia class submarines.

Threat-D missile target development

The committee is pleased to note the anticipated source selection for the development of a Threat D missile target development program in the summer of 2008. The committee remains concerned that the estimated initial operating capability of such a target in 2014 creates substantial risk during the interim period. The committee encourages the Secretary to accelerate the target development program to the maximum extent practicable. In addition, the committee directs the Secretary of the Navy to notify the congressional defense committees in writing if the estimated initial operating capability of the Threat D target is delayed more than 90 days or if the costs associated with such program exceeds 10 percent of programmed funding. The committee further directs the Secretary to provide such notification within 30 days, along with the reasons for such delay or cost overrun and a mitigation plan consisting of actions that could restore the program to its original timeline.

Trigger and alert sonobuoy

The budget request contained \$5.9 million in PE 63216N for aviation survivability, but contained no funds for an in-buoy processor for a trigger and alert sonobuoy system.

The committee understands that the Navy currently has a series of sonobuoys that require human intervention in order to be effective during mission operations. The committee notes there are efforts underway to test a sonobuoy system capable of autonomous operation that can classify, trigger, and send an alert message without human intervention. The committee notes that successful completion of this effort could provide a significant capability for anti-submarine warfare, diver detection, counter narco-terrorism, and harbor protection by using autonomous fields of sonobuoys that alert military personnel on specific cues.

The committee recommends an increase of \$2.5 million in PE 63216N for development of an in-buoy processor that implements an autonomous trigger and alert sonobuoy system.

Ultraviolet-cure structural repair adhesives

The budget request contained \$122.9 million in PE 25633N for aviation improvements, but contained no funds for development of ultraviolet-cure structural repair adhesives.

The committee notes standard structural repair adhesives have extremely long cure times ranging 14 days for full cure at room temperature, to a forced cure at 180 degrees Fahrenheit for 2 hours. The committee understands ultraviolet-cure structural repair adhesives have been successfully demonstrated through the small business innovation research program and have cure times as low as five minutes, and could be developed for military aircraft and ground vehicles applications.

The committee recommends an increase of \$2.0 million in PE 25633N for development of ultraviolet-cure structural repair adhesives for military use applications.

Urban operations laboratory

The budget request contained \$59.0 million in PE 63635M for Marine Corps ground combat support systems, but contained no funds for the urban operations laboratory (UOL) program.

The UOL program focuses on the development and enhancement of non-lethal capabilities for use in the urban environment to include vehicle stopping systems, bomb detection capabilities, and improvised explosive device detection capabilities. The committee is aware the Marine Corps has indicated this program is a critical, unfunded requirement for fiscal year 2009.

The committee recommends an increase of \$6.0 million in PE 63635M to accelerate the urban operations laboratory program and address the Marine Corps unfunded requirement.

VH-71 presidential helicopter program

The committee understands the need to replace the aging fleet of VH-3 and VH-60 helicopters currently in use by the executive office of the President of the United States. The committee also notes that the total acquisition costs for the VH-71 Presidential Helicopter replacement program are projected to increase from \$6.5 billion to \$11.2 billion.

The committee notes that this cost increase is above a 25 percent unit cost increase over the program baseline, commonly referred to as a "Nunn-McCurdy breach," and will necessitate the certification requirements of section 2433 (e)(2)(A) of title 10, United States Code.

The committee expects that the Secretary of Defense will submit an analysis of the potential advantages and disadvantages of conducting a re-competition for the program when the report, required by section 2433 (e)(2)(A), is forwarded to the Congress.

Warfighter rapid awareness processing technology

The budget request contained \$36.4 million in PE 62131M for Marine Corps landing force technology development, but contained no funds for the development of warfighter rapid awareness processing technology.

The committee recognizes warfighter rapid awareness processing technology could help to address the expeditionary warfighter's need for rapidly configured and deployable training environments that use virtual simulation technologies. The committee recognizes an integral part of these environments are physiologic monitoring technologies for assessing realism of the simulation and readiness of the warfighter. The committee is aware that warfighter rapid awareness processing technology could address a Marine Corps universal need statement for a full immersive live/virtual training environment.

The committee recommends an increase of \$4.0 million in PE 62131M for the development of warfighter rapid awareness processing technology.

AIR FORCE RESEARCH, DEVELOPMENT, TEST, AND EVALUATION

Overview

The budget request contained \$28.1 billion for Air Force research, development, test, and evaluation (RDT&E).

The committee recommends \$28.2 billion, an increase of \$171.7 million to the budget request.

Title II-RDT and E
(Dollars in Thousands)

<u>Program Element</u>	<u>Line</u>	<u>Program Title</u>	<u>FY2009 Request</u>	<u>House Change</u>	<u>House Authorized</u>
		RDT&E, AIR FORCE			
		BASIC RESEARCH			
0601102F	1	DEFENSE RESEARCH SCIENCES	309,926		309,926
0601103F	2	UNIVERSITY RESEARCH INITIATIVES	125,949	2,000	127,949
		Aerodynamic Wind Tunnel Upgrade Initiative		[2,000]	
0601108F	3	HIGH ENERGY LASER RESEARCH INITIATIVES	13,425		13,425
0301555F	4	CLASSIFIED PROGRAM	0		0
		Remote Suspect Identification		[4,000]	4,000
0301556F	5	SPECIAL PROGRAM	0		0
0305172F	6	COMBINED ADVANCED APPLICATIONS	0		0
		SUBTOTAL, BASIC RESEARCH, AIR FORCE	449,300	6,000	455,300
		APPLIED RESEARCH			
0602015F	7	MEDICAL DEVELOPMENT	0	5,100	5,100
		Mobile Diabetes Management		[2,000]	
		Basic Science Research		[3,100]	
0602102F	8	MATERIALS	117,143	15,400	132,543
		Advanced Carbon Fiber Research and Test Initiative		[3,000]	
		Advanced Casting and Coating Technologies		[3,500]	
		FEL Capabilities for Aerospace Microfabrication		[1,400]	

Title II-RDT and E
(Dollars in Thousands)

<u>Program Element</u>	<u>Line</u>	<u>Program Title</u>	<u>FY2009 Request</u>	<u>House Change</u>	<u>House Authorized</u>
		Next Generation Manufacturing Processes		[1,500]	
		Ceramic Matrix Composite Turbine Blade Demonstration		[5,000]	
		ONAMI Safer Nanomaterials and Nanomanufacturing		[1,000]	
0602201F	9	AEROSPACE VEHICLE TECHNOLOGIES	122,870	1,500	124,370
		Single-Mode Optical Connectors for Advanced Air Vehicles		[1,500]	
0602202F	10	HUMAN EFFECTIVENESS APPLIED RESEARCH Bay Area Language Tech Innovation Center (BAL TIC)	82,091	4,500	86,591
0602203F	11	AEROSPACE PROPULSION Advanced Vehicle Propulsion Center National Test Facility for Aerospace Fuels and Propulsion Wavelength Agile Spectral Harmonic Oxygen Sensor Cell-Level Battery Controller High Temperature, High Energy-Density Capacitors Integrated Electrical Starter/Generator Hydrocarbon Boost Technology Demonstrator	218,049	14,400	232,449
		AEROSPACE SENSORS		[3,000]	
0602204F	12	Information Quality Tools - Persistent Surveillance Data Sets Net-Centric Sensor Grids	109,048	2,000	111,048
0602601F	13	SPACE TECHNOLOGY		[2,000]	
0602602F	14	Radiation Hardened Non-Volatile Memory Technology	117,519	3,000	120,519
0602605F	15	CONVENTIONAL MUNITIONS DIRECTED ENERGY TECHNOLOGY	55,963	[3,000]	55,963
			62,871		62,871

Title II-RDT and E
(Dollars in Thousands)

<u>Program Element</u>	<u>Line</u>	<u>Program Title</u>	<u>FY2009 Request</u>	<u>House Change</u>	<u>House Authorized</u>
0602702F	16	COMMAND CONTROL AND COMMUNICATIONS Cyber Boot Camp	109,492	1,000 [1,000]	110,492
0602890F	17	HIGH ENERGY LASER RESEARCH	49,449		49,449
		SUBTOTAL, APPLIED RESEARCH, AIR FORCE	1,044,495	52,900	1,097,395
		ADVANCED TECHNOLOGY DEVELOPMENT			
0603112F	18	ADVANCED MATERIALS FOR WEAPON SYSTEMS Metals Affordability Initiative	41,926	16,000 [14,000]	57,926
		Improved Inspection Reliability for Optimized Inspection		[2,000]	
0603203F	19	ADVANCED AEROSPACE SENSORS Moving Target Strike	56,916	6,000 [6,000]	62,916
0603211F	20	AEROSPACE TECHNOLOGY DEV/DEMO	44,918		44,918
0603216F	21	AEROSPACE PROPULSION AND POWER TECHNOLOGY VAATE for Supersonic Cruise Missiles	170,856	5,500 [5,500]	176,356
0603231F	22	CREW SYSTEMS AND PERSONNEL PROTECTION TECH	26,630		26,630
0603270F	23	ELECTRONIC COMBAT TECHNOLOGY - COTS Analysis Tools for Navigational Warfare	21,056	3,000 [3,000]	24,056
0603311F	24	BALLISTIC MISSILE TECHNOLOGY	0		0
0603401F	25	ADVANCED SPACECRAFT TECHNOLOGY Hybrid Sounding Rocket Propulsion Technology Testing Platform	80,958	9,000 [2,000]	89,958

Title II-RDT and E
(Dollars in Thousands)

<u>Program Element</u>	<u>Line</u>	<u>Program Title</u>	<u>FY2009 Request</u>	<u>House Change</u>	<u>House Authorized</u>
0603444F	26	Small Low Cost Reconnaissance Spacecraft Components MAUI SPACE SURVEILLANCE SYSTEM (MSSS)	4,838	[5,000] 8,000	12,838
0603601F	27	High-Accuracy Network Determination System (HANDS)	11,813	[8,000]	11,813
0603605F	28	CONVENTIONAL WEAPONS TECHNOLOGY	44,507		44,507
0603680F	29	ADVANCED WEAPONS TECHNOLOGY MANUFACTURING TECHNOLOGY PROGRAM	39,729	4,000	43,729
		Prepreg Thickness Variability Reduction Program		[2,000]	
		Wire Integrity Technology Program		[2,000]	
0603789F	30	C3I ADVANCED DEVELOPMENT	30,103		30,103
0603801F	31	SPECIAL PROGRAMS	0		0
0603924F	32	HIGH ENERGY LASER PROGRAM	4,013		4,013
		SUBTOTAL, ATD, AIR FORCE	578,263	51,500	629,763
		ADVANCED COMPONENT DEVELOPMENT & PROTOTYPES			
0603260F	33	INTELLIGENCE ADVANCED DEVELOPMENT	4,988		4,988
0603287F	34	PHYSICAL SECURITY EQUIPMENT	477		477
0603421F	35	NAVSTAR GLOBAL POSITIONING SYSTEM III	0		0
0603423F	36	GPS III - OPERATIONAL CONTROL SEGMENT	2,975		2,975
0603427F	37	GPS OCS - BACKWARDS COMPATIBILITY	304,360		304,360
0603430F	38	ADVANCED EHF MILSATCOM (SPACE)	388,041		388,041
0603432F	39	POLAR MILSATCOM (SPACE)	237,749		237,749

Title II-RDT and E
(Dollars in Thousands)

<u>Program Element</u>	<u>Line</u>	<u>Program Title</u>	<u>FY2009 Request</u>	<u>House Change</u>	<u>House Authorized</u>
0603438F	40	SPACE CONTROL TECHNOLOGY	76,845		76,845
0603742F	41	COMBAT IDENTIFICATION TECHNOLOGY	29,400		29,400
0603790F	42	NATO RESEARCH AND DEVELOPMENT	4,334		4,334
0603791F	43	INTERNATIONAL SPACE COOPERATIVE R&D	627		627
0603845F	44	TRANSFORMATIONAL SATCOM (TSAT)	842,974		842,974
0603850F	45	INTEGRATED BROADCAST SERVICE	21,105		21,105
0603851F	46	INTERCONTINENTAL BALLISTIC MISSILE	65,629	5,000	70,629
		ICBM Cryptography Upgrade		[5,000]	
0603854F	47	WIDEBAND GLOBAL SATCOM RDT&E (SPACE)	12,422		12,422
0603858F	48	SPACE RADAR	0		0
0603859F	49	POLLUTION PREVENTION	2,877		2,877
0603860F	50	JOINT PRECISION APPROACH AND LANDING SYSTEMS	7,479		7,479
0604015F	51	NEXT GENERATION BOMBER	0		0
0604796F	52	ALTERNATIVE FUELS	28,464	2,200	30,664
		Advanced Propulsion Non-Tactical Vehicle		[2,200]	
0604830F	53	AUTOMATED AIR-TO-AIR REFUELING	9,889		9,889
0604856F	54	COMMON AERO VEHICLE (CAV)	0		0
0604857F	55	OPERATIONALLY RESPONSIVE SPACE	110,032	10,000	120,032
		Day/Night ISR Payload for ORS		[10,000]	
0305178F	56	NPOESS	289,469		289,469
		SUBTOTAL, ACD & PROTOTYPES, AIR FORCE	2,440,136	17,200	2,457,336

Title II-RDT and E
(Dollars in Thousands)

<u>Program Element</u>	<u>Line</u>	<u>Program Title</u>	<u>FY2009 Request</u>	<u>House Change</u>	<u>House Authorized</u>
SYSTEM DEVELOPMENT & DEMONSTRATION					
0603840F	57	GLOBAL BROADCAST SERVICE (GBS)	18,790		18,790
0604222F	58	NUCLEAR WEAPONS SUPPORT	20,166		20,166
0604226F	59	B-1B	128,871		128,871
0604233F	60	SPECIALIZED UNDERGRADUATE FLIGHT TRAINING	7,462		7,462
0604240F	61	B-2 ADVANCED TECHNOLOGY BOMBER Transfer to APAF-24	351,417	-8,200	343,217
		SDB Moving Target Kill Integration		[-18,500]	
0604261F	62	PERSONNEL RECOVERY SYSTEMS	0	[10,300]	0
0604270F	63	ELECTRONIC WARFARE DEVELOPMENT	54,995		54,995
0604287F	64	PHYSICAL SECURITY EQUIPMENT	52		52
0604329F	65	SMALL DIAMETER BOMB (SDB)	125,067		125,067
0604421F	66	COUNTERSPACE SYSTEMS Space Control Test Capabilities	74,918	10,000	84,918
		Space Control Test Capabilities		[10,000]	
0604425F	67	SPACE SITUATION AWARENESS SYSTEMS	210,501		210,501
0604429F	68	AIRBORNE ELECTRONIC ATTACK	34,279		34,279
0604441F	69	SPACE BASED INFRARED SYSTEM (SBIRS) HIGH EMD	529,771		529,771
0604443F	70	THIRD GENERATION INFRARED SURVEILLANCE (3GIRS) Program Decrease	149,064	-74,100	74,964
		Program Decrease		[-74,100]	
0604602F	71	ARMAMENT/ORDNANCE DEVELOPMENT	2,095		2,095
0604604F	72	SUBMUNITIONS	1,730		1,730

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(Dollars in Thousands)

<u>Program Element</u>	<u>Line</u>	<u>Program Title</u>	<u>FY2009 Request</u>	<u>House Change</u>	<u>House Authorized</u>
0604617F	73	AGILE COMBAT SUPPORT	5,790		5,790
0604618F	74	JOINT DIRECT ATTACK MUNITION	0		0
0604706F	75	LIFE SUPPORT SYSTEMS	10,998	6,000	16,998
		ACES 5 Ejection Seat		[6,000]	
0604735F	76	COMBAT TRAINING RANGES	28,047		28,047
0604740F	77	INTEGRATED COMMAND & CONTROL APPLICATIONS (IC2A)	177	7,000	7,177
		Distributed Mission Interoperability Toolkit		[7,000]	
0604750F	78	INTELLIGENCE EQUIPMENT	1,488		1,488
0604762F	79	COMMON LOW OBSERVABLES VERIFICATION SYSTEM	0		0
0604800F	80	JOINT STRIKE FIGHTER (JSF)	1,524,016	262,500	1,786,516
		Joint Strike Fighter Competitive Engine		[247,500]	
		F135 Technology Insertion		[15,000]	
0604853F	81	EVOLVED EXPENDABLE LAUNCH VEHICLE PROGRAM	33,719		33,719
0605011F	82	RDT&E FOR AGING AIRCRAFT	13,828		13,828
0605221F	83	NEXT GENERATION AERIAL REFUELING AIRCRAFT	831,759		831,759
0605277F	84	CSAR-X RDT&E	305,062	-40,000	265,062
		Program Delay		[-40,000]	
0605278F	85	HC/MC-130 RECAP	11,692		11,692
0207434F	86	LINK-16 SUPPORT AND SUSTAINMENT	186,213	4,000	190,213
		Flexible Access Secure Transfer		[4,000]	
0207450F	87	E-10 SQUADRONS	42,215		42,215
0207451F	88	SINGLE INTEGRATED AIR PICTURE (SIAP)	66,909		66,909

Title II-RDT and E
(Dollars in Thousands)

<u>Program Element</u>	<u>Line</u>	<u>Program Title</u>	<u>FY2009 Request</u>	<u>House Change</u>	<u>House Authorized</u>
0207701F	89	FULL COMBAT MISSION TRAINING	135,152		135,152
0401138F	90	JOINT CARGO AIRCRAFT (JCA)	26,777		26,777
0401318F	91	CV-22	18,562		18,562
0401845F	92	AIRBORNE SENIOR LEADER C3 (SLC3S)	1,992		1,992
		SUBTOTAL, SDD, AIR FORCE	4,953,574	167,200	5,120,774
		RDT&E MANAGEMENT SUPPORT			214
0604256F	93	THREAT SIMULATOR DEVELOPMENT	34,568		34,568
0604759F	94	MAJOR T&E INVESTMENT FPS-16 Radar Modernization Upgrade Eglin AFB Range Operations Control Center Upgrade	61,818	10,200 [6,000] [4,200]	72,018
0605101F	95	RAND PROJECT AIR FORCE Program Increase	28,676	3,000 [3,000]	31,676
0605502F	96	SMALL BUSINESS INNOVATION RESEARCH	0		0
0605712F	97	INITIAL OPERATIONAL TEST & EVALUATION	29,537		29,537
0605807F	98	TEST AND EVALUATION SUPPORT	787,737		787,737
0605860F	99	ROCKET SYSTEMS LAUNCH PROGRAM (SPACE)	14,895		14,895
0605864F	100	SPACE TEST PROGRAM (STP)	48,072		48,072
0605976F	101	FACILITIES RESTORATION AND MODERNIZATION	46,234		46,234
0605978F	102	FACILITIES SUSTAINMENT - T&E SUPPORT Low Profile Arresting Gear	28,898	1,000 [1,000]	29,898

Title II-RDT and E
(Dollars in Thousands)

<u>Program Element</u>	<u>Line</u>	<u>Program Title</u>	<u>FY2009 Request</u>	<u>House Change</u>	<u>House Authorized</u>
0804731F	103	GENERAL SKILL TRAINING	0		0
1001004F	104	INTERNATIONAL ACTIVITIES	3,910		3,910
		SUBTOTAL, RDT&E MANAGEMENT SUPPORT, AIR FORCE	1,084,345	14,200	1,098,545
		OPERATIONAL SYSTEMS DEVELOPMENT			
0604263F	105	COMMON VERTICAL LIFT SUPPORT PLATFORM	3,868	-3,868	0
		Unjustified Program		[-3,868]	
0605024F	106	ANTI-TAMPER TECHNOLOGY EXECUTIVE AGENCY	20,987		20,987
0605798F	107	ANALYSIS SUPPORT GROUP	0		0
0101113F	108	B-52 SQUADRONS	38,651		38,651
0101120F	109	ADVANCED CRUISE MISSILE	0		0
0101122F	110	AIR-LAUNCHED CRUISE MISSILE (ALCM)	396		396
0101313F	111	STRAT WAR PLANNING SYSTEM - USSTRATCOM	17,553		17,553
0101314F	112	NIGHT FIST - USSTRATCOM	5,299		5,299
0101815F	113	ADVANCED STRATEGIC PROGRAMS	0		0
0102326F	114	REGION/SECTOR OCC MODERNIZATION PROGRAM	23,858		23,858
0102823F	115	STRATEGIC AEROSPACE INTELLIGENCE SYS ACTIVITIES	15		15
0203761F	116	RAPID ACQUISITION PROCESS RAPID TRANSITION FUND	20,807		20,807
0205219F	117	MQ-9 UAV	43,557		43,557
0207131F	118	A-10 SQUADRONS	0		0
0207133F	119	F-16 SQUADRONS	123,979		123,979

Title II-RDT and E
(Dollars in Thousands)

<u>Program Element</u>	<u>Line</u>	<u>Program Title</u>	<u>FY2009 Request</u>	<u>House Change</u>	<u>House Authorized</u>
0207134F	120	F-15E SQUADRONS	184,213		184,213
0207136F	121	MANNED DESTRUCTIVE SUPPRESSION	5,585		5,585
0207138F	122	F-22A SQUADRONS	700,305		700,305
0207141F	123	F-117A SQUADRONS	0		0
0207161F	124	TACTICAL AIM MISSILES	5,748		5,748
0207163F	125	ADVANCED MEDIUM RANGE AIR-TO-AIR MISSILE (AMRAAM)	54,239		54,239
0207170F	126	JOINT HELMET MOUNTED CUEING SYSTEM (JHMCS)	3,192		3,192
0207247F	127	AF TENCAP	11,578		11,578
0207248F	128	SPECIAL EVALUATION PROGRAM	0		0
0207253F	129	COMPASS CALL	4,670		4,670
0207268F	130	AIRCRAFT ENGINE COMPONENT IMPROVEMENT PROGRAM	150,956		150,956
0207277F	131	CSAF INNOVATION PROGRAM Enhanced Guardian Angel Kit	0	4,000	4,000
0207325F	132	JOINT AIR-TO-SURFACE STANDOFF MISSILE (JASSM)	13,035		13,035
0207410F	133	AIR & SPACE OPERATIONS CENTER (AOC)	118,834		118,834
0207412F	134	MODULAR CONTROL SYSTEM	60,590		60,590
0207417F	135	AIRBORNE WARNING AND CONTROL SYSTEM (AWACS)	126,300		126,300
0207418F	136	TACTICAL AIRBORNE CONTROL SYSTEMS	1,530		1,530
0207423F	137	ADVANCED COMMUNICATIONS SYSTEMS	29,782		29,782
0207424F	138	EVALUATION AND ANALYSIS PROGRAM	794,036		794,036
0207433F	139	ADVANCED PROGRAM TECHNOLOGY	0		0
0207438F	140	THEATER BATTLE MANAGEMENT (TBM) C4I	19,437		19,437

Title II-RDT and E
(Dollars in Thousands)

<u>Program Element</u>	<u>Line</u>	<u>Program Title</u>	<u>FY2009 Request</u>	<u>House Change</u>	<u>House Authorized</u>
0207445F	141	FIGHTER TACTICAL DATA LINK	62,788		62,788
0207446F	142	BOMBER TACTICAL DATA LINK	11,702		11,702
0207448F	143	C2ISR TACTICAL DATA LINK	1,727		1,727
0207449F	144	COMMAND AND CONTROL (C2) CONSTELLATION	32,151		32,151
0207581F	145	JOINT SURVEILLANCE/TARGET ATTACK RADAR SYSTEM	97,641		97,641
0207590F	146	SEEK EAGLE	21,645		21,645
0207591F	147	ADVANCED PROGRAM EVALUATION	0		0
0207601F	148	USAF MODELING AND SIMULATION	28,981		28,981
0207605F	149	WARGAMING AND SIMULATION CENTERS	3,870		3,870
0207697F	150	DISTRIBUTED TRAINING AND EXERCISES	7,137		7,137
0208006F	151	MISSION PLANNING SYSTEMS	97,560		97,560
0208021F	152	INFORMATION WARFARE SUPPORT	12,220		12,220
0208161F	153	SPECIAL EVALUATION SYSTEM	1,077,970		1,077,970
0301310F	154	NATIONAL AIR INTELLIGENCE CENTER Open Source Research Centers	0	[3,000]	0
0301314F	155	COBRA BALL	0		3,000
0301315F	156	MISSILE AND SPACE TECHNICAL COLLECTION	0		0
0301324F	157	FOREST GREEN	0		0
0301386F	158	GDIP COLLECTION MANAGEMENT	0		0
0302015F	159	E-4B NATIONAL AIRBORNE OPERATIONS CENTER (NAOC)	4,069		4,069
0303112F	160	AIR FORCE COMMUNICATIONS (AIRCOM)	0		0
0303131F	161	MINIMUM ESSENTIAL EMERGENCY COMMUNICATIONS	70,995		70,995

Title II-RDT and E
(Dollars in Thousands)

<u>Program Element</u>	<u>Line</u>	<u>Program Title</u>	<u>FY2009 Request</u>	<u>House Change</u>	<u>House Authorized</u>
0303140F	162	INFORMATION SYSTEMS SECURITY PROGRAM Cybercraft	187,933	5,000 [3,000]	192,933
		Dark Screen		[2,000]	
0303141F	163	GLOBAL COMBAT SUPPORT SYSTEM	4,320		4,320
0303150F	164	GLOBAL COMMAND AND CONTROL SYSTEM Global Command and Control System Air Force	3,218	-1,000 [-1,000]	2,218
0303158F	165	JOINT COMMAND AND CONTROL PROGRAM (JC2)	3,234		3,234
0303601F	166	MILSATCOM TERMINALS	337,098		337,098
0304111F	167	SPECIAL ACTIVITIES	0		0
0304260F	168	AIRBORNE SIGINT ENTERPRISE	173,631		173,631
0304311F	169	SELECTED ACTIVITIES	0		0
0304348F	170	ADVANCED GEOSPATIAL INTELLIGENCE (AGI)	0		0
0305099F	171	COMMUNICATION, NAVIGATION, SURVEILLANCE	6,275		6,275
0305103F	172	CYBER SECURITY INITIATIVE	2,083		2,083
0305110F	173	SATELLITE CONTROL NETWORK (SPACE)	16,758		16,758
0305111F	174	WEATHER SERVICE	47,347		47,347
0305114F	175	AIR TRAFFIC CONTROL, APPROACH, AND LANDING SYS	6,867		6,867
0305116F	176	AERIAL TARGETS	34,777		34,777
0305124F	177	SPECIAL APPLICATIONS PROGRAM	0		0
0305127F	178	FOREIGN COUNTERINTELLIGENCE ACTIVITIES	0		0
0305128F	179	SECURITY AND INVESTIGATIVE ACTIVITIES	786		786
0305142F	180	APPLIED TECHNOLOGY AND INTEGRATION			

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<u>Program Element</u>	<u>Line</u>	<u>Program Title</u>	<u>FY2009 Request</u>	<u>House Change</u>	<u>House Authorized</u>
0305146F	181	DEFENSE JOINT COUNTERINTELLIGENCE ACTIVITIES	39		39
0305159F	182	DEFENSE RECONNAISSANCE SUPPORT ACTIVITIES			0
0305160F	183	DEFENSE METEOROLOGICAL SATELLITE PROGRAM	0		0
0305164F	184	NAVSTAR GPS (USER EQUIPMENT) (SPACE)	127,513		127,513
0305165F	185	NAVSTAR GPS (SPACE AND CONTROL SEGMENTS)	91,277		91,277
0305172F	186	COMBINED ADVANCED APPLICATIONS	0		0
0305173F	187	SPACE AND MISSILE TEST AND EVALUATION CENTER	1,985		1,985
0305174F	188	SPACE WARFARE CENTER	3,003		3,003
0305182F	189	SPACELIFT RANGE SYSTEM (SPACE)	12,376		12,376
0305193F	190	INTELLIGENCE SUPPORT TO INFORMATION OPERATIONS	1,237		1,237
0305206F	191	AIRBORNE RECONNAISSANCE SYSTEMS UAS Universal Distributed Management System	149,752	10,000 [10,000]	159,752
0305207F	192	MANNED RECONNAISSANCE SYSTEMS RIVET JOINT ISR Network Integration	12,819	3,500 [3,500]	16,319
0305208F	193	DISTRIBUTED COMMON GROUND/SURFACE SYSTEMS	107,834		107,834
0305219F	194	MQ-1 PREDATOR UAV	24,773		24,773
0305220F	195	GLOBAL HAWK UAV	284,292		284,292
0305221F	196	NETWORK-CENTRIC COLLABORATIVE TARGETING	8,807		8,807

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<u>Program Element</u>	<u>Line</u>	<u>Program Title</u>	<u>FY2009 Request</u>	<u>House Change</u>	<u>House Authorized</u>
0305265F	197	GPS III SPACE SEGMENT	420,342		420,342
0305887F	198	ELECTRONIC COMBAT INTELLIGENCE SUPPORT	5,438		5,438
0305906F	199	NCMC - TW/AA SYSTEM	0		0
0305913F	200	NUDET DETECTION SYSTEM (SPACE)	41,292		41,292
0305924F	201	NATIONAL SECURITY SPACE OFFICE	10,797		10,797
0305940F	202	SPACE SITUATION AWARENESS OPERATIONS	16,166		16,166
0307141F	203	IO TECHNOLOGY INTEGRATION & TOOL DEVELOPMENT	15,726		15,726
0308699F	204	SHARED EARLY WARNING (SEW)	3,152		3,152
0401115F	205	C-130 AIRLIFT SQUADRONS	172,560	6,700	179,260
		Link 16 Program for AFSOC MC-130Hs		[5,200]	
		Electromagnetic In-Flight Propeller Balancing		[1,500]	
0401119F	206	C-5 AIRLIFT SQUADRONS	125,063		125,063
0401130F	207	C-17 AIRCRAFT	236,047	-48,000	188,047
		Excess Product Investment Requirements		[-48,000]	
0401132F	208	C-130J PROGRAM	52,354	-25,000	27,354
		International Block Upgrade		[-25,000]	
0401134F	209	LARGE AIRCRAFT IR COUNTERMEASURES (LAIRCM)	32,100		32,100
0401218F	210	KC-135 AIRCRAFT	7,133		7,133
0401219F	211	KC-10 AIRCRAFT	0		0
0401221F	212	KC-135 TANKER REPLACEMENT	0		0

Title II-RDT and E
(Dollars in Thousands)

<u>Program Element</u>	<u>Line</u>	<u>Program Title</u>	<u>FY2009 Request</u>	<u>House Change</u>	<u>House Authorized</u>
0401314F	213	OPERATIONAL SUPPORT AIRLIFT	0		0
0401839F	214	AIR MOBILITY TACTICAL DATA LINK	0		0
0408011F	215	SPECIAL TACTICS / COMBAT CONTROL	5,728	6,500	12,228
		Joint Precision AirDrop Systems - Mission Planner RFI		[4,500]	
		Tactical Environmental Clothing		[2,000]	
0702207F	216	DEPOT MAINTENANCE (NON-IF)	1,531		1,531
0702806F	217	ACQUISITION AND COMMAND SUPPORT	34,428		34,428
0708011F	218	INDUSTRIAL PREPAREDNESS	0	3,000	3,000
		Integrated Structures for Affordable Transport Aircraft		[3,000]	
0708012F	219	LOGISTICS SUPPORT ACTIVITIES	0		0
0708610F	220	LOGISTICS INFORMATION TECHNOLOGY (LOGIT)	189,679	-10,000	179,679
		Expeditionary Combat Support System Unjustified Growth		[-10,000]	
0708611F	221	SUPPORT SYSTEMS DEVELOPMENT	8,145		8,145
		Clean Cities National Outreach Prgm for Power Tech Office		[1,900]	1,900
		Eielson Air Force Base Alternative Energy Source Program		[4,000]	4,000
		Expeditionary 200 kW + Alternative Power Generator		[3,000]	3,000
0804757F	222	JOINT NATIONAL TRAINING CENTER	3,214		3,214
0808716F	223	OTHER PERSONNEL ACTIVITIES	116		116
0901202F	224	JOINT PERSONNEL RECOVERY AGENCY	5,768		5,768
					221

Title II-RDT and E
(Dollars in Thousands)

<u>Program Element</u>	<u>Line</u>	<u>Program Title</u>	<u>FY2009 Request</u>	<u>House Change</u>	<u>House Authorized</u>
0901212F	225	SERVICE-WIDE SUPPORT	3,016		3,016
0901218F	226	CIVILIAN COMPENSATION PROGRAM	8,123		8,123
0901220F	227	PERSONNEL ADMINISTRATION	18,625		18,625
0901538F	228	FINANCIAL MANAGEMENT INFORMATION SYSTEMS DEV	31,782		31,782
0909999F	999	CLASSIFIED PROGRAMS	10,304,689	-200,000	10,104,689
		Program Reduction		[-200,000]	
		Classified Requirement		[100,000]	100,000
		SUBTOTAL, OPERATIONAL SYS DEVELOPMENT, AF	17,516,504	-137,268	17,379,236
		Total, RDT&E Air Force	28,066,617	171,732	28,238,349

Items of Special Interest

B-2 Small Diameter Bomb Moving-Target-Kill integration

The budget request contained \$351.4 million in PE 64240F for development of technologies and upgrades for the B-2 bomber, but contained no funds for continued development of Small Diameter Bomb Moving-Target-Kill (SDB/MTK) capability integration for the B-2.

The committee notes that Congress appropriated \$12.8 million in fiscal year 2007 and \$5.8 million in fiscal year 2008 for integration and upgrades to unreliable and unsupportable cockpit displays for radar image display and targeting functions necessary to implement SDB/MTK capability on the B-2. The committee understands that a B-2 SDB/MTK capability that includes sensor improvements and integration of a low-observable data link capable weapon will provide the combat commander a new capability to covertly approach and strike moving targets.

The committee recommends an increase of \$10.3 million in PE 64240F for continued development and integration of SDB/MTK for the B-2 bomber.

C-130J development

The budget request contained \$52.4 million in PE 41132F for development of C-130J block upgrade activities, of which \$25.0 million was included for the international block upgrade.

The committee understands that the international block upgrade is in excess to program requirements since it is not executable in fiscal year 2009.

The committee recommends \$27.4 million in PE 41132F, a decrease of \$25.0 million.

Combat search and recovery vehicle-x

The budget request contained \$305.1 million in PE 64261F for the development of the combat search and recovery vehicle-X (CSAR-X). The budget request also contained \$15.0 million in Aircraft Procurement, Air Force for advance procurement of CSAR-X long-lead components.

The CSAR-X program is developing the next-generation personnel recovery vehicle which will replace the current HH-60G Pave Hawk helicopter, and provide increased capabilities of speed, range, survivability, cabin size, and high-altitude hover operations. The Department of the Air Force anticipated beginning CSAR-X integration and demonstration activities early in fiscal year 2007, but these activities have been delayed by two bid protests, which were subsequently sustained, and have required the Department of the Air Force to re-solicit bids for the CSAR-X program. The committee understands that the contract award will not occur until late in the first quarter of fiscal year 2009. As a result of this delay, the committee notes that the Department of the Air Force has identified \$40.0 million for development of the CSAR-X which exceeds fiscal year 2009 requirements. Additionally, the committee notes that the Government Accountability Office identified \$15.0 million for advance procurement of CSAR-X long-lead components which, according to Department of the Air Force CSAR-X program officials, is not required for fiscal year 2009.

The committee recommends \$265.1 million, a decrease of \$40.0 million in PE 64261F. The committee also recommends no funds in Aircraft Procurement, Air Force for the advance procurement of CSAR-X long-lead components, a decrease of \$15.0 million.

Common vertical lift support platform

The budget request contained \$3.9 million in PE 64263F for system program office and management support of the common vertical lift support platform (CVLSP) program. The CVLSP program is a “new start” for fiscal year 2009 and would provide vertical lift for the Air Force Space Command’s nuclear weapon security, and for mass passenger transport in the National Capital Region. The CVLSP would replace 62 UH-1N helicopters which are now used to perform these missions.

The committee notes that the CVLSP requirements process is not complete, the acquisition strategy has not yet been developed, and the Department of the Air Force has not programmed any funds for this purpose beyond 2009. The committee believes that these actions should be taken before funds are authorized for this purpose. Therefore the committee recommends no funds for the CVLSP in PE 64263F, a decrease of \$3.9 million.

Cyber boot camp

The budget request contained \$109.5 million in PE 62702F for work to develop better command, control, and communications systems within the Air Force, including \$1.1 million to support the Advanced Course in Engineering (ACE) Cyber Boot Camp summer program for the Air Force Reserve Officer Training Corps (ROTC).

The committee applauds the efforts at the Air Force Research Laboratory Rome Research Site (AFRL/RRS) to develop educational curriculum to develop the future workforce of cyber operations experts. The mission of the ACE is to develop ROTC cadets into cyber officers and represents the only cyber education offered by the Department of Defense for ROTC cadets. ACE is a 10-week summer program consisting of classes, on-the-job mentoring, and officer development that targets the top students in computer-related disciplines, and teaches them to become original thinkers, problem solvers, and technical leaders. The committee recognizes that this program is vital to ensuring a robust information technology workforce that is capable of handling current and future cyber threats to our systems. The committee believes the ACE cyber boot camp should be expanded beyond the Air Force to include ROTC cadets from the other military services.

The committee recommends \$110.5 million, an increase of \$1.0 million, in PE 62702F for AFRL/RRS to support the expansion of the ACE Cyber Boot curriculum to other service ROTC participants, and to provide for additional 10-week courses to accommodate this expansion.

Global Command and Control System—Air Force

The budget request contained \$3.2 million in PE 33150F for the Global Command and Control System—Air Force.

The committee is concerned over a lack of commitment by the services to transition from service stove-piped command and control systems to a joint architecture, such as the Network Enabled

Command and Control system. The services can no longer sustain a multitude of disparate systems, from a technical management or financial perspective. Yet there appears to be no clear strategy articulated to senior decision makers showing how the services will move from multiple independent systems, to a joint, federated approach. This approach does not necessarily entail adopting a single system, but until the services commit to a unified approach to commonality, the military services will continue to waste funds and inhibit the benefits accrued by jointness.

The committee recommends \$2.2 million, a decrease of \$1.0 million in PE 33150F.

High Accuracy Network Determination System

The budget request contained \$4.8 million in PE 63444F for the Maui Space Surveillance System, but no funds for High Accuracy Network Determination System (HANDS).

HANDS addresses critical space situational awareness needs and reduces the potential for collisions of space assets by reducing errors in the current space-object maintenance catalog, as well as supplementing the catalog with system characterization information.

The committee recommends an increase of \$8.0 million in PE 63444F for the HANDS program.

Improved reliability for optimized inspection

The budget request contained \$41.9 million in PE 63112F for the development of various advanced materials technologies for transition into Department of the Air Force systems, but contained no funds for development of improved reliability for optimized inspection for C-130 maintenance.

The committee notes that regularly scheduled non-destructive inspection (NDI) and maintenance of Department of the Air Force aircraft require that the aircraft be removed from service for extended time periods. The committee understands that efforts undertaken to improve confidence in the reliability of NDI to assess damage without costly and time-consuming maintenance will increase aircraft availability and reduce maintenance costs over current practices.

To improve the NDI inspection process, the committee recommends an increase of \$2.0 million in PE 63112F for development of improved reliability for optimized inspection for C-130 maintenance. The committee expects that these funds will be used to obtain samples of cracked C-130 parts, manufacture samples simulating cracked C-130 parts, perform controlled inspections of parts to validate models of inspections, and to validate a process for assessing and improving inspections.

Intercontinental ballistic missile cryptography upgrade

The budget request contained \$65.6 million in PE 63851F for Intercontinental Ballistic Missiles (ICBM), but contained no funds for the ICBM cryptography upgrade, increment II.

The committee is aware that the ICBM cryptography upgrade, increment II, is an unfunded Air Force requirement.

The committee recommends \$70.6 million, an increase of \$5.0 million, for Intercontinental Ballistic Missiles for the ICBM cryptography upgrade.

Joint cargo aircraft program

The budget request contained \$26.8 million in PE 41138F for development of the Joint Cargo Aircraft (JCA). The Chief of Staff of the Air Force also included \$74.8 million on the unfunded requirements list for procurement of two special operations JCA. The committee notes that a Joint Requirements Oversight Council validated requirement for a special operations JCA does not currently exist within the Department of Defense.

The committee notes that during the fiscal year 2008 budget cycle, the congressional defense committees raised concerns over the requirements for JCA, whether or not it is needed to fulfill Department of Defense intra-theater airlift requirements, and which service, either Army or Air Force, should operate the platform. As a result, the National Defense Authorization Act for Fiscal Year 2008 (Public Law 110-181) restricted the program from obligating or expending appropriated funds until submission of six Department of Defense initiated studies to the congressional defense committees. The committee notes that none of these important studies were directed by Congress and could have informed JCA program decisions more effectively had they been timed prior to program Milestone C certification by the Undersecretary of Defense for Acquisition, Technology, and Logistics (USD(AT&L)).

The committee understands that during the acquisition strategy review process, USD(AT&L) added a caveat to the June 20, 2006 Memorandum of Agreement between the Services that directed further analysis be conducted to determine the appropriate JCA aircraft inventory. USD(AT&L) directed the Services to jointly perform an update to the Army Analysis of Alternatives, with an Air Force requirement to support both Departments by providing an Intra-theater Airlift Fleet Mix Analysis (IAFMA) to determine the Services' JCA inventory requirements. The IAFMA was completed and submitted to Congress in February 2008.

The committee emphasizes that contrary to USD(AT&L) tasking and intent, the IAFMA did not assess the Army's time-sensitive cargo mission or requirements, and notes that the IAFMA makes an unsubstantiated statement in its findings that the Air Force should procure no more than 24 aircraft to meet the Army's time-sensitive cargo mission requirements. The committee also emphasizes that the IAFMA states that it is more cost-effective for the Air Force to procure the C-130J aircraft and found that the JCA was not effective in any of the 2005 Mobility Capabilities Study (MCS) scenarios. The committee also notes that in written testimony provided to the subcommittee on Air & Land Forces on April 1, 2008, the Commander, Air Mobility Command stated that the JCA is 60 to 70 percent less cost-effective than the C-130J in performing MCS missions.

The committee is very concerned by the lack of analytical basis used to justify procurement of JCA and is discouraged by the decision-making process used by USD(AT&L) during the Milestone C process. The committee notes that the decision of USD(AT&L) on May 30, 2007, concerning the division of 78 aircraft between the

Army and Air Force was based on what each service had programmed at the time in the Future Years Defense Plan (FYDP), and not on analytical findings. Additionally, the committee notes that the Air Force's fiscal year 2007 Capabilities Review and Risk Assessment study recommends that funding for JCA be reallocated for higher priority Air Force mobility programs.

Finally, the committee is concerned by the cost difference of JCA, compared to the cost and capability of C-130J. The committee notes that the Air Force unit cost for JCA is \$60.7 million and the unit cost for a C-130J is \$56.7 million. The committee further notes that the C-130J has twice the airlift capability of the JCA and has flight performance characteristics very similar to the JCA. The committee understands the Air Force plans to allocate 24 JCA among 6 Air National Guard basing locations in the states of Maryland, Ohio, Connecticut, North Dakota, Mississippi, and Michigan. The committee expects the Secretary of the Air Force to thoroughly review FYDP funding for JCA and determine if it is more cost-effective and prudent to utilize that funding for 24 additional C-130J aircraft to support future missions of the Air National Guard units programmed to receive JCA.

Joint strike fighter

The budget request contained \$1.5 billion in PE 64800F, and \$1.5 billion in PE 64800N, for development of the Joint Strike Fighter (JSF), but contained no funds for development of a competitive JSF propulsion system. The budget request also contained \$136.9 million for F-35 advance procurement in Aircraft Procurement, Air Force for the long-lead components necessary to procure 12 F-35A aircraft in fiscal year 2010, but contained no funds for advance procurement of competitive JSF propulsion system long-lead components.

The competitive JSF propulsion system program is developing the F136 engine, which would provide a competitive alternative to the currently-planned F135 engine. In the committee report (H. Rept. 109-452) accompanying the John Warner National Defense Authorization Act for Fiscal Year 2007, and once again in the committee report (H. Rept. 110-146) accompanying the National Defense Authorization Act for Fiscal Year 2008, the committee recommended increases for the JSF competitive propulsion system, and notes that in both cases, the other three congressional defense committees concurred. Despite section 213 of the National Defense Authorization Act for Fiscal Year 2008 (Public Law 110-181), which requires the Secretary of Defense to obligate and expend sufficient annual amounts for the continued development and procurement of a competitive propulsion system for the JSF, the committee is disappointed that the Department of Defense (DOD) chose not to comply with both the spirit and intent of this provision by opting not to include funds for this purpose in the budget request.

On March 11, 2008, the Subcommittees on Air and Land Forces and Seapower and Expeditionary Forces held a hearing at which the Undersecretary of Defense for Acquisition, Technology and Logistics (USD (AT&L)) and the Government Accountability Office's (GAO) Director of Acquisition Sourcing and Management testified. Witnesses were asked to provide an update to the independent lifecycle cost analysis of the JSF propulsion system required by sec-

tion 211 of the John Warner National Defense Authorization Act for Fiscal Year 2007 (Public Law 109-364) based on the obligation of an additional \$480.0 million authorized and appropriated for fiscal year 2008, performance of the competitive engine program to date, and the additional year of development. The GAO Director of Acquisition and Sourcing Management complied with the subcommittees' request and testified that the Department of Defense would recoup its initial investment costs with program savings of between 9 and 11 percent, or about 1.3 percent less than the GAO reported in 2007. He also testified that at least that amount of savings could be achieved in the long run based on analysis of actual data from the F-16 engine competition. Opting not to comply with the committee request, the USD (AT&L) testified that the Department did not direct the Office of the Secretary of Defense's Cost Analysis and Improvement Group to update its analysis from the previous year, and that there had been no significant changes to the program that would have resulted in any changes to their findings. Based on this testimony, the committee believes that a competitive propulsion system for the JSF offers the promise of long-term savings.

The committee also notes that in August 2007, the currently-planned F135 engine experienced a hardware failure during test stand operations with the short take-off and vertical land (STOVL) lift fan engaged, and that a similar failure occurred again in February 2008, and that these engine failure will result in a currently-projected delay to the first flight of the F-35 STOVL variant by 30 to 60 days. While the committee understands that the F135 engine is still in development and test failures may occur, the committee believes that, over the long-term, a competitive JSF propulsion program will result in improved engine performance for all JSF variants. These test failure events and the subcommittees' hearing testimony cause the committee to remain steadfast in its belief that the non-financial factors of a two-engine competitive program such as better engine performance, improved contractor responsiveness, a more robust industrial base, increased engine reliability and improved operational readiness strongly favor continuing the competitive propulsion system program.

For continued development of the competitive JSF propulsion system program, the committee recommends \$1.8 billion, an increase of \$247.5 million in PE 64800F, and \$1.8 billion, an increase of \$247.5 million in PE 64800N. The committee also recommends \$167.9 million, an increase of \$31.0 million for advance procurement of competitive JSF propulsion system long-lead components, for F-35 advance procurement in Aircraft Procurement, Air Force. Additionally, the committee strongly urges the Department of Defense to comply with the spirit and intent of section 213 of the National Defense Authorization Act for Fiscal Year 2008 (Public Law 110-181) by including the funds necessary for continued development and procurement of a competitive JSF propulsion system in its fiscal year 2010 budget request.

Low profile arresting gear

The budget request contained \$28.9 million in PE 65978F to sustain the inventory of the Air Force Material Command's test and

evaluation facilities, but contained no funds to test the low profile arresting gear (LPAG).

The committee notes that numerous airports across the United States host both military and commercial flight operations concurrently. Many military tactical aircraft have arresting hooks for use in emergency situations; however installation of arresting equipment for military use may cause interference to large commercial aircraft due to the size of the arresting equipment engines and their close proximity to the runway. To address this problem, the Department of the Air Force has introduced the Airfield Obstruction Reduction Initiative (AORI) program. The committee understands that the LPAG would be consistent with the AORI requirements since it would minimize physical interference and obstructions to commercial aircraft, while providing the necessary arresting equipment for military tactical aircraft use.

The committee recommends \$29.9 million, an increase of \$1.0 million, in PE 65978F to test the LPAG.

Metals affordability initiative

The budget request contained \$41.9 million in PE 63112F for advanced materials for weapon systems.

The committee supports the continued government-industry collaboration provided through the Metals Affordability Initiative. It provides significant improvements in the manufacturing of specialty metals for aerospace applications for the government and aerospace industry, and provides improved affordability of aerospace materials.

The committee recommends an additional \$14.0 million in PE 63112F for the Metals Affordability Initiative.

Multiple unmanned aerial vehicle employment against a common objective

The budget request contained \$149.8 million in PE 35206F for airborne reconnaissance systems, but contained no funds for the employment of multiple unmanned aerial vehicles (UAV) against a common objective.

The committee notes the operational utility of operating large numbers of UAVs, yet notes the increased difficulty of operating multiple UAVs in close proximity because of limited bandwidth availability. United States Central Command issued an operational need statement to meet an objective requirement for the Predator UAV to operate up to eight air vehicles simultaneously from a single ground station.

The committee recommends an additional \$10.0 million in PE 35206F for demonstration and deployment of multiple UAV employment against a common objective.

Next-generation tactical environmental clothing

The budget request contained \$5.7 million in PE 48011F for special tactics-combat control, but contained no funds for next-generation tactical environmental clothing for Air Force Special Operations Command (AFSOC) special tactics teams and combat controllers.

The committee recognizes AFSOC special tactics teams and forward combat air controllers operate in harsh environments and

conditions that require extreme physical exertion for extended periods of time. The committee is aware that recent developments in clothing technology could reduce the effects of moisture on the body and could provide superior antimicrobial characteristics. The committee believes these materials could benefit military personnel who operate in prolonged harsh combat conditions.

The committee recommends an increase of \$2.0 million in PE 48011F for the continued development and demonstration of next generation tactical environmental clothing for AFSOC special tactics teams and forward combat air controllers.

Non-attribution of open source intelligence research

The budget request contained funds in PE 31310F for the National Air Intelligence Center, but contained no funds to support expanded open source research to complement traditional intelligence analytical products.

The committee recognizes that open source intelligence provides a critical complementary capability to traditional intelligence gathering and analysis. The committee is encouraged by the growing recognition within the military and intelligence communities of the value of open source intelligence which is punctuated by the establishment of the Open Source Center and the development of an Army field manual on open source intelligence.

Efforts in this area will require collectors to operate in benign cyberspace domains, such as media websites and academic databases, as well as more hostile areas, such as foreign language blogging websites and even websites maintained by terrorist or state-actors groups. The committee is concerned about the ability of our adversaries to be able to track and attribute collection activities to U.S. and allied forces. Technology exists to provide non-attribution services to protect identities, especially source country of origin.

The committee urges the Secretary of Defense to ensure, through the use of all reasonable means, protection of government investigators involved in gathering open source intelligence. These means should include proven non-attribution services, as well as development of appropriate tactics, techniques and procedures that are incorporated into manuals and training programs.

The committee also recommends an increase of \$3.0 million, in PE 31310F to support the development of training packages for new analysts that address how to integrate open source into analytic products, as well as techniques for maintaining anonymity online when conducting research. This funding may also be used to support development of new tools to promote open source research, and associated experimentation and evaluation that may be needed to validate both the tools and training.

Operationally responsive space

The budget request contained \$110.0 million in PE 64857F for operationally responsive space (ORS) programs.

The committee remains supportive of ORS, but is concerned about the implementation of the ORS program office mandated by the John Warner National Defense Authorization Act for Fiscal Year 2007 (Public Law 109-364). The committee observes that nearly two years after its establishment, the program office re-

mains considerably understaffed with only 3 billets filled out of 20 authorized. In the near-term, the committee encourages efforts to leverage available technology for on-orbit demonstrations and investments in common components and interface standards to facilitate building a robust pipeline of ORS systems for on-demand space support and reconstitution. Responsive processes, coordination mechanisms, and acquisitions are equally important to the success of ORS. The committee also recognizes that a balance must be struck between near-term and future capabilities, particularly in the area of space launch vehicle (SLV) development. The committee is aware of several low-cost, responsive SLV concepts and encourages the Department to develop a longer-term strategy that includes opportunities for competition.

The budget request for ORS contained no funds for the Operational Airborne Sensor In Space (OASIS) program. The committee notes that the United States Strategic Command has a stated mission need for operationally responsive day-night visual sensors on tactical space platforms. Accordingly, the committee recommends an increase of \$10.0 million for the development an electro-optical/infrared sensor for an ORS spacecraft.

The committee recommends \$120.0 million in PE 64857F for operationally responsive space, including \$10.0 million for OASIS.

RAND Project Air Force

The budget request contained \$28.7 million in PE 65101F for RAND Project Air Force.

The committee notes with concern that funding requested for RAND Project Air Force declined significantly from fiscal year 2007 levels. The committee is concerned with the lack of stable funding for this program, and encourages the Air Force to provide stable funding for RAND Project Air Force.

The committee recommends \$31.7 million, an increase of \$3.0 million, in PE 65101F for RAND Project Air Force.

Single-mode optical connectors for advanced air vehicles

The budget request contained \$122.9 million in PE 62201F for aerospace vehicle technologies, but contained no funds for the development of single-mode optical connectors for advanced air vehicles.

The United States aerospace vehicles (manned and unmanned) require processing of increasing amounts of data for communications, mission computers, and sensor and flight control systems in order to fly, fight, and win in increasingly dangerous aerospace environments. The committee notes that as the demand for bandwidth increases, so too does the need to protect this information from external threat such as electromagnetic interference (EMI). The development of single-mode multi-channel optical connectors in support of fly-by-light technology could lead to improvements in data transmission, reduced equipment costs, safer aircraft operations, and improved resistance to EMI.

The committee recommends \$124.4 million, an increase of \$1.5 million, in PE 62201F for the development of single-mode optical connectors.

Space control test capabilities

The budget request contained \$74.9 million in PE 64421F for counterspace systems, but contained no funds for the space control test capabilities program.

The space control test capabilities program supports the development of an architecture analysis tool to address integration and optimization of space control systems.

The committee recommends an increase of \$10.0 million in PE 64421F for the space control test capabilities program.

Third Generation Infrared Surveillance

The budget request contained \$149.1 million in PE 64443F for development of the Third Generation Infrared Surveillance (3GIRS).

The 3GIRS program is designed to provide advanced capability in warning of ballistic missile attacks on the United States, its deployed forces, and its allies, while also supporting missile defense, battlespace awareness, and technical intelligence missions. The program, originally referred to as the Alternative Infrared Satellite System (AIRSS), was initiated in 2006, as a result of a Nunn-McCurdy review of the Space Based Infrared Systems (SBIRS)-High program to generate competition for the third SBIRS geosynchronous orbit (GEO) satellite and explore alternative technologies.

With the Defense Acquisition Executive's decision to procure SBIRS GEO-3 in July 2007, and following congressional guidance, the Air Force has redirected AIRSS resources to pursue risk reduction, system definition, and ground tests to enable a third generation space based infrared program after the SBIRS GEO-3 satellite is delivered.

Originally conceived as a low technical risk system, the 3GIRS program now includes significant technology development and a potential flight test demonstration. Both activities add additional risk to the program and have limited benefits in the near-term. With the success achieved by the Space Based Infrared System highly elliptical orbit payload in 2007, the committee finds the 3GIRS development program is premature.

The committee recommends \$75.0 million, a decrease of \$74.1 million to the 3GIRS program, in PE 64443F to support continued development of wide field-of-view focal plane technology.

Winglets for in-service aerial refueling aircraft

The committee commends the Air Force for its efforts to increase aircraft fuel efficiency and decrease fuel consumption. The committee notes that initiatives such as re-engining aircraft, modifying in-flight profiles, and revising aircraft ground operations contribute to decreased fuel consumption and increased life-cycle savings.

The committee is aware that winglet technology exists for aircraft to increase fuel efficiency, improve take-off performance, increase cruise altitudes, and increase payload and range capability. The committee notes that winglets are currently used on commercial aircraft and result in a five to seven percent increase in fuel efficiency. The committee believes that incorporating winglets on military aircraft could increase fuel efficiency on certain platforms

and that the Air Force should examine incorporating this technology onto its platforms.

In the committee report (H. Rept. 109–452) accompanying the John Warner National Defense Authorization Act for Fiscal Year 2007, the committee directed the Secretary of the Air Force to provide a report to the congressional defense committees examining the feasibility of modifying Air Force aircraft with winglets. The Air Force report preliminarily concluded that between \$36.0 million and \$400.0 million in fuel savings could be achieved for the KC–135R tanker aircraft and between \$12.0 million and \$221.0 million could be achieved for the KC–10 tanker aircraft if modified with winglets. However, the committee notes that the report stated that it is not possible to know the actual modification costs and fuel savings without performing a detailed engineering analysis for each aircraft type.

The committee directs the Secretary of the Air Force to task a federally funded research and development center to conduct an engineering analysis on modifying KC–135R and KC–10 tanker aircraft with winglets and submit a report to the congressional defense committees by May 1, 2009. For the engineering analysis and report, the Secretary of the Air Force shall: use current performance data for each aircraft; include a cost comparison analysis for the cost of winglet modifications compared to the return on investment realized over time for each aircraft during its programmed service-life; determine the market price of JP–8 aviation jet fuel at which incorporating winglets would be beneficial for each aircraft mission design series; assess all positive and negative impacts to aircraft maintenance and flight operations; and analyze investment strategies the Air Force could implement with commercial partners to minimize Air Force capital investment and maximize investment return.

Wire integrity technology program

The budget request contained \$39.7 million in PE 63680F for the development of manufacturing technology programs, but contained no funds for development of a wire integrity technology program.

The committee understands that the Department of the Air Force currently relies on out-dated testing equipment and repair technologies to sustain aging aircraft wiring systems. To address this deficiency, the committee believes that a wire integrity technology program would develop and test new wire materials, develop advanced testing equipment to ensure accurate fault detection, develop processes and procedures for wire manufacturing technology, and improve workforce training in repair and analysis of aircraft wiring systems.

The committee recommends \$41.7 million, an increase of \$2.0 million, in PE 63680F for development of a wire integrity technology program, and believes that this program has the potential to reduce the approximately \$300.0 million expended annually on wiring inspections, and improve weapon system reliability and safety.

DEFENSE WIDE RESEARCH, DEVELOPMENT, TEST, AND EVALUATION

Overview

The budget request contained \$21.5 billion for Defense Wide research, development, test, and evaluation (RDT&E).

The committee recommends \$20.8 billion, a decrease of \$654.4 million to the budget request.

Title II-RDT and E
(Dollars in Thousands)

<u>Program Element</u>	<u>Line</u>	<u>Program Title</u>	<u>FY2009 Request</u>	<u>House Change</u>	<u>House Authorized</u>
		RDT&E, DEFENSE-WIDE			
		BASIC RESEARCH			
0601000BR	1	DTRA BASIC RESEARCH INITIATIVE	18,000		18,000
0601101E	2	DEFENSE RESEARCH SCIENCES Combined Injury Consortium DARPA Computer Future	195,657	6,000 [5,000]	201,657
0601111D8Z	3	GOVT/INDUSTRY COSPONSORSHIP OF UNIV RESEARCH Integrated Cryo-cooled High Power Density Systems	0	2,000 [1,000]	2,000
0601114D8Z	4	PROGRAM TO STIMULATE COMPETITIVE RESEARCH Program Increase	2,833	[2,000] 10,000 [10,000]	12,833
0601120D8Z	5	NATIONAL DEFENSE EDUCATION PROGRAM	68,972		68,972
0601384BP	6	CHEMICAL AND BIOLOGICAL DEFENSE PROGRAM Chemical/Biological Defense Basic Research Initiative	53,191	5,000 [5,000]	58,191
		SUBTOTAL, BASIC RESEARCH, DEFENSE-WIDE	338,653	23,000	361,653
		APPLIED RESEARCH			
0602000D8Z	7	JOINT MUNITIONS TECHNOLOGY	15,254		15,254
0602227D8Z	8	MEDICAL FREE ELECTRON LASER	0		0
0602228D8Z	9	HBCU SCIENCE John H. Hopps Defense Research Scholars Program HBCU and Minority Serving Institutions	15,156	7,000 [2,000] [5,000]	22,156

Title II-RDT and E
(Dollars in Thousands)

<u>Program Element</u>	<u>Line</u>	<u>Program Title</u>	<u>FY2009 Request</u>	<u>House Change</u>	<u>House Authorized</u>
0602234D&Z	10	LINCOLN LABORATORY RESEARCH PROGRAM	31,340		31,340
0602303E	11	INFORMATION & COMMUNICATIONS TECHNOLOGY	254,009		254,009
0602304E	12	COGNITIVE COMPUTING SYSTEMS	145,262		145,262
0602383E	13	BIOLOGICAL WARFARE DEFENSE	66,291	-15,000	51,291
		DARPA Poor Execution		[-15,000]	
0602384BP	14	CHEMICAL AND BIOLOGICAL DEFENSE PROGRAM	203,731	15,000	218,731
		Chemical/Biological Defense Applied Research Initiative		[15,000]	
0602670D&Z	15	HUMAN, SOCIAL AND CULTURE BEHAVIOR MODELING	7,685	2,000	9,685
		Center for Automated Language and Cultural Analysis		[2,000]	
0602702E	16	TACTICAL TECHNOLOGY	371,481	-30,000	341,481
		DARPA Poor Execution		[-30,000]	
0602715E	17	MATERIALS AND BIOLOGICAL TECHNOLOGY	285,264	-10,000	275,264
		DARPA Poor Execution		[-10,000]	
0602716BR	18	WMD DEFEAT TECHNOLOGY	0		0
0602716E	19	ELECTRONICS TECHNOLOGY	211,457	-15,000	196,457
		DARPA Poor Execution		[-15,000]	
0602717BR	20	WMD DEFENSE TECHNOLOGIES	0		0
0602718BR	21	WEAPONS OF MASS DESTRUCTION DEFEAT TECH	211,078	10,000	221,078
		Post-Detonation Nuclear Forensics		[10,000]	
0303153K	22	JOINT SPECTRUM CENTER	0		0
1160401BB	23	SPECIAL OPERATIONS TECHNOLOGY DEVELOPMENT	23,104	8,350	31,454
		Craft Tech Demos to Quantify and Mitigate Operator Injury		[4,850]	

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<u>Program Element</u>	<u>Line</u>	<u>Program Title</u>	<u>FY2009 Request</u>	<u>House Change</u>	<u>House Authorized</u>
1160407BB	24	Expendable Airdrop Delivery system SOF MEDICAL TECHNOLOGY DEVELOPMENT	2,459	[3,500]	2,459
SUBTOTAL, APPLIED RESEARCH, DEFENSE-WIDE			1,843,571	-27,650	1,815,921
ADVANCED TECHNOLOGY DEVELOPMENT					
0603000D8Z	25	INSENSITIVE MUNITIONS - ADVANCED DEVELOPMENT	15,970		15,970
0603121D8Z	26	SO/LIC ADVANCED DEVELOPMENT	32,832		32,832
0603122D8Z	27	COMBATING TERRORISM TECHNOLOGY SUPPORT Affordable Robust Mid-Sized Unmanned Ground Vehicle Foliage Penetration Capability Advanced Sighting Systems for Machine Guns Airborne CT/CN Threat Protections System Bio Ops Policy and Public Emergency Response EDIT Tech for Counter-Tunnel Ops and Cache Detections Full Scale Impact and Blast Loading Laboratory Testing Vehicle Design for Survivability Under Blast Loading	79,970	27,000	106,970
				[1,500]	
				[5,000]	
				[4,000]	
				[4,000]	
				[1,500]	
				[4,000]	
				[3,000]	
0603160BR	28	CPI - PROLIFERATION PREVENTION AND DEFEAT Portable Radionuclide Detection and Identification Systems Program Decrease	211,325	[2,000]	211,325
0603175C	29	BALLISTIC MISSILE DEFENSE TECHNOLOGY Program Decrease	118,718	-5,000	113,718
0603225D8Z	30	JOINT DOD-DOE MUNITIONS TECHNOLOGY DEVELOPMENT	23,727	[-5,000]	23,727

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<u>Program Element</u>	<u>Line</u>	<u>Program Title</u>	<u>FY2009 Request</u>	<u>House Change</u>	<u>House Authorized</u>
0603286E	31	ADVANCED AEROSPACE SYSTEMS	107,857		107,857
0603287E	32	SPACE PROGRAMS AND TECHNOLOGY	287,009	-10,000	277,009
		DARPA Poor Execution		[-10,000]	
0603384BP	33	CHEMBIO DEFENSE PROGRAM - ADV DEVELOPMENT	337,927	-30,000	307,927
		Chemical/Biological Defense (TMTI)		[-50,000]	
		Chem/Bio Defense Advanced Tech Development Initiative		[20,000]	
0603618D8Z	34	JOINT ELECTRONIC ADVANCED TECHNOLOGY	9,320		9,320
		Advanced Energy Storage Technology Initiative		[-10,000]	10,000
0603648D8Z	35	JOINT CAPABILITY TECHNOLOGY DEMONSTRATIONS	206,337	2,900	209,237
		Distributed Network Switching		[2,900]	
0603662D8Z	36	NETWORKED COMMUNICATIONS CAPABILITIES	39,923		39,923
0603665D8Z	37	BIOMETRICS SCIENCE AND TECHNOLOGY	10,579		10,579
0603670D8Z	38	HUMAN, SOCIAL AND CULTURE BEHAVIOR MODELING	9,381	4,000	13,381
		Modeling Advanced Development		[4,000]	
0603680D8Z	39	DEFENSE-WIDE MANUFACTURING SCIENCE AND TECH	11,981		11,981
0603711D8Z	40	JOINT ROBOTICS PROGRAM/AUTONOMOUS SYSTEMS	8,449		8,449
		Connectory Expansion for Rapid ID of Tech Sources		[1,300]	1,300
0603712S	41	GENERIC LOGISTICS R&D TECH DEMONSTRATIONS	19,375	2,000	21,375
		Emerging/Critical Interconnection Technology Program		[2,000]	
0603713S	42	DEPLOYMENT AND DISTRIBUTION ENTERPRISE TECH	30,000		30,000
0603716D8Z	43	STRATEGIC ENVIRONMENTAL RESEARCH PROGRAM	69,038		69,038
0603720S	44	MICROELECTRONICS TECH DEVELOPMENT AND SUPPORT	0	16,000	16,000

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(Dollars in Thousands)

<u>Program Element</u>	<u>Line</u>	<u>Program Title</u>	<u>FY2009 Request</u>	<u>House Change</u>	<u>House Authorized</u>
		Superlattice Nanotechnology		[3,000]	
		3-D Electronics and Power		[3,000]	
		Feature Size Yield Enhancement at DMEA ARMS Foundry		[5,000]	
		End to End Semi Fab Alpha Tool		[5,000]	
0603727D8Z	45	JOINT WARFIGHTING PROGRAM	11,098		11,098
0603739E	46	ADVANCED ELECTRONICS TECHNOLOGIES	201,146	-10,000	191,146
		DARPA Poor Execution		[-10,000]	
0603745D8Z	47	SAR COHERENT CHANGE DETECTION (CDD)	7,984		7,984
0603750D8Z	48	ADVANCED CONCEPT TECHNOLOGY DEMONSTRATIONS	0		0
0603755D8Z	49	HIGH PERFORMANCE COMPUTING MODERNIZATION	208,079		208,079
0603760E	50	COMMAND, CONTROL AND COMMUNICATIONS SYSTEMS	338,964	-10,000	328,964
		DARPA Poor Execution		[-10,000]	
0603764E	51	LAND WARFARE TECHNOLOGY	0		0
0603765E	52	CLASSIFIED DARPA PROGRAMS	196,697		196,697
0603766E	53	NETWORK-CENTRIC WARFARE TECHNOLOGY	156,733		156,733
0603767E	54	SENSOR TECHNOLOGY	226,470		226,470
0603768E	55	GUIDANCE TECHNOLOGY	110,572		110,572
0603769SE	56	DISTRIBUTED LEARNING ADVANCED TECH DEVELOPMENT	13,538		13,538
0603781D8Z	57	SOFTWARE ENGINEERING INSTITUTE	31,244		31,244
0603805S	58	DUAL USE TECHNOLOGY	0		0
0603826D8Z	59	QUICK REACTION SPECIAL PROJECTS	113,924	2,000	115,924
		REDTIE		[2,000]	

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<u>Program Element</u>	<u>Line</u>	<u>Program Title</u>	<u>FY2009 Request</u>	<u>House Change</u>	<u>House Authorized</u>
0603828D8Z	60	JOINT EXPERIMENTATION	114,947		114,947
0603832D8Z	61	JOINT WARGAMING SIMULATION MANAGEMENT OFFICE Modeling and Simulation Standards Development	38,147	800 [800]	38,947
0603941D8Z	62	TEST & EVALUATION SCIENCE & TECHNOLOGY	94,672		94,672
0603942D8Z	63	TECHNOLOGY TRANSFER	2,170		2,170
1160402BB	64	SPECIAL OPERATIONS ADVANCED TECH DEVELOPMENT Partnership for Defense Innovation W-Fi Laboratory Testing SOCOM Rapid Exploitation of Innovative Technologies	28,930	23,000 [3,000]	51,930
1160472BB	65	SOF INFORMATION AND BROADCAST SYS ADV TECH	10,990	[20,000]	10,990
SUBTOTAL, ATD, DEFENSE-WIDE			3,536,023	26,000	3,562,023
ADVANCED COMPONENT DEVELOPMENT & PROTOTYPES					
0603161D8Z	66	NUCLEAR AND CONVENTIONAL PHYSICAL SECURITY	38,758		38,758
0603228D8Z	67	PHYSICAL SECURITY EQUIPMENT	0		0
0603527D8Z	68	RETRACT LARCH	22,945		22,945
0603709D8Z	69	JOINT ROBOTICS PROGRAM	11,847		11,847
0603714D8Z	70	ADVANCED SENSOR APPLICATIONS PROGRAM	0		0
0603851D8Z	71	ENVIRONMENTAL SECURITY TECHNICAL CERTIFICATION	31,600		31,600
0603881C	72	BMD TERMINAL DEFENSE SEGMENT Transfer of Funds to Line 96 of Procurement, Defense-Wide Short Range Missile Defense	1,019,073	-55,000 [-65,000] [10,000]	964,073

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<u>Program Element</u>	<u>Line</u>	<u>Program Title</u>	<u>FY2009 Request</u>	<u>House Change</u>	<u>House Authorized</u>
0603882C	73	BMD MIDCOURSE DEFENSE SEGMENT European Site reduction	2,076,662	-182,000 [-182,000]	1,894,662
0603883C	74	BALLISTIC MISSILE DEFENSE BOOST DEFENSE SEGMENT Program Decrease	421,229	-42,600 [-42,600]	378,629
0603884BP	75	CHEMICAL AND BIOLOGICAL DEFENSE PROGRAM	51,291		51,291
0603884C	76	BALLISTIC MISSILE DEFENSE SENSORS Site Activation and Security European Midcourse Radar	1,076,983	-98,900 [-48,900]	978,083
0603886C	77	BALLISTIC MISSILE DEFENSE SYSTEM INTERCEPTOR Kinetic Energy Interceptor (KEI)	386,817	-100,000 [-100,000]	286,817
0603888C	78	BALLISTIC MISSILE DEFENSE TEST & TARGETS Target Development	665,445	25,000 [25,000]	690,445
0603890C	79	BALLISTIC MISSILE DEFENSE SYSTEMS CORE Program Decrease	432,262	-20,000 [-20,000]	412,262
0603891C	80	SPECIAL PROGRAMS - MDA Program Decrease	288,315	-150,000 [-150,000]	138,315
0603892C	81	AEGIS BMD Transfer of Funds to Line 95 of Procurement, Defense-Wide Ballistic Missile Defense Signal Processors	1,157,783	-36,000 [-56,000] [20,000]	1,121,783

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<u>Program Element</u>	<u>Line</u>	<u>Program Title</u>	<u>FY2009 Request</u>	<u>House Change</u>	<u>House Authorized</u>
0603893C	82	SPACE TRACKING & SURVEILLANCE SYSTEM Program Decrease	242,441	-25,000	217,441
0603894C	83	MULTIPLE KILL VEHICLE Program Decrease	354,455	[-25,000] -100,000	254,455
0603895C	84	BALLISTIC MISSILE DEFENSE SYSTEM SPACE PROGRAMS Space Test Bed	29,771	[-100,000] -10,000	19,771
0603896C	85	BMD C2, BATTLE MANAGEMENT AND COMMUNICATIONS	289,277	[-10,000]	289,277
0603897C	86	BALLISTIC MISSILE DEFENSE HERCULES	55,955		55,955
0603898C	87	BMD JOINT WARFIGHTER SUPPORT	69,982		69,982
0603904C	88	MISSILE DEFENSE INTEGRATION & OPERATIONS CENTER	96,404		96,404
0603905C	89	BMD DISTRIBUTED MULTI ECHELON TRAINING SYSTEM	0		0
0603906C	90	REGARDING TRENCH	2,978		2,978
0603907C	91	SEA BASED X-BAND RADAR (SBX)	0		0
0603920D8Z	92	HUMANITARIAN DEMINING	14,373		14,373
0603923D8Z	93	COALITION WARFARE	14,030		14,030
0604016D8Z	94	DEPARTMENT OF DEFENSE CORROSION PROGRAM Managing and Extending DOD Asset Lifecycles	5,102	[4,000]	5,102
0604648D8Z	95	JOINT CAPABILITY TECHNOLOGY DEMONSTRATIONS	14,962		14,962
0604670D8Z	96	HUMAN, SOCIAL AND CULTURE BEHAVIOR MODELING Program Increase	5,991	2,000	7,991
0604787D8Z	97	JOINT SYSTEMS INTEGRATION COMMAND (JSIC)	19,643	[2,000]	19,643
0604828D8Z	98	JOINT FIRES INTEGRATION AND INTEROPERABILITY TEAM	16,906		16,906

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(Dollars in Thousands)

<u>Program Element</u>	<u>Line</u>	<u>Program Title</u>	<u>FY2009 Request</u>	<u>House Change</u>	<u>House Authorized</u>
0605017D8Z	99	REDUCTION OF TOTAL OWNERSHIP COST	24,765		24,765
0303191D8Z	100	JOINT ELECTROMAGNETIC TECHNOLOGY (JET) PROGRAM	3,524		3,524
SUBTOTAL, ACD & PROTOTYPES, DEFENSE-WIDE			8,941,569	-788,500	8,153,069
SYSTEM DEVELOPMENT & DEMONSTRATION					
0604051D8Z	101	DEFENSE ACQUISITION CHALLENGE PROGRAM	30,363		30,363
0604161D8Z	102	NUCLEAR AND CONVENTIONAL PHYSICAL SECURITY	4,355		4,355
0604165D8Z	103	PROMPT GLOBAL STRIKE CAPABILITY DEVELOPMENT Army Advanced Hypersonic Weapon	117,572	7,000	124,572
0604384BP	104	CHEMICAL AND BIOLOGICAL DEFENSE PROGRAM	299,373		299,373
0604709D8Z	105	JOINT ROBOTICS PROGRAM	5,725		5,725
0604764K	106	ADVANCED IT SERVICES JOINT PROGRAM OFFICE	13,770		13,770
0604771D8Z	107	JOINT TACTICAL INFORMATION DISTRIBUTION SYSTEM	20,600		20,600
0605000BR	108	WEAPONS OF MASS DESTRUCTION DEFEAT CAPABILITIES	15,946		15,946
0605013BL	109	INFORMATION TECHNOLOGY DEVELOPMENT	11,611		11,611
0605018BTA	110	DEFENSE INTEGRATED MILITARY HUMAN RESOURCES SYS	37,400		37,400
0605020BTA	111	BUSINESS TRANSFORMATION AGENCY R&D ACTIVITIES	148,958		148,958
0605021SE	112	HOMELAND PERSONNEL SECURITY INITIATIVE	400		400
0605140D8Z	113	TRUSTED FOUNDRY	42,360		42,360
0605648D8Z	114	DEFENSE ACQUISITION EXECUTIVE PILOT PROGRAM	5,883		5,883
0303129K	115	DEFENSE MESSAGE SYSTEM	0		0

Title II-RDT and E
(Dollars in Thousands)

<u>Program Element</u>	<u>Line</u>	<u>Program Title</u>	<u>FY2009 Request</u>	<u>House Change</u>	<u>House Authorized</u>
0303141K	116	GLOBAL COMBAT SUPPORT SYSTEM	18,604		18,604
0303158K	117	JOINT COMMAND AND CONTROL PROGRAM (JC2)	147,339		147,339
		SUBTOTAL, SDD, DEFENSE-WIDE	920,259	7,000	927,259
		RDT&E MANAGEMENT SUPPORT			
0603757D8Z	118	TRAINING TRANSFORMATION (T2)	38,729	2,000	40,729
		Indiana Complex Operations Partnership		[2,000]	
0604774D8Z	119	DEFENSE READINESS REPORTING SYSTEM (DRRS)	11,385		11,385
0604875D8Z	120	JOINT SYSTEMS ARCHITECTURE DEVELOPMENT	14,310		14,310
0604940D8Z	121	CENTRAL TEST AND EVALUATION INVESTMENT DEV	133,852	18,000	151,852
		Advanced SAM Hardware Simulator Development		[6,000]	
		Joint Gulf Range Complex Upgrade		[8,000]	
		Gulf Range Mobile Instrumentation Capability (GR-MIC)		[4,000]	
0604943D8Z	122	THERMAL VICAR	9,658		9,658
0605100D8Z	123	JOINT MISSION ENVIRONMENT TEST CAPABILITY (JMETS)	8,834		8,834
0605104D8Z	124	TECHNICAL STUDIES, SUPPORT AND ANALYSIS	34,520	1,500	36,020
		Center for Technology and National Security Policy		[1,500]	
0605110D8Z	125	USD(A&T)-CRITICAL TECHNOLOGY SUPPORT	4,007		4,007
0605117D8Z	126	FOREIGN MATERIAL ACQUISITION AND EXPLOITATION	62,816	5,000	67,816
		Foreign Material Acquisition Training Devices		[5,000]	
0605126J	127	JOINT THEATER AIR AND MISSILE DEFENSE ORGANIZATION	55,282		55,282

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<u>Program Element</u>	<u>Line</u>	<u>Program Title</u>	<u>FY2009 Request</u>	<u>House Change</u>	<u>House Authorized</u>
0605128D8Z	128	CLASSIFIED PROGRAM USD(P)	0		0
0605130D8Z	129	FOREIGN COMPARATIVE TESTING	34,910		34,910
0605161D8Z	130	NUCLEAR MATTERS-PHYSICAL SECURITY	4,475		4,475
0605170D8Z	131	NETWORKS AND INFORMATION INTEGRATION	14,723		14,723
0605200D8Z	132	GENERAL SUPPORT TO USD (INTELLIGENCE)	4,379		4,379
0605384BP	133	CHEMICAL AND BIOLOGICAL DEFENSE PROGRAM	100,082		100,082
0605502BR	134	SMALL BUSINESS INNOVATION RESEARCH	0		0
0605502C	135	SMALL BUSINESS INNOVATIVE RESEARCH - MDA	0		0
0605502D8Z	136	SMALL BUSINESS INNOVATIVE RESEARCH	0		0
0605502E	137	SMALL BUSINESS INNOVATIVE RESEARCH	0		0
0605502S	138	SMALL BUSINESS INNOVATIVE RESEARCH	0		0
0605790D8Z	139	SBIR/CHALLENGE ADMINISTRATION	2,165		2,165
0605798D8Z	140	DEFENSE TECHNOLOGY ANALYSIS	11,040		11,040
0605798S	141	DEFENSE TECHNOLOGY ANALYSIS	0		0
0605799D8Z	142	FORCE TRANSFORMATION DIRECTORATE Science and Technology for Strategic Communications Defense Command Integration Center	20,701	[8,000] [3,400]	20,701 8,000 3,400
0605801KA	143	DEFENSE TECHNICAL INFORMATION CENTER (DTIC)	52,696		52,696
0605803SE	144	ENLISTMENT, TESTING AND EVALUATION	25,435		25,435
0605804D8Z	145	DEVELOPMENT TEST AND EVALUATION Renewable Fuel Systems for Defense Applications	20,396	4,000	24,396
0605897E	146	DARPA AGENCY RELOCATION	28,000	[4,000]	28,000

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<u>Program Element</u>	<u>Line</u>	<u>Program Title</u>	<u>FY2009 Request</u>	<u>House Change</u>	<u>House Authorized</u>
0605898E	147	MANAGEMENT HQ - R&D	52,700		52,700
0606100D8Z	148	BUDGET AND PROGRAM ASSESSMENTS	5,878		5,878
0301555G	149	CLASSIFIED PROGRAM			
0301556G	150	SPECIAL PROGRAM			
0303166D8Z	151	SUPPORT TO INFORMATION OPERATIONS CAPABILITIES	30,039		30,039
0303169D8Z	152	INFORMATION TECHNOLOGY RAPID ACQUISITION Information Technology Clearinghouse	5,254	7,000 [7,000]	12,254
0305103E	153	CYBER SECURITY INITIATIVE	50,000		50,000
0305193D8Z	154	INTELLIGENCE SUPPORT TO INFORMATION OPERATIONS	17,625		17,625
0305193G	155	INTELLIGENCE SUPPORT TO INFORMATION OPERATIONS			
0305400D8Z	156	WARFIGHTING AND INTELLIGENCE-RELATED SUPPORT	831		831
0901585C	157	PENTAGON RESERVATION	19,734		19,734
0901598C	158	MANAGEMENT HQ - MDA Management Support	86,453	-5,000 [-5,000]	81,453
0901598D8W	159	IT SOFTWARE DEV INITIATIVES	599		599
		SUBTOTAL, RDT&E MANAGEMENT SUPPORT, DW	961,508	43,900	1,005,408
0604130V	160	OPERATIONAL SYSTEMS DEVELOPMENT	11,533		11,533
0605127T	161	DEFENSE INFORMATION SYSTEM FOR SECURITY (DISS)	2,496		2,496
0607384BP	162	PPF INFORMATION MANAGEMENT SYSTEM CHEM/BIO DEFENSE	10,274		10,274

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(Dollars in Thousands)

<u>Program Element</u>	<u>Line</u>	<u>Program Title</u>	<u>FY2009 Request</u>	<u>House Change</u>	<u>House Authorized</u>
0607828D8Z	163	JOINT INTEGRATION AND INTEROPERABILITY	49,371		49,371
0204571J	164	JOINT STAFF ANALYTICAL SUPPORT	8,030		8,030
0208043J	165	CLASSIFIED PROGRAMS	1,728		1,728
0208045K	166	C4I INTEROPERABILITY	76,226		76,226
0301011G	167	CRYPTOLOGIC ACTIVITIES		7,000	7,000
		IED Industrial Exploitation (IDEX) Program		[7,000]	
0301144K	168	JOINT/ALLIED COALITION INFORMATION SHARING	19,073		19,073
0301301L	169	GENERAL DEFENSE INTELLIGENCE PROGRAM			
		Portable Device for Latent Fingerprint Identification			
03011318BB	170	HUMINT (CONTROLLED)			
0301371G	171	CYBER SECURITY INITIATIVE - CCP			
0301372L	172	CYBER SECURITY INITIATIVE - GDIP			
0301555BB	173	CLASSIFIED PROGRAMS			
0301555BZ	174	CLASSIFIED PROGRAMS			
0301556BB	175	SPECIAL PROGRAM			
0301556BZ	176	SPECIAL PROGRAM			
0302016K	177	NATIONAL MILITARY COMMAND SYSTEM-WIDE SUPPORT	615		615
0302019K	178	INFO INFRASTRUCTURE ENGINEERING AND INTEGRATION	16,054		16,054
0303126K	179	LONG-HAUL COMMUNICATIONS - DCS	8,508		8,508
0303131K	180	MINIMUM ESSENTIAL EMERGENCY COMMUNICATIONS NET	9,685		9,685
0303135G	181	PUBLIC KEY INFRASTRUCTURE (PKI)	15,577		15,577
0303136G	182	KEY MANAGEMENT INFRASTRUCTURE (KMI)	49,578		49,578
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<u>Program Element</u>	<u>Line</u>	<u>Program Title</u>	<u>FY2009 Request</u>	<u>House Change</u>	<u>House Authorized</u>
0303140D8Z	183	INFORMATION SYSTEMS SECURITY PROGRAM	13,459		13,459
0303140G	184	INFORMATION SYSTEMS SECURITY PROGRAM	394,074		394,074
0303140K	185	INFORMATION SYSTEMS SECURITY PROGRAM	0		0
0303148K	186	DISA MISSION SUPPORT OPERATIONS	2,181		2,181
0303149J	187	C4I FOR THE WARRIOR	3,662		3,662
0303149K	188	C4I FOR THE WARRIOR	0		0
0303150K	189	GLOBAL COMMAND AND CONTROL SYSTEM	36,374		36,374
0303153K	190	JOINT SPECTRUM CENTER	19,319		19,319
0303170K	191	NET-CENTRIC ENTERPRISE SERVICES (NCES)	429		429
0303610K	192	TELEPORT PROGRAM	2,060		2,060
0304210BB	193	SPECIAL APPLICATIONS FOR CONTINGENCIES Unmanned Aerial Systems Test Facility Upgrade Expeditionary Persistent Power	16,225	[8,000]	16,225
0304345BQ	194	NATIONAL GEOSPATIAL-INTELLIGENCE PROGRAM (NGP)		[3,000]	3,000
0305102BQ	195	DEFENSE GEOSPATIAL-INTELLIGENCE PROGRAM			
0305103D8Z	196	CYBER SECURITY INITIATIVE	1,000		1,000
0305103G	197	CYBER SECURITY INITIATIVE			
0305103K	198	CYBER SECURITY INITIATIVE			
0305125D8Z	199	CRITICAL INFRASTRUCTURE PROTECTION (CIP)	12,800		12,800
0305127BZ	200	FOREIGN COUNTERINTELLIGENCE ACTIVITIES	12,700		12,700
0305146BZ	201	DEFENSE JOINT COUNTERINTELLIGENCE ACTIVITIES			
0305183L	202	DEFENSE HUMAN INTELLIGENCE (HUMINT) ACTIVITIES	2,947		2,947

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<u>Program Element</u>	<u>Line</u>	<u>Program Title</u>	<u>FY2009 Request</u>	<u>House Change</u>	<u>House Authorized</u>
0305186D8Z	203	POLICY R&D PROGRAMS			
0305193G	204	INTELLIGENCE SUPPORT TO INFORMATION OPERATIONS	8,237		8,237
0305193L	205	INTELLIGENCE SUPPORT TO INFORMATION OPERATIONS			
0305199D8Z	206	NET CENTRICITY	12,716		12,716
0305202G	207	DRAGON U-2			
0305206G	208	AIRBORNE RECONNAISSANCE SYSTEMS			
0305207G	209	MANNED RECONNAISSANCE SYSTEMS			
0305208BB	210	DISTRIBUTED COMMON GROUND/SURFACE SYSTEMS	3,165		3,165
0305208BQ	211	DISTRIBUTED COMMON GROUND/SURFACE SYSTEMS			
0305208G	212	DISTRIBUTED COMMON GROUND/SURFACE SYSTEMS			
0305208K	213	DISTRIBUTED COMMON GROUND/SURFACE SYSTEMS	3,227		3,227
0305208L	214	DISTRIBUTED COMMON GROUND/SURFACE SYSTEMS			
03052198B	215	MQ-1 PREDATOR A UAV	13,679		13,679
0305229G	216	REAL-TIME ARCHITECTURE DEVELOPMENT (RT10)			
0305866L	217	DIA SUPPORT TO SOUTHCOM INTELLIGENCE ACTIVITIES			
0305880L	218	COMBATANT COMMAND INTELLIGENCE OPERATIONS			
0305883L	219	HARD AND DEEPLY BURIED TARGET INTEL SUPPORT			
0305884L	220	INTELLIGENCE PLANNING AND REVIEW ACTIVITIES			
0305885G	221	TACTICAL CRYPTOLOGIC ACTIVITIES			
0305889G	222	COUNTERDRUG INTELLIGENCE SUPPORT			
0307141G	223	IO TECHNOLOGY INTEGRATION & TOOL DEV			
0307207G	224	AERIAL COMMON SENSOR			
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(Dollars in Thousands)

<u>Program Element</u>	<u>Line</u>	<u>Program Title</u>	<u>FY2009 Request</u>	<u>House Change</u>	<u>House Authorized</u>
0708011S	225	INDUSTRIAL PREPAREDNESS	20,480		20,480
0708012S	226	LOGISTICS SUPPORT ACTIVITIES	2,846		2,846
0902298J	227	MANAGEMENT HEADQUARTERS (JCS)	3,401		3,401
1001018D8Z	228	NATO JOINT STARS	27,756		27,756
1130435BB	229	STORM	0		0
1160279BB	230	SBIR/SMALL BUS TECH TRANSFER PILOT PROG	0		0
1160403BB	231	SPECIAL OPERATIONS AVIATION SYSTEMS Gunship Lite Prototype Test Bed	43,977	30,000 [30,000]	73,977
1160404BB	232	SPECIAL OPERATIONS TACTICAL SYSTEMS DEV Covert Communications for Special Operations Forces	13,263	4,000 [4,000]	17,263
1160405BB	233	SPECIAL OPERATIONS INTELLIGENCE SYSTEMS DEV Advanced Long Endurance Unattended Ground Sensors	39,125	4,200 [4,200]	43,325
1160408BB	234	SOF OPERATIONAL ENHANCEMENTS Meteorological and Oceanographic Collection Sensors	48,137	3,900 [3,900]	52,037
1160421BB	235	SPECIAL OPERATIONS CV-22 DEVELOPMENT	38,229		38,229
1160425BB	236	SPECIAL OPERATIONS AIRCRAFT DEFENSIVE SYSTEMS	0		0
1160426BB	237	OPERATIONS ADVANCED SEAL DELIVERY SYSTEM DEV	7,090		7,090
1160427BB	238	MISSION TRAINING AND PREPARATION SYSTEMS (MTPS)	4,052		4,052
1160428BB	239	UNMANNED VEHICLES (UV)	1,527		1,527
1160429BB	240	MC130J SOF TANKER RECAPITALIZATION	4,659		4,659
1160477BB	241	SOF WEAPONS SYSTEMS	2,759		2,759
1160478BB	242	SOF SOLDIER PROTECTION AND SURVIVAL SYSTEMS	3,190		3,190

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<u>Program Element</u>	<u>Line</u>	<u>Program Title</u>	<u>FY2009 Request</u>	<u>House Change</u>	<u>House Authorized</u>
1160479BB	243	SOF VISUAL AUGMENTATION, LASERS AND SENSOR SYS	3,495		3,495
1160482BB	244	SOF ROTARY WING AVIATION	3,822		3,822
1160483BB	245	SOF UNDERWATER SYSTEMS	3,142		3,142
1160484BB	246	SOF SURFACE CRAFT	5,206		5,206
1160488BB	247	SOF PSYOP	15,554		15,554
1160489BB	248	SOF GLOBAL VIDEO SURVEILLANCE ACTIVITIES	14,686		14,686
1160490BB	249	SOF OPERATIONAL ENHANCEMENTS INTELLIGENCE	8,729		8,729
99999999999	999	CLASSIFIED PROGRAMS	3,805,519		3,805,519
SUBTOTAL, OPERATIONAL SYS DEV, DEFENSE-WIDE			4,957,646	61,900	5,019,546
Total, RDT&E Defense-Wide			21,499,229	-654,350	20,844,879

OPERATIONAL RESEARCH, DEVELOPMENT, TEST, AND EVALUATION

Overview

The budget request contained \$188.8 million for Operational research, development, test, and evaluation (RDT&E).

The committee recommends \$188.8 million, the requested amount for fiscal year 2009.

Title II-RDT and E
(Dollars in Thousands)

<u>Program Element</u>	<u>Line</u>	<u>Program Title</u>	<u>FY2009 Request</u>	<u>House Change</u>	<u>House Authorized</u>
		OPERATIONAL TEST & EVALUATION, DEFENSE			
0605118OTE	1	OPERATIONAL TEST AND EVALUATION	53,196		53,196
0605131OTE	2	LIVE FIRE TEST AND EVALUATION	11,572		11,572
0605814OTE	3	OPERATIONAL TEST ACTIVITIES AND ANALYSES	124,004		124,004
		Total, Operational Test & Evaluation, Defense	188,772	0	188,772
		TOTAL RDT&E	79,615,941	109,492	79,725,433

Items of Special Interest

Acquisition of foreign material for training purposes

The budget request contained \$62.8 million in PE 65117D8Z for foreign material acquisition and exploitation, but contained no funds to acquire quality, cost effective, and realistic training aids to be distributed evenly to the joint service explosive ordnance disposal (EOD) community.

The committee understands the importance of realistic training aids in providing effective training for EOD technicians, especially considering the challenges faced in Operation Iraqi Freedom and Operation Enduring Freedom. The insurgencies in those two nations have proven to be resourceful in the use of readily available materials, and highly adaptive in responding to our countermeasures. Lessons learned in those areas of responsibility are also rapidly proliferating to other areas due to the ubiquity of the internet to provide anonymous communications capacity. Without the ability to quickly acquire realistic systems and develop training packages for the EOD community, American forces will be unable to keep within the decision cycle of our adversaries, jeopardizing the lives of coalition forces and civilians.

The committee recommends \$67.8 million, an increase of \$5.0 million, in PE 65117D8Z.

Advanced energy storage technology initiative

The budget request contained \$9.3 million in PE 63618D8Z for joint electronic advanced technology.

The committee is aware of continuing requirements for innovative battery and non-battery power sources for a number of military applications. These military applications include power generation for soldiers, weapons, vehicles, and installations, which require energy storage technologies that meet unique performance and system integration specifications. The committee notes a number of developmental technologies that have the potential for meeting the requirements of the military services. These include the following: thin lithium-ion disulfide batteries; rechargeable lithium batteries; carbonate fuel cells; polymer electrolyte membrane fuel cell auxiliary power units; mobile micro-grid energy storage devices; fuel cells and electrochemical energy storage; domestically-produced lithium-ion battery materials and safer lithium ion battery designs; lithium ion superpolymer battery systems for future vehicle power; novel zinc air power sources for soldier power; fuel cell demonstrations for backup power; fuel cell hybrid electrical generation systems; acid alkaline direct methanol fuel cell technology; and carbon nanotube enhanced power sources for space. The committee recommends that such technologies be considered for potential research, development, testing and/or demonstration funding. The committee recommends that the Director of Defense Research and Engineering select a technology or technologies on the basis of technical merit, cost-effectiveness, and the potential of a particular technology to meet service needs.

The committee recommends \$19.3 million, an increase of \$10.0 million, in PE 63618D8Z for the advanced energy storage technology initiative.

Analysis of the industrial base for space acquisitions

The Cost Analysis Improvement Group (CAIG) within the Office of the Secretary of Defense recently conducted an analysis of the industrial base for the hardware elements of space programs that identified significant challenges. The committee believes this analysis should be maintained and updated on a regular basis. The committee also notes that current and planned space systems are software dependent, and recommends the industrial base study be broadened to analyze the industrial capabilities and capacity to respond to future software requirements.

The committee therefore directs the Secretary of Defense to task the CAIG to analyze the industrial base that supports the development and production of space systems on a regular basis. The committee further directs the Secretary to provide a report to the congressional defense committees by October 1, 2008, on the health of the industrial base supporting space acquisitions and plans for monitoring the industrial base in the future.

Army advanced hypersonic weapon

The budget request contained \$117.6 million in PE 64165D8Z for Prompt Global Strike Capability development, including no funds for the Army advanced hypersonic weapon.

The committee is aware that the Army has been developing the advanced hypersonic weapon under the auspices of a separate Army program. The committee believes that the Army should continue its work in coordination with the Defense-wide Prompt Global Strike program.

The committee recommends an increase of \$7.0 million in PE 64165D8Z for Army advanced hypersonic weapon technology development.

Ballistic missile defense

The committee is concerned that the Missile Defense Agency remains too focused on the threat from long-range missiles and is not devoting sufficient resources and attention on threats from short- and medium-range ballistic missiles. Such short- and medium-range missiles represent the overwhelming ballistic missile threat to U.S. interests, deployed forces, and allies around the world. The Joint Capabilities Mix II study, sponsored by the U.S. Strategic Command in 2007, is just one example of combatant commanders reporting to Congress that the United States does not currently possess sufficient numbers of regional missile defense capabilities to counter the current and growing threat from short- and medium-range ballistic missiles.

Elsewhere in this title, the committee has re-prioritized resources away from systems designed to address longer-term threats and focused them instead on closing existing capability gaps against short- and medium-range threats. As the Department of Defense begins to develop its fiscal year 2010 budget, the committee urges it to focus greater attention on the threat from short- and medium-range ballistic missiles.

Aegis Ballistic Missile Defense

The budget request contained \$1.2 billion in PE 63892C, for the sea-based Aegis Ballistic Missile Defense (BMD), which is designed

to defend against short-, medium-, and intermediate-range ballistic missiles.

The committee notes its continuing concern that the Missile Defense Agency is not providing sufficient funds for Aegis BMD. Given the threat posed by short- and medium-range ballistic missiles, the committee is concerned that the 133 Standard Missile-3 (SM-3) interceptors that are currently planned will be insufficient. The committee's views are consistent with the results of the recently completed Joint Capabilities Mix Study II, which concluded that combatant commanders require nearly twice as many SM-3 interceptors than the 133 now planned. Elsewhere in this Act, the committee has increased funding for SM-3 production.

The committee also notes its strong support for the United States-Japan Cooperative Development Program, which is co-developing the SM-3 Block IIA missile designed to counter longer-range ballistic missile threats. The committee expects the Missile Defense Agency to continue to support the development of the current unitary kill vehicle for that interceptor.

The committee recommends an increase of \$20.0 million in PE 63892C for the purchase of additional ballistic missile signal processors. Furthermore, in accordance with section 223 of the National Defense Authorization Act for Fiscal Year 2008 (Public Law 110-181), the committee recommends the transfer of \$56.0 million for procurement of SM-3 interceptors to title 1.

The committee, therefore, recommends a total of \$1.1 billion, a decrease of \$36.0 million, in PE 63892C for Aegis BMD.

Airborne Laser

The budget request contained \$421.2 million in PE 63883C for the Airborne Laser (ABL) Capability Development program.

The committee continues to have serious concerns about the ABL program. The ABL program has suffered numerous delays and cost increases since its inception in 1996, and is currently estimated to cost \$5.1 billion, five times greater than the original cost estimate, from inception to completion of its first lethal shoot-down test, currently scheduled for 2009. Additionally, the Congressional Budget Office has estimated that it could cost as much as \$36.0 billion to develop, procure, and operate a fleet of 7 ABL aircraft for 20 years.

The committee notes several challenges remain for the ABL program that will not be addressed as part of the lethal shoot-down test in 2009, including ABL's inherent operational constraints. Additional testing is required to demonstrate operational capability and military utility. The committee is also concerned about the number of ABL aircraft required to maintain an operational ABL patrol.

The committee notes that even if the 2009 shoot down demonstration is successful, it will not demonstrate whether ABL will be operationally effective, survivable, or affordable. Before a decision is made to begin procuring additional ABL aircraft, the committee believes that a full review of this program, and other potential boost phase defense systems, is required. Elsewhere in this title, the committee directs a review of options for boost phase missile defense systems. The committee therefore believes it is premature to begin planning for the procurement of a second ABL aircraft as requested in the budget request. Furthermore, the com-

mittee has also reduced funding for activities not directly required to achieve the 2009 shoot down demonstration.

The committee recommends \$378.6 million, a decrease of \$42.6 million, in PE 63883C for the ABL program, and authorizes no funding for a second ABL aircraft.

Arrow Weapons System

The State of Israel has indicated a requirement for a follow-on system to the existing Arrow Weapons System to improve its capability to engage ballistic missiles at longer ranges. It has also noted an interest in developing a new weapons system, the Arrow-3, to meet this requirement.

The committee strongly supports ongoing cooperation with Israel in the area of missile defense. The committee, however, questions the necessity of developing a new program when current missile defense systems may be able to meet Israel's requirements. Recent analysis by the Missile Defense Agency indicates that existing missile defense systems such as the Standard Missile-3 (SM-3) would provide equal or better capability than the proposed Arrow-3. The SM-3 is a more mature, demonstrated technology that could provide capability for Israel on a faster timeline and at less cost.

Before proceeding with the development of the Arrow-3, the committee urges Israel and the Department of Defense to conduct a full review of existing missile defense systems to determine the most cost-effective solution to meet the missile defense requirements of Israel and the United States.

Ballistic missile defense discrimination radar in Israel

The committee notes that the State of Israel faces a real and growing threat from short- and medium-range ballistic missiles from states such as the Syrian Arab Republic and the Islamic Republic of Iran. The committee believes that the deployment of a U.S. Army-Navy/Transportable-2 (AN/TPY-2) missile defense discrimination radar to Israel would greatly increase the capabilities of both Israel and U.S. forces deployed in support of Israel to defend against ballistic missile threats. Therefore, the committee urges the Department of Defense to begin discussions with Israel about the possibility of deploying an AN/TPY-2 radar on its territory at the earliest feasible date.

Ballistic missile defense reductions

The budget request contained \$432.2 million in PE 63890C for Ballistic Missile Defense (BMD) Core, \$86.4 million in PE 91598C for Management Headquarters-Missile Defense Agency (MDA), \$118.7 million in PE 63175C for ballistic missile defense technology, and \$288.3 million in PE 63891C for Missile Defense Agency special programs.

The committee recommends \$412.2 million, a decrease of \$20.0 million, in PE 63890C for BMD Core; \$81.4 million, a decrease of \$5.0 million, in PE 91598C for Management Headquarters-MDA; \$113.7 million, a decrease of \$5.0 million, for BMD technology; and \$138.3 million, a decrease of \$150.0 million, in PE 63891C for MDA special programs to partially offset the additional funding for other higher priority defense programs.

Ballistic missile defense sensors

The budget request contained \$1.1 billion in PE 63884C for ballistic missile defense sensors.

The request for sensors included \$97.8 million in title II for the proposed European Midcourse Radar (EMR). Elsewhere in this Act, the committee has reduced funding for the military construction of the proposed radar site out of concern over the ability to fully expend the funding in fiscal year 2009. The committee expects these changes will have an impact on the ability to execute research and development-funded activities according to the proposed schedule.

The request also included funding for deployment and site preparation efforts to deploy Army-Navy/Transportable Radar (AN/TPY-2) #3, at a potential foreign location. According to Department of Defense budget documents, these funds will be used to assist with planning and coordination with the host nation and combatant commanders, radar site design, site construction, transport of the radar to an overseas site, radar set-up, calibration, site security, and activation. The committee finds this request to be premature, as the Department of Defense has not yet made an internal decision on where to place AN/TPY-2 #3, nor have negotiations begun with a potential host nation.

The committee recommends \$978.0 million, a decrease of \$98.9 million, in PE 63884C including a reduction of \$48.9 million for the EMR and a reduction of \$50.0 million for AN/TPY-2 #3.

Ballistic missile defense system space program

The budget request contained \$29.8 million in PE 63895C for the ballistic missile defense (BMD) system space program, including funding for a proposed space test bed.

According to the Missile Defense Agency, the purpose of the space test bed is to examine options for deploying space-based missile defense interceptors in the future. The committee does not support the deployment of space-based interceptors.

The committee recommends \$19.8 million for the BMD system space program, a decrease of \$10.0 million, in PE 63895C and authorizes no funds for the proposed space test bed.

European Ground-based Midcourse Defense component

The budget request contained \$2.1 billion in PE 63882C for the Ground-based, Midcourse Defense (GMD) program, of which \$317.0 million is for the proposed GMD interceptor site in the Republic of Poland and associated equipment.

In January 2007, the Administration announced negotiations with Poland and the Czech Republic about the possibility of deploying long-range missile defense interceptors and radars in their respective territories to defend against a potential long-range missile threat from the Islamic Republic of Iran. While the Administration reached a tentative agreement in April 2008 with the Czech Republic, it has not concluded negotiations with Poland.

The committee remains concerned about the potential effectiveness of the two-stage GMD interceptor to perform its mission in the European theater. The committee notes that the Director of Operational Test and Evaluation (DOT&E) has observed that the employment of the proposed two-stage interceptor in European defensive operations is not well understood, and has recommended addi-

tional testing of the two-stage interceptor, including against multiple, threat representative targets.

The committee welcomes the Missile Defense Agency's recent decision to add an additional test of the two-stage interceptor, but notes that it is unclear at this point whether that third test will include all of the key recommendations made by DOT&E, including, for example, a recommended salvo test. Therefore, the committee directs the Director of the Missile Defense Agency and the Director of Operational Test and Evaluation to prepare a jointly agreed plan to ensure the European-based GMD assets can successfully accomplish their mission. The plan shall be submitted to the congressional defense committees by December 1, 2008.

Section 222 of this title would limit the availability of funds for the acquisition of operational, two-stage GMD interceptors until the Secretary of Defense certifies that the interceptor has demonstrated, through operationally realistic testing, a high probability of operational effectiveness. The committee views such a certification as unattainable in fiscal year 2009, because the first of three tests of the system is not planned until the fourth quarter of fiscal year 2009. In light of the time necessary for the three planned tests and subsequent certification, the committee views funding in fiscal year 2009 for operational interceptors premature.

The committee notes that the proposed long-range interceptors in Poland would not be able to protect the southern portions of Europe against existing Iranian short- and medium-range ballistic missiles. The committee is concerned that it may be premature to move forward at the pace recommended by the Administration given the fact that the long-range missile threat from Iran has yet to emerge and neither the United States nor our North Atlantic Treaty Organization allies have sufficient regional missile defense capabilities to meet current short- and medium-range Iranian ballistic missile threats.

The committee has long advocated the need to win NATO support for the proposed deployment, and welcomes the Alliance's April 3, 2008, Bucharest Summit Declaration which recognized the "substantial contribution to the protection of Allies from long-range ballistic missiles to be provided the planned deployment of European-based United States missile defence assets." The committee encourages further actions to ensure that United States and NATO missile defense systems are fully integrated in the future.

Elsewhere in this Act, the committee has reduced funding for the military construction of the proposed European GMD interceptor site out of concern over the ability to fully expend the funding in fiscal year 2009. The committee expects these changes will have an impact on the ability to execute research and development-funded activities according to the proposed schedule.

In view of these concerns, the committee recommends \$1.9 billion, a decrease of \$182.0 million, in PE 63882C for the proposed GMD interceptor site in Poland and associated equipment.

Kinetic Energy Interceptor

The budget request contained \$386.8 million in PE 63886C for the Kinetic Energy Interceptor (KEI).

The KEI program has been described by the Missile Defense Agency as both a potential boost phase defense system and a fol-

low-on to the current generation of Ground-based Midcourse Defense (GMD) system. The Missile Defense Agency's current emphasis for the KEI program is as a follow-on to the current GMD program.

The committee questions the urgency of a GMD follow-on program at this time. The Missile Defense Agency has only just begun deploying the existing GMD interceptors in Alaska and California. The committee understands those interceptors have an expected service-life of at least 20 years. Given the limited number of long-range missile threats that the United States will likely face in the near-to mid-term from rogue states, the planned inventory of 54 GMD interceptors should be sufficient to address that threat.

The committee believes some investment in a follow-on system is warranted, but not at the level requested. Therefore, the committee recommends \$286.8 million, a decrease of \$100.0 million, in PE 63886C for KEI.

Missile defense force structure

The committee is concerned about how the Department of Defense sets its force structure and establishes inventory requirements for missile defense. The committee does not believe that the Missile Defense Agency has the appropriate expertise to set missile defense force structure requirements. The committee notes a general lack of transparency and methodology in the development of current missile defense force requirements. The committee is concerned that the Department has not yet determined the production quantities and operational force level requirements to address the full-range of ballistic missile threats that confront the United States.

The committee directs the Secretary of Defense to develop a comprehensive plan for setting future missile defense force structure and inventory requirements. The committee directs the Secretary of Defense to submit a report by April 15, 2009, to the congressional defense committees which identifies:

- (1) The methodology for determining current and future missile defense force structure and inventory requirements;
- (2) The Department's specific process for making decisions related to force structure and inventory requirements;
- (3) The expected roles and responsibilities of all relevant organizations for analyzing force structure and inventory requirements, including the Joint Staff, the military services, Missile Defense Agency, combatant commands, intelligence organizations, and the Director, Program Analysis and Evaluation; and
- (4) Which elements (e.g., Missile Defense Agency, the military services) within the Department will be responsible for procuring additional missile defense inventory.

Missile defense program element structure

The committee continues to believe that the Missile Defense Agency program element (PE) structure is too broad, and that this structure needs to be further refined to provide Congress greater transparency into missile defense programs.

Therefore, starting with the fiscal year 2010 budget submission, the committee directs the Director of the Missile Defense Agency

to provide separate PE numbers for each specific element in the Terminal Defense Segment and within Ballistic Missile Defense Sensors. These new PE numbers should include: Terminal High Altitude Area Defense; Israeli Cooperative Programs; Upgraded Early Warning Radars; Sea-based, X-Band radar; Army-Navy/Transportable Radars; and European Midcourse Radar.

Missile defense program oversight

In 2002, the Secretary of Defense granted the Missile Defense Agency (MDA) unusual flexibility to deploy an initial missile defense system for the United States, including an exemption from the normal Department of Defense requirements process. Now that the initial system has been developed and deployed, the committee believes there is less rationale for maintaining this flexibility. The committee believes the Missile Defense Agency must begin to transition into more normal defense planning and budget processes.

In August 2007, the Vice Chairman of the Joint Chiefs of Staff and the Joint Requirements Oversight Council (JROC) Chairman recommended that the Deputy Secretary of Defense transition the Missile Defense Agency back into standard departmental processes and direct the JROC to provide oversight of MDA. Rather than implement this proposal, the Department of Defense established a new senior-level group, the Missile Defense Executive Board (MDEB), in March 2007, to improve oversight and integration of MDA activities.

The committee is concerned that these processes may not enable the JROC and the services to effectively validate missile defense requirements. Therefore, the committee directs the Vice Chairman of the Joint Chiefs of Staff, in his capacity as chairman of the JROC, and the Under Secretary of Defense for Acquisition, Technology and Logistics to provide a report to the Senate Committee on Armed Services and the House Committee on Armed Services within 180 days after the date of enactment of this Act that assesses whether the newly established MDEB process:

- (1) Allows the JROC to provide effective military advice to validate missile defense capabilities;
- (2) Facilitates the synchronization of MDA-fielded assets with other air and missile defense capabilities being developed; and
- (3) Enables the military departments to appropriately plan and program resources for the fielding and sustainment of MDA-fielded assets.

Missile defense testing and targets

The budget request contained \$665.4 million in PE 63888C for ballistic missile defense test and targets.

The committee is concerned about the testing program for the Ground-based Midcourse Defense (GMD) program. The Missile Defense Agency (MDA) conducted a successful intercept test of GMD in September 2007, its second successful intercept since 2002. However, the committee believes that more frequent and rigorous testing of the system is needed to demonstrate the system's operational effectiveness.

The Director of the Department of Defense Operational Test and Evaluation (DOT&E) office has raised similar concerns, noting in

the DOT&E fiscal year 2007 annual report, “GMD flight testing to date is not sufficient to provide a high degree of statistical confidence in its limited capabilities . . . additional flight test data under realistic conditions is necessary to validate models and simulations and to increase confidence in the ability of these models and simulations to accurately assess system capability.”

The committee is also concerned with the MDA targets program, and notes the failure to produce sufficient reliable targets has become the pacing item of the Missile Defense Agency’s entire test program. The committee notes that the Flexible Target Family (FTF) has become more complex and expensive than originally estimated.

The committee, therefore, recommends \$690.4 million, an increase of \$25.0 million, in PE 63888C for target development. Additionally, the committee directs the Missile Defense Agency to re-assess both its testing program for the GMD program and target acquisition strategy including the FTF initiative. The committee directs the Director of the Missile Defense Agency to deliver a report within 180 days after the date of enactment of this Act to the congressional defense committees describing the results of this assessment and a plan to:

- (1) Increase the frequency and rigor of GMD testing; and
- (2) Increase the quantity and reliability of missile defense targets.

Multiple Kill Vehicle

The budget request contained \$354.5 million in PE 63894C for the Multiple Kill Vehicle (MKV) program.

The committee supports research into options for ultimately replacing the unitary exo-atmospheric kill vehicles (EKV) on the existing and future fleet of long-range, mid-course interceptors. However, the committee believes the Missile Defense Agency is moving forward too quickly with development of the MKV program, and notes that Missile Defense Agency has not yet fully demonstrated the capabilities of the existing EKV.

The committee also notes that the Missile Defense Agency intends to support two vendors to examine alternative MKV technology concepts. The committee believes there is significant technical risk that must be addressed in the MKV program and understands the approach of maintaining two vendors to reduce technology risk. However, the committee is concerned about the financial implications of maintaining two vendors indefinitely.

The committee recommends \$254.5 million, a decrease of \$100.0 million, in PE 63894C for MKV. In addition, within 90 days after the date of enactment of this Act, the committee directs the Director of the Missile Defense Agency to provide a report to the congressional defense committees that provides criteria and a clear path for down-selecting between vendors as the MKV program matures and meets its established knowledge points.

Short-range ballistic missile defense

The budget request contained \$44.8 million in PE 63881C for short-range ballistic missile defense or “David’s Sling” program.

The short-range ballistic missile defense program is being jointly designed by the United States and the State of Israel to provide an

affordable and effective defense against the threat from long-range artillery rockets and short-range ballistic missiles.

The committee recommends \$54.8 million, an increase of \$10.0 million, in PE 63881C to support the continued development of the short-range ballistic missile defense program.

Space Tracking and Surveillance System

The budget request contained \$242.4 million in PE 63893C for the Space Tracking and Surveillance System (STSS).

The committee notes that the Missile Defense Agency plans to launch two STSS demonstration satellites in November 2008, to demonstrate the ability to track ballistic missiles from space. The committee is supportive of this effort. The committee notes it is premature, however, to begin development of a follow-on constellation of satellites before these two demonstration satellites have demonstrated any capability to track ballistic missile targets.

The committee recommends \$217.4 million, a decrease of \$25.0 million, in PE 63893C for STSS, and authorizes no funds to begin work on an STSS follow-on constellation.

Terminal High Altitude Area Defense

The budget request contained \$864.8 million in PE 63881C for the Terminal High Altitude Area Defense (THAAD) system, which is designed to protect against short-, medium-, and intermediate-range ballistic missiles.

For several years, combatant commanders have expressed strong support for THAAD. The 2007 Joint Capabilities Mix Study II concluded that combatant commanders require nearly twice as many THAAD interceptors as the 96 now planned. The committee also notes that the Army's original requirement for THAAD included 8 fire units and 1,250 interceptors. Under a separate title of this Act, the committee has increased funding for THAAD procurement.

In accordance with section 223 of the National Defense Authorization Act for Fiscal Year 2008 (Public Law 110-181), the committee recommends the transfer of \$65.0 million for advanced procurement of THAAD Fire Units #3 and #4 from PE 63881C to title 1.

The committee recommends \$799.8 million, a decrease of \$65.0 million, in PE 63881C for THAAD.

Blood cell storage

The committee is aware that the military requires blood-containing viable platelets necessary for effective hemorrhage control. The committee notes that unlike other blood components like plasma and red cells, platelets can only be stored at room temperature and only for a few days. Currently, the quality of platelet concentrates is determined by a subjective visual check or by taking random samples directly from the platelet storage bag to measure the degree of acidity (pH) of the sample, as pH is considered to be a good indicator of platelet quality. However, taking a sample breaks the sterility of the bag and the respective unit of platelets can no longer be used.

The committee seeks to ensure that the best medical treatment is available for warfighters wounded in combat and other military operations. Therefore, the committee directs the Secretary of De-

fense to conduct a study and pilot project on technology and methods for improving the shelf-life and viability of blood platelet storage. Such a study shall include examining methods of closed-loop pH monitoring for platelets. The committee directs the Secretary to submit to the Senate Committee on Armed Services and the House Committee on Armed Services a summary of his findings and recommendations, by March 31, 2009.

Center for Technology and National Security Policy at the National Defense University

The budget request contained \$34.5 million in PE 65104D8Z for technical studies, support, and analysis, but contained no funds for analyses for the Center for Technology and National Security Policy (CTNSP) at the National Defense University.

The committee recognizes that CTNSP provides valuable support to the Department through the development of a wide range of studies and analyses. The committee has also been the beneficiary of the critical mass of knowledge and expertise at CTNSP, having both received written products such as the 2006 “Report to Congress on the Information Technology Program” and oral testimony on a range of topics from experts at CTNSP. The committee encourages the researchers at CTNSP to continue to explore issues of importance to the Department and the nation. The synergy created between the academic research and operational experience the CTNSP is an asset that provides advice to policy makers in shaping national security direction.

The committee recommends \$36.0 million, an increase of \$1.5 million, in PE 65104D8Z for the CNSTP.

Chemical and biological defense basic and applied research and advanced technology development initiative

The budget request contained \$594.8 million for chemical/biological defense science and technology, including \$53.2 million in PE 61384BP for basic research, \$203.7 million in applied research, and \$337.9 million in advanced technology development.

The committee recommends continuation of the chemical and biological basic research, applied research, and advanced technology development initiatives established in the Ronald W. Reagan National Defense Authorization Act for Fiscal Year 2005 (Public Law 108–375). These initiatives would provide opportunities for emerging technologies and concepts to compete for funding on the basis of technical merit and on the contribution that such technologies could make to the chemical and biological defense capabilities of the armed forces and to homeland defense.

Chemical/biological defense advanced technology development initiative

The committee recommends that the projects and technologies to be considered for funding under the advanced technology development initiative include, but are not limited to the following:

- (1) Chemical and biological protective clothing;
- (2) Protective self-decontaminating surface technology;
- (3) Nano porous regenerative filters;
- (4) Rapid bio-detection and early warning systems;
- (5) Antioxidant micronutrient countermeasures;

- (6) Anthrax skin patch vaccine; and
- (7) Wide area surveillance and warning systems.

The committee recommends \$358.9 million in PE 63384BP, an increase of \$20.0 million for the chemical/biological defense advanced technology development initiative.

Chemical/biological defense applied research initiative

The committee recommends that the projects and technologies to be considered for funding under the applied research initiative include, but are not limited to the following:

- (1) Self-decontaminating polymers;
- (2) Sample preparation;
- (3) Standoff multispectral imaging detection;
- (4) CBRNE detection sensor network design;
- (5) Multi-agent vaccine development;
- (6) Bio-terror shield for yellow fever, dengue, and West Nile virus;
- (7) Biosurety development and management;
- (8) Enhanced chemical and biological protective clothing;
- (9) Smallpox biodefense therapeutic; and
- (10) Mass decontamination technology.

The committee recommends \$218.7 million in PE 62384BP, an increase of \$15.0 million for the chemical/biological defense applied research initiative.

Chemical/biological defense basic research initiative

The committee recommends that the technologies to be considered for funding under the basic research initiative include, but are not limited to the following:

- (1) X-ray beamline determination of molecular structures;
- (2) Standoff chemical detection;
- (3) Anti-biowarfare medicines; and
- (4) High-speed network for infectious diseases.

The committee recommends \$58.2 million in PE 61384BP, an increase of \$5.0 million, for the chemical/biological defense basic research initiative.

Cyberterror protection expansion for the Department of Defense

The committee report (H. Rept. 110–146) accompanying the National Defense Authorization Act for Fiscal Year 2008 urged the Department of Defense to implement the successful Air Force model for enterprise license agreements throughout the Department. The committee directs the Under Secretary of Defense for Acquisition, Technology and Logistics to report back to the Senate Committee on Armed Services and the House Committee on Armed Services within 90 days after the date of enactment of this Act on the steps taken by the Department to comply with these recommendations. The report shall include an assessment of future compliance plans intended by the Department.

Defense Advanced Research Projects Agency

The committee applauds the overall progress in the defense science and technology program, particularly that of the Defense Advanced Research Projects Agency (DARPA). The committee also recognizes that this year marks the 50th anniversary for DARPA

as a defense agency and notes that DARPA, since 1958, has had notable success with performing its original role to find and develop advanced technology to prevent technological surprise by other nations. The committee is pleased with DARPA's current efforts to find and rapidly field advanced innovative technologies to meet critical operational needs of our forces.

The committee understands that much of DARPA's success is due to several factors including its team of top-notch technical experts, a flat organization with greater management flexibility, and a rigid performance-based business model. Under the performance-based model, the committee understands that funds are withheld until the performer passes a significant, agreed upon milestone. While this model can give the impression of poor obligation rates throughout the year, the committee finds that DARPA continually under executes a significant portion of its budget each year. For example, with two quarters remaining for the obligation of fiscal year 2008 funds only 14.2 percent has been obligated. This trend continues despite a congressional rescission of \$144.0 million of funds appropriated for fiscal year 2007 and a reduction of \$129.0 million to the fiscal year 2008 budget request.

The committee does not believe that additional program growth is justified at this time and recommends funding DARPA's fiscal year 2009 program at a level consistent with current expenditures in the fiscal year 2008 program.

The committee makes a series of recommendations for general reductions in DARPA programs:

62383E—Biological Warfare Defense	\$ - 15,000,000
62702E—Tactical Technology	- 30,000,000
62715E—Materials and Bio Technology	- 10,000,000
62716E—Electronics Technology	- 15,000,000
63287E—Space Program and Technology	- 10,000,000
63739E—Advanced Electronics Technology	- 10,000,000
63760E—Command, Control and Communications Systems	- 10,000,000

These recommendations are made without prejudice to the particular account identified.

Defense Advanced Research Projects Agency relocation

The committee recognizes the unique requirements for the Defense Advanced Research Project Agency (DARPA) physical location. Among these requirements are an immediate proximity to the Pentagon and other extramural research organizations; the direct availability of a large cadre of highly qualified scientists and engineers; non-governmental technical support staff experts and facilities; nearby housing and quality of life amenities needed to attract and recruit high-quality technical program managers; accessibility that balances force protection with the need to be open to new performers who have never done business with the Department of Defense or the federal government; and access to public transportation and airports to facilitate travel of these employees and DARPA's partners in research. For these reasons, the 2005 Base Closure and Realignment Commission voted unanimously to overturn the Secretary of Defense's recommendation to relocate DARPA outside of Northern Virginia.

The committee believes that DARPA's mission could potentially be undermined if the relocation fails to meet these requirements. Therefore, the committee urges the General Services Administra-

tion to continue to work with DARPA to ensure that the source selection process works best to meet DARPA's unique agency requirements. The committee supports the Department and the General Services Administration's existing plans for DARPA's relocation.

Defense Agencies Initiative sustainment

Section 1005 of the National Defense Authorization Act for Fiscal Year 2008 (Public Law 110–181) pertained to the financial transformation initiative for the defense agencies. This section called for the creation of a Defense Agencies Initiative to do two things:

- (1) To eliminate or replace financial management systems that are duplicative, redundant, or fail to comply with financial management standards; and
- (2) To transform budget, finance, and accounting operations of the defense agencies to achieve accurate and reliable financial information for accountability and effective decision making.

The committee directs the Secretary of Defense to conduct an assessment on the Defense Agencies Initiative and submit the report to the congressional defense committees within 90 days after the date of the enactment of this Act. This report shall offer a sustainment plan for the first phase, or wave one, capability being developed under the Initiative. It shall also include both an implementation plan for all additional waves associated with the overall solution deployment and a funding profile and timeline.

Defense Experimental Program to Stimulate Competitive Research

The budget request contained \$2.8 million in PE 61114D8Z for the Defense Experimental Program to Stimulate Competitive Research (DEPSCoR).

The committee notes that projects under DEPSCoR are intended to expand research capabilities and opportunities in states that traditionally receive the least funding in federal support for university research. The committee further notes that DEPSCoR was originally authorized by section 257 of the National Defense Authorization Act of Fiscal Year 1995 (Public Law 103–337) to enhance the capabilities of institutions of higher education to develop, plan, and execute science and engineering research that is competitive under a peer-review system for awarding federal research assistance. The committee applauds the Department for its sound execution of the program. The committee also recognizes the many DEPSCoR contributions in support of our national security and for building national infrastructure for research education.

The committee is concerned that despite the success of the program, the Department's budget requests for the program has significantly declined from the fiscal year 2007 request of \$9.5 million to \$2.8 million in the fiscal year 2009 request. The Department informed the committee that no funds will be requested for DEPSCoR in fiscal year 2010 and in future year budget requests.

The committee strongly urges the Department to fund DEPSCoR, at an adequate level, to continue expanding the national research infrastructure. The committee recommends \$12.8 million, an increase of \$10.0 million, in PE 61114D8Z for DEPSCoR.

Defense Information System for Security

The committee applauds the interagency effort between the Department of Defense and the intelligence community to reform and improve the security clearance process. The Joint Security and Suitability Reform Team, utilizing Lean Six Sigma and other business process modernization techniques, has made a number of suggestions that will revolutionize how the Department, other federal agencies, and the intelligence community administer, vet, and issue security clearances.

The committee is aware that this significant revamping of the system has necessitated the Defense Information System for Security (DISS), which was established under the Defense Security Service but transitioned to the Business Transformation Agency, to undergo a strategic pause. The committee recognizes that this is necessary so that the recommendations of this process reform can be better understood and translated into requirements for DISS. In addition to its ability to enable this change within the Department, the committee encourages the strategic alignment of DISS capabilities with the information technology needs of the federal-wide reform effort.

The committee recognizes that taking such actions will have an impact on the ability of these programs to execute funds in a timely fashion. The committee supports any associated pause in these programs that may be necessary in order for a solution that achieves these goals to be realized.

Department of Defense bandwidth requirements for the future

The committee directs the Secretary of Defense to submit to the congressional defense committees a report within 180 days after the date of enactment of this Act outlining Department bandwidth needs in the near-term (next two years) and the longer term (eight years and beyond). The report shall detail the Department's plan for addressing increasing demands, including:

- (1) Current data transport capabilities (including terrestrial cable, as well as military and commercial satellite communications, both protected and unprotected) and current demands;
- (2) Future planned data transport capabilities (including terrestrial cable, as well as military and commercial satellite communications, both protected and unprotected) and projected demands;
- (3) Synchronization of future planned data transport capabilities to bandwidth needs for future systems (such as the Future Combat System, Naval Networking Environment, etc.); and
- (4) Proposed mitigation strategies should future planned data transport capabilities not become available when scheduled.

The committee is concerned that the Department lacks an organization to conduct comprehensive assessments and trades of communications bandwidth requirements, and capabilities and acquisition strategies to meet those requirements. Therefore, the committee recommends the Department consider identifying or creating an organization responsible for defense-wide bandwidth management and synchronization with the following activities:

- (1) Develop a near-, mid-, and far-term defense-wide communications architecture;
- (2) Conduct strategic communications bandwidth analysis with requirements, capability, schedule, and cost trade studies;
- (3) Provide bandwidth analysis on whether future acquisitions of systems and platforms are properly scoped into the current and planned communications architecture; and
- (4) Provide the milestone decision authority with acquisition recommendations based on whether the proposed capability can be supported and integrated into the communications architecture.

Energy technology investment roadmap

The committee is aware that a recent Defense Science Board (DSB) task force on Department of Defense Energy Strategy recommended that the Department increase investments in energy efficient and alternative energy technologies, and maintain a level of funding commensurate with operational and financial value. A separate study released in April 2007 and commissioned by the Office of Force Transformation and Resources of the Office of the Under Secretary of Defense for Policy, found that numerous federal and commercial energy research and development initiatives exist but lack coordination and metrics for integration with an energy-efficient future operational concept.

The committee believes the Department should embrace a more coordinated and energy-efficient future operational concept. Therefore, the committee directs the Secretary of Defense to prepare an energy technology investment roadmap. The roadmap shall consider, among other things, the DSB recommendations for accelerated development of those technologies for blended wing body aircraft, variable speed tilt rotor vertical lift, lightweight composite 'blast-bucket' tactical vehicles, advanced electro-mechanical actuators, semi-rigid lighter-than-air high-altitude lifting bodies, advanced micro-generators, biomimetic design for platform components and very high efficiency electronics for soldier system and other combat systems applications. The roadmap shall also consider the DSB recommendation to support mobile, in-theater fuel production processes with operational applications. Finally, the roadmap shall make recommendations to ensure that all energy technology investments across the services are prioritized, coordinated, and are not duplicative of other efforts with the Department, other federal agencies, or the commercial sector.

The Secretary shall submit the energy technology investment roadmap to the congressional defense committees by September 1, 2009.

Foliage penetration capability

The budget request contained \$79.9 million in PE 63122D8Z for combating terrorism technology support, but contained no funds for the development, demonstration, or transition of foliage penetrating technology.

The committee notes that the ability to see through mature jungle canopy to identify and locate structures associated with terrorism and other high-value targets requires advanced foliage penetration (FOPEN) capability. The committee is aware of the De-

partment's recent successes with demonstrating various FOPEN capabilities, but is concerned about the current funding levels to adequately support continued development of FOPEN technology and transition to operational use. The committee notes that our armed forces and U.S. civilians are engaged globally and must have the capability to operate in a wide range of environmental conditions, including in regions with dense foliage. The committee is concerned that the combatant commands lack the full-spectrum intelligence, surveillance, and reconnaissance capability they need to adequately carry out their missions. The committee urges the Department to make rapid transition of FOPEN technology a high priority.

The committee recommends an increase of \$5.0 million in PE 63122D8Z for the continued development, demonstration, and rapid transition of promising foliage penetration technology.

The committee encourages the Director, Rapid Reaction Technology Office, within the office of the Under Secretary of Defense for Acquisition, Technology, and Logistics, within 90 days after the date of enactment of this Act, to brief the congressional defense committees on the Department's current capability and plans to develop, procure, and deploy FOPEN systems. The brief should address the results of any tests of FOPEN systems, to include when, where, and type of system tested; the capability of the sensor technology, processing algorithms, and analytical suite; the transitional or operational funding identified and secured for the FOPEN system; and any future testing and acquisition planning and associated costs.

Green information technology standards

The committee is aware of an effort within the Pentagon to reduce the energy and environmental impact of the Department of Defense information technology (IT) enterprise. IT systems, including all of the desktop computing, servers, routers, and associated equipment consume significant quantities of power.

The committee supports the goals of this "green IT" initiative, sponsored by the office of the Pentagon Chief Information Officer (CIO), to work within existing budgets and authorities to adopt smart business practices that will help reduce the energy consumption of IT resources. In addition, this effort has the opportunity to reclaim physical space that can be used for other purposes.

The committee encourages the Pentagon CIO to maintain robust metrics on power, cost, and space savings made through this effort and to socialize the benefits of this program so that it might be adopted more broadly throughout the Department, as well as the rest of the federal government.

Historically Black Colleges and Universities and Minority Serving Institutions

The budget request contained \$15.2 million in PE 62228D8Z for the Historically Black College and Universities and Minority Serving Institutions (HBCU/MI) infrastructure support program.

The committee is concerned about the limited effort that the Department of Defense has undertaken in developing, funding, and expanding the HBCU/MI program. Specifically, the budget request for this program has not increased since the inception of the pro-

gram under the National Defense Authorization Act for Fiscal Year 1991 (Public Law 101–510). The committee believes that inadequate funding could have direct and indirect effects in ensuring future generations of minority students are trained to meet the challenges in developing future defense capabilities.

As noted elsewhere in this title, the committee supports the Department's commitment to reshape its science and technology approach for developing non-kinetic capabilities to enable mission success in irregular warfare environments. These capabilities include elements of net-centric operations, behavioral and social sciences, information assurance, modeling and simulation, and bio-inspired research. The committee believes that the minority serving institutions have strong research capabilities in these areas and urges the Department to include the HBCU/MI program as part of this important reshaping.

The committee remains committed to ensuring that the Department adequately supports the training and development of minority students who are an increasing part of the foundation that the future of our national security rests upon. The committee recognizes the critical need of the Department to take the necessary steps to enhance the HBCU/MI and other related programs across the Department. Section 232 in this Act requires the Secretary of Defense to carry out an assessment of the capability of minority serving institutions to participate in research, development, test and evaluation activities for the Department. To strengthen the HBCU/MI program, the committee urges the Department to explore other proven methodologies, such as creating centers-of-excellence and expanding the Mentor Protégé program to include minority serving institutions.

The committee recommends an increase of \$5.0 million in PE 62228D8Z for the enhancement of the HBCU/MI infrastructure support program. The committee encourages the Department, in its future defense budget submissions, to include an increase to the HBCU/MI program to, at a minimum, reflect the rate of inflation.

Human, social, and cultural behavioral modeling advanced development

The budget request contained \$9.4 million in PE 63670D8Z and \$6.0 million in PE 64670D8Z for human, social, cultural, and behavior (HSCB) modeling advanced development.

The committee notes that today's military forces are involved in a growing number of complex missions from counterinsurgency to security and stability operations. These missions are best served by a security force that understands and appreciates the individual, tribal, cultural, ethnic, religious, social, economic, and other aspects of the human terrain. The committee supports the Department's effort to reshape their approach to research, training, and doctrine to adapt to the current irregular warfare environment. The Department's creation and deployment of Human Terrain Teams (HTT) that employ cultural awareness and analysis practices notes one approach toward adapting to complex military operations.

In title XV of this Act, the committee notes the contributions of the prototype HTTs currently supporting operations in Iraq and Afghanistan and believes that sound research and resulting tools are

key technology enablers for success of these teams now and in the future.

The committee recommends \$13.4 million, an increase of \$4.0 million, in PE 63670D8Z and \$8.0 million, an increase of \$2.0 million, in PE 64670D8Z for the continued development, demonstration and rapid transition of key technologies supporting human terrain understanding and forecasting to include, Mapping the Human Terrain Joint Capability Technology Demonstration and the Conflict Modeling, Planning and Outcome Experimentation Program.

Human, social, and cultural behavior modeling research

The committee supports efforts to further human, social, and cultural behavioral (HSCB) modeling research activities, but believes greater planning coordination and concept development is necessary to yield a productive program.

Therefore, the committee directs the Under Secretary for Acquisition, Technology and Logistics to establish a Department of Defense User Community Advisory Group (UCAG) to provide input to the Department on the utility of existing HSCB research efforts, to include determining the research direction for future programs in this area. Advisory group members shall include researchers from the scientific and engineering world and members from operational disciplines, such as special operations, intelligence, and provincial reconstruction team specialists. The advisory group shall not only provide input on future research directions, but shall also be used as a peer review group to provide feedback on existing HSCB programs managed by the services and agencies.

The committee further directs the Under Secretary for Acquisition, Technology and Logistics to submit to the congressional defense committees within 90 days after the date of enactment of this Act a report outlining the charter, functions, and proposed membership of this group.

Human systems integration

The National Defense Authorization Act for Fiscal Year 2008 (Public Law 110-181) contains a provision requiring the Department of Defense (DOD) to establish a single office to coordinate the planning, management, and expectation of human systems integration (HSI) activities throughout all DOD acquisition programs. The provision also requires the Department to identify and recommend resource requirements for all HSI activities.

The committee continues to support HSI as an affordability initiative for reducing overall life cycle costs of weapon systems and improving training regimes of military personnel. As noted in the committee report (H. Rept. 106-616) accompanying the Floyd D. Spence National Defense Authorization Act for Fiscal Year 2001, significant savings in defense systems ownership costs are possible with wisely targeted science and technology investments. The committee views HSI as an integral part of this approach, continues to support these affordability efforts, and urges the Department to commit further to HSI activities.

The committee directs the Under Secretary of Defense for Acquisition, Technology and Logistics to develop a comprehensive plan for funding and implementing HSI through all phases of science,

research, and acquisition. This plan shall include the development of policy, requirements, and recommendations on methods for incorporating HSI concerns throughout all phases of systems acquisition. The committee also expects the plan to include a specific method for determining and tracking the implementation of HSI activities to ensure adherence with stated Department goals and policy objectives. The committee directs the Under Secretary of Defense for Acquisition, Technology and Logistics to submit the report by March 15, 2009 to the congressional defense committees.

Increase in basic research

The committee applauds the Department's increased investment in basic research as noted in the fiscal year 2009 budget request. The committee also recognizes that in a difficult budget environment, this request represents a 2 percent increase over the appropriated amount for fiscal year 2008 and a 16 percent increase in real terms over the Department's fiscal year 2008 request for basic research. The committee supports this increase and reminds the Department that the committee noted strong concerns in the National Defense Authorization Act for Fiscal Year 2008 (Public Law 110–181) over the continued decline in Department of Defense basic research budgets and its impact to national security and our future science and engineering workforce. The committee strongly urges the Department to sustain this increase.

Independent verification and validation for financial management systems

The committee believes that the financial management goal of the Department of Defense should be to provide quality, high confidence, and real-time financial data consistent with national security objectives. The committee also believes that efforts to improve the consistency, quality, and timeliness of financial data will improve the stewardship of government funds and improve overall decision making. The committee believes such transparency has the potential to result in significant cost savings over time.

The committee understands that a key aspect of achieving this vision will be to clearly mandate the roles and responsibilities for independent verification and validation (IVV) for financial data.

As a result, the committee directs the Secretary of Defense to draft and provide the congressional defense committees a Department of Defense directive articulating the roles and responsibilities for IVV for the financial management process. The committee further directs delivery of the directive within 180 days after the date of enactment of this Act.

Information technology clearinghouse

The budget request contained \$5.3 million in PE 33169D8Z for information technology (IT) rapid acquisition, but contained no funds for the development of the clearinghouse for rapid identification and dissemination of commercial information technologies.

As noted in the committee report (H. Rept. 110–146) accompanying the National Defense Authorization Act for Fiscal Year 2008, the committee remains concerned that the Department of Defense's budgeting and acquisition processes continue to struggle to keep pace with the IT innovation cycle. As a result of legislative

action by the committee, the Department established a clearinghouse for rapid identification and dissemination of commercial information technologies that leveraged technology being developed in parallel under the emerging technology demonstration. Both of these programs are showing promising results, and the committee supports continued development in order to ensure the Department can provide the best, most modern IT systems to meet its mission requirements.

The committee recommends \$12.3 million, an increase of \$7.0 million, in PE 33169D8Z for the development of the clearinghouse for rapid identification and dissemination of commercial information technologies.

K-12 computer sciences and mathematics education

The budget request contained \$195.6 million in PE 61101E for basic research in the Defense Advanced Research Projects Agency, including \$2.0 million for the Computer Futures program. The committee notes that the Computer Futures program supports kindergarten through 12th grade educational programs to develop and foster students of computer science and mathematics at an early age in order to create a pipeline to support the nation's future scientific and engineering needs in these areas.

The committee is concerned about reports such as the National Academy of Science study "Rising Above the Gathering Storm" which indicate that the United States may not be producing sufficient numbers of scientists and engineers (S&E) to meet our future technology needs. The committee believes that if the nation is unable to provide for its demands in S&Es, it will have severe detrimental effects on the defense sector and the broader economic health of the nation. Facing a similar challenge 50 years ago, President Eisenhower increased investments in science and mathematics education that continue to pay dividends today. In that same spirit, Defense Advanced Research Projects Agency's Computer Futures program is an investment in the nation's intellectual capital that the committee believes will reap significant rewards in the future.

The committee recommends \$195.6 million, an increase of \$1.0 million, in PE 61101E for Defense Advanced Research Projects Agency's Computer Futures program to create and validate additional curriculum covering new topics, and to expand the program into new school systems.

Lean Six Sigma process analysis within the Office of Undersecretary of Defense for Acquisition, Technology, and Logistics

The committee approves of the Department's designation of a process improvement officer (PIO) tasked with applying Lean Six Sigma process improvement techniques to the business practices of the Department. The committee believes such techniques must be utilized on a continuous basis to ensure that the Department does not become trapped by process, rather than having processes adapt over time to changing realities. The committee recommends that the Department's PIO examine the processes for rapid acquisition activities that have been established since the initiation of the wars in Iraq and Afghanistan, and determine if there are lessons learned

from this analysis that might be integrated into the Department's main acquisition process.

Managing and extending Department of Defense asset lifecycles

The budget request contained \$5.1 million in PE 64016D8Z for Department of Defense (DOD) corrosion programs, but contained no funds for the managing and extending DOD asset lifecycles (MEDAL) initiative.

Aging assets within the Department require DOD planners to aggressively pursue technologies and innovative concepts to maintain and improve mission capability rates and reduce life-cycle costs. The MEDAL initiative would provide a comprehensive enterprise review of investment in technologies such as asset health and logistics processes, condition-based maintenance opportunities, material aging research, and sustainment and remanufacturing education. It will identify savings, reduce costs, and increase systems availability to meet mission requirements.

The committee recommends an increase of \$4.0 million in PE 64016D8Z for the MEDAL initiative.

Nanocrystal source display

The budget request contained \$177.0 million in PE 61102A for defense research sciences, containing \$7.2 million for advanced sensors research supporting the development of flexible displays.

The committee notes that flexible display technology developed at the Army Research Laboratory (ARL) is being applied to significantly improve the compact, ruggedized displays for the Army's future force. The committee notes that much of the research laboratory's success with advancing flexible display technology is attributed to their effort to integrate strategically important technologies from industry, academia, and government in the development of the displays. The committee encourages ARL, using a similar approach, to begin developing a small-scale manufacturing capability for flexible displays.

The committee recommends an increase of \$1.5 million in PE 61102A to continue the development and small-scale manufacturing of flexible display technology.

Naval Postgraduate School

The committee notes the strong contribution made by the Naval Postgraduate School in conducting research programs relevant to the Navy and the Department of Defense. The committee strongly supports these research initiatives and understands them to be consistent with the principles and policies of other Department of Defense research programs such as the Science, Mathematics, and Research for Transformation scholarship for service program.

Open source software systems

The committee is concerned by the rising costs and decreasing security associated with software development for information technology (IT) systems. These rising costs are linked to the increasing complexity of software, which has also resulted in increasing numbers of system vulnerabilities that might be exploited by malicious hackers and potential adversaries. While the Administration has put forth a plan to increase cybersecurity within the larger enter-

prise of federal IT systems, a focus and assessment of fundamental software engineering practices is not apparent.

Open source software (OSS) is a set of practices on how to write software, based on the open availability and right to use software code. This process provides greater rigor in the software development process by making it available to a diverse community of programmers for review, testing, and improvement. The Linux operation system and Internet Protocol internet addressing system are examples of high quality products developed within the business sector using the OSS standard.

The committee encourages the Department to rely more broadly on OSS and establish it as a standard for intra-Department software development. The committee acknowledges the availability of proprietary software and encourages its development and acquisition as necessary and appropriate. The committee believes, however, the wide-spread implementation of an OSS standard will not only lead to more secure software, but will also foster broader competition by minimizing traditional constraints imposed by an over-reliance on proprietary software systems.

Post-detonation nuclear forensics

The budget request contained \$211.1 million in PE 62718BR for weapons of mass destruction defeat technologies.

The committee believes that a rapid global nuclear forensics capability is critical to support attribution and response following a nuclear detonation and will serve as a deterrent to reduce the threat of nuclear terrorist attacks. The committee is aware that the Defense Threat Reduction Agency (DTRA) would play an essential role in the time-critical attribution process and collection of radioactive material samples for forensics analysis. According to a recent study entitled "Nuclear Forensics: Role, State of the Art, and Program Needs" by the American Association for the Advancement of Science and the American Physical Society, "specialized field-deployable equipment that could save days in making results available to decision makers is either not available or incompletely tested." The study identifies a particular need for automated, field-deployable instrumentation that can conduct rapid and accurate sample analysis. The committee is aware that DTRA has identified several technologies that could help meet this need as unfunded requirements.

The committee recommends an increase of \$10.0 million in PE 62718BR for accelerated research and development of post-detonation nuclear forensics technologies.

Pre-Key Decision Point-B system vulnerability assessment

Recognizing the increased vulnerability of the United States' national security space systems that was highlighted by the Chinese test of a direct ascent anti-satellite weapon on January 11, 2007, the committee directs the Department of Defense to prepare a system vulnerability assessment for each new or revised space system prior to Key Decision Point-B. The vulnerability assessment should be prepared by an organization independent of the system program office.

The committee further directs the Secretary to report to the congressional defense committees on the Department's actions to inte-

grate vulnerability assessments into the acquisition process by March 31, 2009.

Printed circuit board technology

The committee remains concerned with sustaining a robust domestic printed circuit board (PrCB) manufacturing capability as well as ensuring access to new PrCB technology. The committee notes the Report on Department of Defense Implementation of the National Research Council Committee on Manufacturing Trends in Printed Circuit Technology Recommendations and supports the suggestion to establish an executive agent to carry out the recommended actions of the Council. The committee supports this recommendation and strongly urges the Secretary of Defense to establish an executive agent for PrCB technology.

The committee believes the executive agent should be responsible for:

- (1) Monitoring the manufacturing materials, processes, and component vulnerabilities for PrCBs;
- (2) Development of a PrCB Technology Roadmap;
- (3) Evaluation or recapitalization and investment requirements of Department of Defense PrCB facilities;
- (4) Development of funding strategies;
- (5) Advocacy for continuing PrCB domain knowledge, expertise, and organic PrCB capabilities; and
- (6) Development of methods to assure the availability of needed technical data.

The committee also notes that the Report, which was submitted to the Senate Committee on Armed Services and House Committee on Armed Services on March 3, 2008, suggested establishing the executive agent oversight by the Navy through the Naval Surface Warfare Center, Crane Division. The committee strongly supports this recommendation. The committee notes, however, that the Report did not include estimated implementation funding and timelines, as requested by the conference report accompanying the John Warner National Defense Authorization Act for Fiscal Year 2007 (Public Law 109–364), and understands that preliminary funding estimates were developed by the Department. The committee recommends that the Department provide such funding as is necessary to implement the recommendations of the Report in the fiscal year 2010 budget request and in future years.

Review of cost reimbursements on defense research grants and contracts

The committee strongly supports federally-sponsored research and believes the relationship between the Department of Defense (DOD), universities, and other research institutions depends on each party bearing a fair share of the costs of conducting research. The committee believes that such partnerships should also rely on deliberate policies and procedures to ensure that taxpayer dollars are well used and that research institutions and scientists are adequately reimbursed for the costs of the research performed.

The committee is obligated to ensure that taxpayer dollars are properly executed and that federal policies and procedures governing payments and reimbursements for research costs are sound. The committee therefore directs the Comptroller General to con-

duct a review of the existing Office of Management and Budget (OMB) policies, practices, and procedures, as well as those included in the federal acquisition regulations. At a minimum, this report shall:

- (1) Describe the OMB rules and regulations that guide research institution's facilities and administration (F&A) cost reimbursements on DOD research grants and contracts;
- (2) Describe and assess the F&A costs that are reimbursable under current rules and explain if similar payments for such costs are made to support industry and federal laboratories that conduct research and development research on behalf of the government;
- (3) Assess the extent to which the rules for reimbursement of F&A costs are different for the Department of Defense than for other federal agencies;
- (4) Assess trends in negotiated F&A rates and effective (based on actual reimbursement) F&A rates for universities that receive DOD extramural research grants and contracts;
- (5) Assess the impact to F&A costs as a result of increased federal regulations such as environmental, security, and visa issues, assess trends in actual payments by the Department of Defense for direct and indirect costs on DOD extramural research grants;
- (6) Document current procedures DOD uses to ensure compliance with OMB guidance in reimbursing F&A costs; and
- (7) Report on the methodology used by the government entities responsible for determining F&A rates—the Department of Health and Human Services, Division of Cost Allocation, and the Department of Defense, Office of Naval Research—to review, audit, negotiate, and ensure that F&A rates are fair and equitable to the federal government.

The report shall be submitted to the congressional defense committees within 12 months after the date of enactment of this Act.

Science and technology for strategic communication

The budget request contained \$20.7 million in PE 65799D8Z for the Force Transformation Directorate, but contained no funds for science and technology (S&T) to support the Department's strategic communication mission.

The committee supports the findings of the recent Defense Science Board (DSB) Task Force on Strategic Communication, as well as of the National Science and Technology Council report, "Research and Development Challenges for Regional Stability and Capacity Building." The committee believes that the Department should devote more S&T effort to support this mission. The Department already has underway a variety of programs that could be used to support the operational needs of the strategic communication and public diplomacy community. The committee believes the Department should leverage these efforts to designate an S&T thrust area for strategic communication and focus on critical S&T opportunities, such as those identified by the DSB.

The committee directs the Secretary of Defense to submit a report to the congressional defense committees within 90 days after the date of enactment of this Act. This report shall describe current S&T efforts within the Department, services, and agencies that

could be linked together to form the basis of a program supporting these needs, including an analysis of gaps not addressed by current programs.

The committee also recommends an increase of \$8.0 million in PE 65799D8Z for the Force Transformation Directorate.

Social science research within the Department of Defense

As noted elsewhere in this title, the committee is encouraged by the effort within office of the Director for Defense Research and Engineering (DDR&E) to place an increasing focus on the human, social, and cultural behavior (HSCB) elements of research. The committee is further encouraged by a corresponding emphasis within the science and technology (S&T) programs of the respective services.

The committee has also been encouraged by the success of integrating social science expertise into Department of Defense operations via the Human Terrain Teams (HTT), which provide culturally relevant advice to military decision makers. As has been pointed out in recent testimony before the committee, these teams provide value added to traditional military operational planning and have been instrumental in saving lives in Operation Iraqi Freedom and Operation Enduring Freedom. The committee believes that more programs in the future should be informed by social science research.

Despite this recent emphasis on efforts such as HSCB and the deployment of HTTs, the committee is concerned about the dearth of social scientists within the Department's S&T community and especially within program management leadership positions. The committee believes the Department should take steps to leverage social scientist expertise existing within other parts of the federal government, such as the National Science Foundation.

Sustainment of Business Transformation Agency programs

The committee notes that the Business Transformation Agency was established in order to improve the efficiency of Department of Defense business process by accelerating the development and deployment of transformational capabilities. The committee understands that a key element of that process has been to transition programs of record to the Business Transformation Agency for management oversight, but the committee is concerned that there is no apparent transition strategy to move these capabilities to other organizations that might be better positioned to maintain and sustain these efforts once mature.

The committee directs the Secretary of Defense to develop a report on a transition strategy for programs managed by the Business Transformation Agency for the sustainment of systems that have reached a defined level of maturity. This report shall be submitted to the congressional defense committees within 90 days after the date of enactment of this Act. This transition strategy shall include:

- (1) An evaluation process for determining the maturity of a program;
- (2) Exit criteria defining at what point a program has reached a maturity level to transition out of the Business Transformation Agency for sustainment purposes;

(3) A process defining how the Business Transformation Agency will continue to be involved in these mature programs in order to help guide them as they need to go through update cycles; and

(4) A transition path, including transition partners, for all of the programs currently being managed by the Business Transformation Agency.

Technology to improve future spectrum management usage

The committee is concerned that Operation Iraqi Freedom and Operation Enduring Freedom have exposed a looming challenge related to the availability of usable spectrum for defense applications. The proliferation of electronic devices that utilize radio frequency (RF) spectrum to communicate is a function of the information revolution, and is, in large part, driving the Department's development and employment of network-centric operations. The downside of this proliferation is that it places increasing demands on a finite resource made scarcer by the auctioning of spectrum for commercial applications, and the further competition with commercial systems like cellular phones and wireless computing networks.

The committee believes that technological solutions exist that can alleviate these concerns. In one example, the Defense Advanced Research Projects Agency has demonstrated the applicability of dynamic spectrum access technologies in its neXt Generation (XG) communications program. The XG program demonstrated the ability to utilize portions of the spectrum that are currently being unused, and to adapt to changing conditions within the RF spectrum. Technology and concepts developed under the XG program are already being adopted into current military radio programs, and are being explored further for adoption to networking applications.

The committee urges the Defense Advanced Research Projects Agency to conduct an assessment of the state-of-the-art of technologies that can be applied to improve our access to available spectrum in the near-term, as well as future research directions. This assessment should also examine existing regulatory barriers that might impede the development or deployment of such technologies.

Transformational Medical Technology Initiative

The budget request contained \$337.9 million in PE 63384BP for chemical and biological defense advanced technology development, including \$217.3 million for the Transformation Medical Technology Initiative.

The committee commends the Department of Defense's recent progress toward developing broad-spectrum medical countermeasures and notes that after just two-and-a-half years of development, the Department expects to file for six investigational new drug (IND) applications and one new drug application with the Food and Drug Administration in fiscal year 2009.

The fiscal year 2009 budget request marks an increase of \$157.0 million, or 260 percent, over amounts provided in fiscal year 2008. The committee is aware that IND filings represent a move toward Phase I clinical trials and consequently requires a significant funding increase to support this stage of development. The committee, however, is concerned that the 2009 budget request is excessive

given the unlikelihood that all six anticipated INDs will be ultimately filed by the Department and approved by the Food and Drug Administration.

The committee recommends \$167.3 million for the Transformational Medical Technology Initiative, a decrease of \$50.0 million in the 2009 request or a 177 percent increase over the fiscal year 2008 level.

Wounded Warriors as information technology, scientific, and engineering specialists

The committee recognizes the improvements the Department of Defense has made to the care and management of wounded service members, and understands that the process is ongoing with more improvements yet to be implemented. These improvements have resulted in increased survival rates and improved quality of life for many wounded warriors by lessening the impact of disability through the application of new technologies and treatments.

The committee continues to hear from wounded service members regarding their desire to continue military service by leveraging their knowledge and experience, even if it means entering into new mission specialties. The committee believes that the military cannot afford to lose such devoted personnel with years of vital military operational experience, and more years to give. As such, the committee believes that wounded service members would be excellent candidates to support information technology, scientific, or engineering activities. The committee directs the Secretary of Defense to study the feasibility of identifying and providing education and training to selected wounded service members to continue their military service as information technology, scientific, or engineering specialists and submit a report with the findings of the study to the congressional defense committees within 180 days after the date of enactment of this Act.

LEGISLATIVE PROVISIONS

SUBTITLE A—AUTHORIZATION OF APPROPRIATIONS

Section 201—Authorization of Appropriations

This section would establish the amounts authorized to be appropriated for research, development, test, and evaluation for the Department of Defense for fiscal year 2009.

Section 202—Amount for Defense Science and Technology

This section would establish basic, research, applied research, and advanced technology development funding levels for the Department of Defense for fiscal year 2009.

SUBTITLE B—PROGRAM REQUIREMENTS, RESTRICTIONS, AND LIMITATIONS

Section 211—Additional Determinations to be Made as Part of Future Combat Systems Milestone Review

This section would amend section 214 of the John Warner National Defense Authorization Act for 2007 (Public Law 109-364) by

adding additional determinations to be made by the Secretary of Defense during the Future Combat Systems program review.

Section 212—Analysis of Future Combat Systems Communications Network and Software

This section would require the Assistant Secretary of Defense, Networks and Information Integration, to conduct an independent study and report to the congressional defense committees by July 1, 2009, on possible vulnerabilities of the Future Combat Systems (FCS) communications network. The purpose of this study is to inform the review of the FCS program mandated by section 214 of the John Warner National Defense Authorization Act for 2007 (Public Law 109–364).

Section 213—Future Combat Systems Manned Ground Vehicle Selected Acquisition Reports

This section would require the Secretary of the Army to submit to the congressional defense committees selected acquisition reports as defined in section 2432(c) of title 10, United States Code, on each of the eight Future Combat Systems manned ground vehicle variants. The reports are required by February 15 of each year from 2009 to 2015.

Section 214—Separate Procurement and Research, Development, Test, and Evaluation Line Items and Program Elements for Sky Warrior Unmanned Aerial Systems Project

This section would require establishment of a program element for the Army’s “Sky Warrior” Unmanned Aerial System program.

Section 215—Restriction on Obligations of Funds for the Warfighter Information Network—Tactical Program

This section would restrict obligation of eighty percent of research and development funds authorized for appropriation for the Warfighter Information Network—Tactical, Increment 3 program until 15 days after receipt by the congressional defense committees of certification from the Under Secretary of Defense for Acquisition, Technology and Logistics that the program has an approved acquisition program baseline, a new independent cost estimate is complete, and the Director, Defense Research and Engineering has completed a technology readiness assessment.

Section 216—Limitation on Source of Funds for Certain Joint Cargo Aircraft Expenditures

This section would prohibit the Secretary of the Army from funding initial spares, support equipment, training simulators, post production modifications, and system engineering and management items through the Operations and Maintenance, Army appropriation account.

SUBTITLE C—MISSILE DEFENSE PROGRAMS

Section 221—Independent Study of Boost Phase Missile Defense

This section would require the Secretary of Defense, within 90 days after the date of enactment of this Act, to enter into an agreement with a Federally Funded Research and Development Center to conduct an independent assessment examining the costs and benefits of missile defense systems designed to intercept ballistic missiles in their boost phase.

This study would examine the operational capabilities of the Airborne Laser and the Kinetic Energy Interceptor programs to counter short-, medium-, and intermediate-range ballistic missile threats to the deployed forces of the United States and its friends and allies from rogue states; and to defend the territory of the United States against limited ballistic missile attack.

Section 222—Limitation on Availability of Funds for Procurement, Construction, and Deployment of Missile Defenses in Europe

This section would limit the availability of funds authorized to be appropriated for the Department of Defense in this and subsequent acts from being obligated or expended for site activation or construction of Ground-based Midcourse Defense interceptors and associated radars in Europe until certain conditions are met.

This section would also limit the availability of funds for the acquisition or deployment of operational missiles for the proposed European deployment until the Secretary of Defense certifies that the two-stage interceptor proposed for European deployment has demonstrated, through successful, operationally realistic testing, a high probability of operational effectiveness.

SUBTITLE D—OTHER MATTERS

Section 231—Oversight of Testing of Personnel Protective Equipment by Director, Operational Test and Evaluation

This section would clarify the authorities of the Director, Operational Test & Evaluation with respect to personnel protective equipment by repealing the authority to provide guidance and consultation to the Secretary of Defense for force protection equipment and adding authority for the Secretary, or his designee, to designate an item of personnel protective equipment as a covered system for the purposes of survivability testing under section 2366 of title 10, United States Code. The Director, Operational Test and Evaluation currently has the authority to monitor and review testing conducted under the authority of section 2366. This section would also require, in the event that personnel protective equipment is fielded for operational use prior to the completion of survivability testing or a decision to proceed beyond low rate initial production, the Director to submit the required report on survivability testing to the Secretary of Defense and the congressional defense committees as soon as practicable.

The committee intends to clarify the Secretary's authorities to direct his principal advisor on operational test and evaluation and live-fire testing, Director, Operational Test and Evaluation, to monitor and review survivability test data for selected equipment in

order to promote greater use of consistent, defensible test standards and, through the establishment of such standards, accelerate the testing of personnel protective equipment. Likewise, as threats to our warfighters continue to evolve, the committee urges the Secretary to make use of all appropriate acquisition authorities to ensure urgent operational needs are fulfilled without undue delay, including, if circumstances warrant the prudent use of waivers to field personnel protective equipment prior to the completion of survivability testing if substantial evidence exists that such equipment would provide greater levels of protection. If the current acquisition authorities are not sufficient to ensure urgent operational needs are met, the Secretary shall notify the Senate Committee on Armed Services and the House Committee on Armed Services within 45 days as to why.

Section 232—Assessment of the Historically Black Colleges and Universities and Minority Serving Institutions Program

This section would require the Secretary of Defense to carry out an assessment of the capability of minority serving institutions to participate in research, development, test and evaluation (RDT&E) programs for the Department of Defense (DOD). The report, to be submitted to the congressional defense committees within 12 months after the date of enactment of this Act, shall describe and assess the current activities within the Office of the Secretary of Defense, military departments, and defense agencies intended to increase opportunities for these institutions to participate in and benefit from DOD RDT&E programs. Matters such as metrics, lessons learned, capability gaps, and other areas deemed appropriate by the Secretary should be addressed. The report should also include, as directed by Executive Order 13256, the Department's effort to establish an annual plan with clear goals for how it intends to increase the capacity of historically black colleges and universities to compete effectively for DOD grants, contracts, or cooperative agreements.

Section 233—Technology-Neutral Information Technology Guidelines and Standards to Support Fully Interoperable Electronic Personal Health Information for the Department of Defense and Department of Veterans Affairs

This section would require the Director of the Department of Defense-Department of Veterans Affairs Interagency Program Office to report within 12 months after the date of enactment of this Act on the development of information technology infrastructure guidelines and standards for use by the Departments of Defense (DOD) and Veterans Affairs (VA) to enable fully interoperable electronic personal health information.

For more than 15 years, the committee has been urging the Department of Defense and Department of Veterans Affairs to develop this capability. The committee believes that a standards-based approach is a vital prerequisite to having a capability to generate, maintain, and seamlessly update electronic health records, regardless of which department is treating the service person. With the growing number of wounded warriors entering the DOD and VA

medical systems, the need for this capability is imperative in order to prevent the health system from becoming overwhelmed.

Section 234—Repeal of Requirement for Technology Transition Initiative

This section would require the Under Secretary of Defense for Acquisition, Technology and Logistics to assess the feasibility of consolidating technology transition accounts into a unified effort managed by a senior official of the Department of Defense. This section would repeal certain subsections of section 2359a title 10, United States Code, which required the Secretary of Defense to carry out the Technology Transition Initiative.

The committee believes that effective technology transition remains vital for making the right technology available to the warfighter as quickly as possible and at the lowest cost. The Government Accountability Office notes that a number of commercial best practices, such as strategic planning at the corporate level, are good enablers for technology transition. The Government Accountability Office has observed that despite a number of Department of Defense initiatives aimed at technology transition, the reach of these initiatives is limited and there is no unified, corporate approach to using them. The Government Accountability Office also states that the Department's approach to funding transition is flawed and that multiple, small funding sources for specific transition activities offer a piecemeal solution to a more systemic problem.

Section 235—Trusted Defense Systems

This section would require the Secretary of Defense to assess the vulnerabilities in the supply chain for certain acquisition programs' information processing systems. This section would further require the assessment to identify the appropriate lead for the development of a strategy to ensure trust in the supply chain for certain acquisition programs. Finally, this section would require the Secretary of Defense to implement an interim policy requiring certain Department of Defense (DOD) major systems to utilize a trusted source to design, prototype, and fabricate integrated circuits.

The committee notes that the Deputy Secretary of Defense approved a Defense Trusted Integrated Circuits Strategy on October 10, 2003. Further, the Under Secretary of Defense for Acquisition, Technology, and Logistics and the Assistant Secretary of Defense for Networks and Information Integration jointly issued interim guidance on trusted suppliers for application-specific integrated circuits on January 27, 2004. The Under Secretary's interim guidance referenced policy that was in development to require certain trusted systems to employ on trusted foundry services. The interim guidance provided specific examples of "Top DOD Candidate Programs for Trusted Foundry." Nevertheless, the committee understands that after more than four years in coordination within the Department, the policy referenced in the Under Secretary and Assistant Secretary's memo remains in draft form. Moreover, only 1 program out of the 14 identified as top candidates for trusted foundry services, has utilized the foundry funded by the Department of Defense and the National Security Agency. While the use

of trusted microcircuits is only a single step in ensuring the warfighter has trusted systems, the committee strongly encourages the Department to take greater advantage of trusted foundries for integrated circuits as an iterative step and to potentially foster greater industrial interest and competition.

This section would require the Secretary of Defense to submit, within 12 months after the date of enactment of this Act, a report to the congressional defense committees on the vulnerability assessment and strategy.

Section 236—Limitation on Obligation of Funds for Enhanced AN/TPQ-36 Radar System Pending Submission of Report

This section would limit the amount of funds provided to the program until the Secretary of the Army provides the congressional defense committees with a plan to rapidly transition the Counter-Rockets, Artillery, and Mortars (C-RAM) program to a program of record.

The committee notes the remarkable and unprecedented success of C-RAM systems in protecting a limited number of forward operating bases in the Republic of Iraq. According to commanders in the field, C-RAM is a force multiplier that is saving lives. The committee believes that lessons learned from Iraq demonstrate that the indirect fire threat to fixed sites is enduring and will likely proliferate, requiring: deployment of additional C-RAM systems; continuous improvements to its capabilities; and integration of the system into the Army's future force. The C-RAM system was rapidly developed and fielded in response to an urgent wartime need. It is not a program of record and therefore lacks the complete and necessary doctrine and support for training, operations, and manning. The committee does not direct a material solution, but does believe there is a requirement void that must be met as soon as possible.

The committee understands that the Army has proposed to transition the C-RAM program into the Indirect Fire Protection Capability (IFPC) program of record. Given the success of the C-RAM system and the urgent need for additional systems and for system enhancements, the committee encourages the Army to complete this transition immediately. This transition will allow the new IFPC program to rapidly deploy capability to the field and to minimize development costs by evolving the C-RAM command and control and by capitalizing on the substantial investment of the Army in future force indirect fire sensors and intercept technologies. Immediate transition to the IFPC program of record will also enable funding for the IFPC program to begin in fiscal year 2010, thereby accelerating the fielding of IFPC to both the current and future force.

Section 237—Capabilities Based Assessment to Outline a Joint Approach for Future Development of Vertical Lift Aircraft and Rotocraft

This section would require the Secretary of Defense and Chairman of the Joint Chiefs of Staff conduct a capabilities-based assessment that outlines a joint approach to the future development of vertical lift aircraft and rotorcraft for all of the military services.

Section 238—Availability of Funds for Prompt Global Strike Capability Development

This section would limit the use of funds for prompt global strike in fiscal year 2009 to only those activities expressly delineated in the expenditure plan for fiscal years 2008 and 2009, that was required by section 243 of the National Defense Authorization Act for Fiscal Year 2008 (Public Law 110–181) and transmitted to the congressional defense committees on March 24, 2008, or those activities otherwise expressly authorized by Congress. This section would also require the Secretary of Defense to submit a report on prompt global strike concepts to the congressional defense committees concurrently with the President’s budget request for fiscal year 2010.

The committee expects the execution of the expenditure plan to be consistent with prompt global strike plans presented informally by the Department of Defense to the committee in April 2008. The committee anticipates near-term receipt of the research, development, and testing plan required by section 243 of the National Defense Authorization Act for Fiscal Year 2008 (Public Law 110–181) and intends to review it for consistency with the basic approaches presented to the committee in April 2008.

TITLE III—OPERATION AND MAINTENANCE

OVERVIEW

The budget request contained approximately \$179.8 billion in operation and maintenance funds to ensure the Department of Defense can train, deploy, and sustain U.S. military forces. The budget request increased the operation and maintenance account by \$15.6 billion over the fiscal year 2008 enacted level, resulting in a 7.1 percent increase after accounting for inflation. The committee recommends additional funding for readiness needs and operations and maintenance expenses in this title and also title XV of this Act.

The fiscal year 2009 budget request seeks to improve full-spectrum ground combat training, but due to inflation and cost increases, it results in reductions in other areas. The fiscal year 2009 budget request reduces some air, ground, and sea training to below the level required to maintain military standards. Vital to training for full-spectrum missions are Combat Training Center rotations, sustained air crew training, and increased ship-deployed steaming days. The fiscal year 2009 budget request significantly increases tank training miles over fiscal year 2008, but not above the fiscal year 2007 level. Flying hours slightly increase for the Navy and decline for the Air Force, but all are well below the levels for fiscal year 2007. Ship steaming days remain at the level adopted in fiscal year 2008, which is below the deployed steaming days goal of 51.

The committee is gravely concerned with the continuing decline in the readiness of the armed forces. More than six years of continuous combat operations have placed a significant strain on the services, and this strain has begun to manifest itself in declining readiness trends across many aspects of U.S. military forces. Equipment shortfalls hamper the ability to train and deploy ground forces. Personnel shortfalls drive lengthy deployment periods, less than desirable dwell periods and a reliance on sailors and airmen to perform missions typically carried out by soldiers. Resource