Fiscal Year (FY) 2005	Budget Esti	mates			DATE			
RDT&E BUDGET ITEM JUS	STIFICATION S	HEET (R-2 Ex	hibit)		February	2004		
APPROPRIATION/BUDGET ACTIVITY R-1 ITEM NOMENCLATURE								
Defense Wide RDT&E (0400)			Foreign Comparative Testing (FCT)					
Budget Activity 6			PE 06	05130D8Z				
COST (In Millions)	FY 2003	FY 2004	FY 2	005	FY 2006	FY 2007	FY 2008	FY 2009
Total Program Element (PE) Cost	29.319	36.464	35.6	533	36.126	36.750	37.618	38.388

A. Mission Description and Budget Item Justification

The mission of the FCT program is to test and evaluate foreign non-developmental items (NDI) identified by the Services and Combatant Commanders in order to avoid costly and time-consuming U.S. new start acquisition programs. The FCT program is Congressionally mandated in Title 10, USC, Section 2350a. FCT tests and evaluates conventional defense equipment, munitions, and technologies manufactured and developed by major allies of the United States and other friendly foreign countries to determine the ability of such equipment, munitions, and technologies to satisfy United States military requirements or to correct operational deficiencies. While the testing of NDI and items in the late state of the development process are preferred, the testing of equipment, munitions, and technologies may be conducted to determine procurement alternatives. FCT projects are nominated by the Services and U.S. Special Operations Command (SOCOM) each year and submitted to Congress for approval prior to obligation of funds.

Since the program's inception, 500 projects were initiated under the FCT Program; 415 have been completed to date. Of these completed projects, 225 successfully meet the sponsor's requirements, 153 led to procurements worth approximately \$6.2 billion in FY 2004 constant years dollars. With an OSD investment of about \$870 million, the FCT Program has realized an estimated RDT&E cost avoidance of \$4.3 billion.

The FCT program is frequently a catalyst for teaming or other business relationships between

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foreign and U.S. Industries; many successful FCT projects result in arrangements for the production of the qualified foreign item in the U.S. Other nations recognize the long-term value of such practices for competing in the U.S. defense marked and the resultant strengthening of the "two-way street" in defense procurement. For the U.S., the result often means the creation of jobs and contributions to local economies. The list below provides a sample of states that benefit from these relationships:

Arizona, California, Florida, Georgia, Illinois, Kentucky, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, New Hampshire, New Jersey, New York, North Carolina, Ohio, Pennsylvania, Rhode Island, South Carolina, Tennessee, Texas, Utah, Virginia, Vermont, Washington, West Virginia, and Wisconsin.

This Research Category 6.5 is assigned and identified in this descriptive summary in accordance with existing DoD policy.

B. Program Change Summary

	FY 2003	FY 2004	FY 2005
Previous President's Budget	26.873	34.873	35.705
Current FY 2005 President's Budget	29.319	36.464	35.633
Total Adjustments	+ 2.446	+ 1.591	-0.072
Congressional program reductions			
Congressional rescissions		-0.509	
Congressional increases			
Reprogrammings	+2.700	2.100	
SBIR/STTR Transfer			
Other	-0.254		-0.072

C. Other Program Funding Summary: N/A

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Fiscal Year (FY) 2005 Budget Estimates RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)					-	DATE February 2004			
APPROPRIATION/BUDGET ACTIVITY Defense Wide RDT&E (0400) Budget Activity 6				R-1 ITEM NOMENCLATURE Foreign Comparative Testing (FCT) PE 0605130D8Z					
COST (In Millions)	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Cost to Complete	Total Cost
Total Program Element (PE) Cost	29.319	36.464	35.633	36.126	36.750	37.61	8 38.388	Continue	Continue

A. (U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The mission of the FCT program is to test and evaluate foreign non-developmental items (NDI) identified by the Services and Combatant Commanders in order to avoid costly and time-consuming U.S. new start acquisition programs. The FCT program is Congressionally mandated in Title 10, USC, Section 2350a.

B. (U) PROGRAM ACCOMPLISHMENTS AND PLANS:

	Service	FY 2003	FY 2004	FY 2005
High Rate of Fire .50 Caliber Machine Gun (joint with Air Force)	Marine Corps	1.104	0	0

This project, initiated in FY 2003, is evaluating a cost-effective, high-rate-of-fire .50 caliber machine gun manufactured by FN Herstal, for use by Marine Corps UH-1N and CH-53E helicopters, to replace the obsolete .50 caliber machine gun currently in use.

FY 2003 (Accomplishments): Completed technical and operational testing. Successfully integrated the M3M .50 caliber machine-gun on CH-53E and UH-1N helicopters. 100% of FY

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2003 FCT funds have been obligated. A favorable procurement decision is projected for 2nd Ouarter FY 2004.

	Service	FY 2003	FY 2004	FY 2005
40mm Dud-Reducing M430A1E1 HEDP Cartridge	Army	0.267	0.606	0.048

This project, initiated in FY 2002, is evaluating dud-reducing ammunition fuzes developed by Chartered Ammunition Industries Pte, Ltd., of the Republic of Singapore and Dixi Microtechniques SA of Switzerland. The current fuze experiences a relatively high dud rate when fired against soft targets, such as sand or snow, which creates a dangerous unexploded ordnance situation for friendly forces as well as for innocent civilians. This project will result in greatly increased operational efficiency and safety for our soldiers on the battlefield, help eliminate civilian casualties, and greatly decreased cleanup costs on the training ranges, amounting to tens of thousands of dollars annually.

FY 2003 (Accomplishments): Contract prep and award. Bid samples received.

FY 2004 (Plans): Bid samples validation. Test items procurement. Begin live fire testing.

FY 2005 (Plans): Complete/report live fire testing. Milestone III IPR.

	Service	FY 2003	FY 2004	FY 2005
40mm Enhanced Grenade Launcher for M4 Carbine	USSOCOM	0.232	0.778	0

This project, initiated in FY 2003, is evaluating grenade launchers from Heckler and Koch of Germany and Istech of the United Kingdom, along with domestic sources, to find a technical solution to the requirement for a more accurate and reliable weapon for Special Forces as a potential replacement for the current M203 40mm grenade launcher, which is over 30 years old and becoming logistically unsupportable.

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FY 2003 (Accomplishments): Published solicitation requesting data on potential technical solutions to requirement; Developed performance specification based on draft updates to Capability Development Documents; Ordered and received a remote firing test fixture to mount and remotely fire a 40mm grenade launcher; Conducted integrated product team conference and vendor conference; Ordered 40mm accuracy testing rounds.

FY 2004 (Plans): Complete safety certification of test fixture; Validate Capability Development Document and in turn the performance specification; Publish Enhanced Grenade Launcher solicitation and receive test samples; Conduct technical and operational testing.

FY 2005 (Plans): Compile test results; Complete final source selection / procurement decision.

	FY 2004	FY 2005
1 121	1 112	0
	1.121	1.121 1.112

This project, initiated in FY 2003, is evaluating the potential increased lethality and range of the conventional 105mm Field Artillery ammunition, developed by Denel-Naschem, over the current U.S. 105mm ammunition. If successful, the project will greatly enhance the lethality of U.S. Army light combat forces, giving them near the same fire support capability as with our current 155mm Artillery ammo, in operations where those heavier combat forces are not readily deployable.

FY 2003 (Accomplishments): Completed safety assessment. Obtained long lead time test items/facilities. Fabrication.

FY 2004 (Plans): Test item delivery. Complete all remaining pre-test analyses and assessments. Conduct live fire testing.

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	Service	FY 2003	FY 2004	FY 2005
155mm Ammunition	Army	2.092	1.112	0

This project, initiated in FY 2003, is evaluating the potential increased range of the family of 155mm Field Artillery projectiles, developed by Denel-Naschem, over current U.S. 155mm ammunition. If successful, the project will greatly increase the fire support provided to U.S. Army ground combat forces, by allowing them to engage hostile targets at ranges greater than what it currently can, utilizing our current 155mm Artillery weapon systems. This will result in their greater lethality and survivability.

FY 2003 (Accomplishments): Completed safety assessment. Obtained long lead-time test items/facilities. Fabrication.

FY 2004 (Plans): Test item delivery. Complete all remaining pre-test analyses and assessments. Conduct live fire testing.

	Service	FY 2003	FY 2004	FY 2005
Advanced Demolition Weapons	USSOCOM	0.349	0	0

This project, initiated in FY 2001 with a two phase approach, is evaluating candidate shoulder-fired weapons developed by Diehl/Dynamit Nobel of Germany and Bofors of Sweden. The first phase (Anti-Tank 4 Confined Space High Penetration (AT4CS HP)) provided the urgent confined space capability to SOCOM users. The second phase (AT4CS RS, RS for Reduced Sensitivity) made significant improvements to the phase I systems (AT4CS HP) with fuze and explosive upgrades to meet safety review board requirements. Both phases of this project provide a critical capability to Special Operations Forces missions, including, engagement of targets from a confined space, Military Operations in Urban Terrain, anti-armor, and direct engagement of targets in protected/covered areas.

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FY 2003 (Accomplishments): Completed all safety tests and limited safety confirmation obtained; Testing demonstrated the system to be effective and can be safely fired from confined spaces; Systems were procured and immediately deployed to Afghanistan and Iraq; Milestone C production approval received in August 2003.

	Service	FY 2003	FY 2004	FY 2005
Assault Breacher Vehicle Mine Plow and Lane Marking System	Marine Corps	0.291	0	0

This project, initiated in FY 2002, is evaluating Full-Width Mine Plows and Lane Marking Systems manufactured by Pearson Engineering of the United Kingdom and Israel Aircraft Industries, RAMTA Division. These subsystems will be integrated into the Marine Corps' Assault Breacher Vehicle and tested to verify vendor performance claims and to satisfy the requirement for in-stride breaching capability, operational suitability, and shock and mine blast.

FY2003 (Accomplishments): Twenty (20) Full Width Mine Plows and twenty (20) Lane Marking Systems were procured on an urgent basis from the UK manufacturer, Pearson Engineering. The MP and LMS FCT evaluation provided the required background information and enabled the Marine Corps to rapidly procure these systems, integrate onto the M1A1 main battle tank, meeting urgent requirements of the Operating Forces in support of Operation Iraqi Freedom (OIF). The procurement value in support of OIF was \$11.7 million. Additional procurements of Mine Plows and Lane Marking Systems for the ABV program are programmed for FY 2006 and FY 2007 and will exceed \$16 million. Additional procurement decision is scheduled for 2nd Quarter, FY 2004.

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vice FY 200	3 FY 2004	FY 2005
·mv	0	0
	rmy 0.244	

This project, initiated in FY 2003, is evaluating lightweight ballistic armor, by Australian Defence Apparel Pty Ltd and Craig International Ballistics of Australia; Advanced Ferrite Technology GMBH of Germany; ACERAM Technologies of Canada; and Meggitt Armour Systems of the United Kingdom, for use on the RAH-66 Comanche Helicopter. If successful, the project would provide increased ballistic protection over the current armor and greatly reduce the overall weight of the aircraft. This is critical, because in addition to the increased survivability provided, the reduced weight will result in greatly increased operational aircraft performance (vertical climb/lift and payloads), and a greatly increased RDT&E cost avoidance.

FY 2003 (Accomplishments): Market survey complete. Contract prep/award.

FY 2004 (Plans): Conduct/complete/report technical/operational testing/evaluation. IPR decision.

	Service	FY 2003	FY 2004	FY 2005
Body Armor Flotation Vest	USSOCOM	0.174	0	0

This project, initiated in FY 2003, is evaluating inflatable body armor systems developed by International Safety Products Ltd of the United Kingdom. The systems protect against bullets and fragmentation, while providing the wearer with increased range of movement and comfort.

FY 2003 (Accomplishments): Body Armor Flotation Vest requirements were refined to be compatible with the releasable body armor features of the Body Armor Load Carrying System; Evaluated candidate system designs and down selected to a single foreign vendor; Procured test articles and began technical testing.

FY 2004 (Plans): Complete technical and operational testing; Compile test data and

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prepared the decision packet; Obtain procurement decision.

	Service	FY 2003	FY 2004	FY 2005
Bode House Boden Househouse	IICCOCOM	0 225	0	0
Body Worn Radar Warning Receivers	USSOCOM	0.325	U	U

This project, initiated in FY 2003, is evaluating commercially available radar warning receivers developed by Filtronic Components and Spectrum Solutions, both from the United Kingdom, to determine if either provides critical threat warning and situational awareness to meet Special Forces requirements.

FY 2003 (Accomplishments): Awarded contract for test articles; Established agreements with test organizations and completed test planning.

FY 2004 (Plans): Receive equipment from vendors and begin technical and user evaluations; Compile test data, prepare decision packet, and obtain procurement decision.

	Service	FY 2003	FY 2004	FY 2005
Bradley Fighting Vehicle Long-Life Roadwheels	Army	0.232	0	0

This project, initiated in FY 2001, is evaluating polyurethane coatings for combat vehicle roadwheels, developed by Elastochem Specialty Chemicals of Canada, Allthane Technologies of the Republic of South Africa, and Winfield Industries of Buffalo, New York, to upgrade the Bradley Fighting Vehicle (BFV) and extend its service life for a potential three-fold O&S cost savings over the current rubber roadwheels. This O&S cost savings could be quite significant given the life cycle of the BFV, and the fleet of other tracked combat vehicles that this could have potential application to.

FY 2003 (Accomplishments): Completed all testing/evaluation of the two foreign candidates.

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FY 2004 (Plans): Complete testing/evaluation of the US candidate. Publish final report. IPR decision.

	Service	FY 2003	FY 2004	FY 2005
Communications Distribution System	Navy	0.843	0	0

This project, initiated in FY 2002, is evaluating a digital voice and data distribution system developed by Computing Devices and fielded in Marine Corps ground command and control systems, when integrated with the KC-130 aircraft for command post complexes ranging from Marine Expeditionary Force headquarters to squadron level.

FY 2003 (Accomplishments): Completed test and evaluation of system. The USMC procured CDS equipment valued at \$1.25 million in October 2002. A second production option was recently activated in September 2003 for \$1.35 million. Additional follow-on production options provide the potential for additional CDS suites to be procured by the Marine Corps.

	Service	FY 2003	FY 2004	FY 2005
Corona Monitoring System for High Power VLF/LF Communications	Navy	0.279	0	0

This project, initiated in FY 2003, is evaluating commercially available daylight corona cameras manufactured by OFIL, Ltd. of Israel, and the Centre for Integrated Sensing Systems (CSIR) of the Republic of South Africa. Providing early detection of damaging corona formation will allow necessary corrective action, and prevent unplanned outages in communications to submerged submarines.

FY 2003 (Accomplishments): Comparative testing of the two candidate cameras was

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completed to determine if either camera was suitable for use in detecting corona at VLF/LF frequencies. Several tests were conducted. The tests included: side by side tests at VLF that show the cameras can detect several phases of the corona phenomena; outdoor tests to determine the effectiveness of the cameras in detecting corona on antenna elements at varying distances; side by side tests at VLF and LF to determine if either camera is impacted by electric field electromagnetic interference; and side by side tests of the candidate cameras inside the tuning building (helix house) that were monitored remotely via cable to determine if there is magnetic field electromagnetic interference. A procurement decision is pending.

	Service	FY 2003	FY 2004	FY 2005
Deployable Instrumentation for Marine Air Ground Task Force (MAGTF) Training System	Marine Corps	0.872	1.668	0.585

This project, initiated in FY 2003, is evaluating mobile Range Instrumentation Systems developed by Saab Training Systems of Sweden and RUAG of Switzerland to meet Marine Corps requirements to integrate current training devices, which provide deployable force-on-force training for the Marine Air Ground Task Force.

FY 2003 (Accomplishments): Contract awarded to Saab Training Systems (Sweden) and Ruag (Switzerland) for test articles and associated technical efforts.

FY 2004 (Plans): Conduct preliminary system integration tests and operational evaluation. Initiate field evaluation (user-jury).

FY 2005 (Plans): Complete field evaluation and make procurement decision.

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	Service	FY 2003	FY 2004	FY 2005
Digital Flight Control System for EA-6B	Navy	1.162	0.556	0

This project, initiated in FY 2002, is evaluating a digital flight control system (DFCS) developed by British Aerospace (BAE) Systems Avionics Ltd. for the Eurofighter, to replace the increasingly obsolete automatic (analog) flight control system in the Navy's EA-6B "Prowler" aircraft. The project follows successful integration of the BAE DFCS into the Navy's F-14 "Tomcat" aircraft.

FY 2003 (Accomplishments): The project completed safety and reliability assessments. An independent cost estimate was performed to determine the necessary funding to execute the flight control systems upgrade. BAE Systems issued a ROM to the program office.

FY 2004 (Plans): Award BAE contract to modify F-14 DFCS computers into EA-6B DFCS configuration. Perform lab and ground testing of prototype EA-6B DFCS.

	Service	FY 2003	FY 2004	FY 2005
Eagle Vision Satellite Imagery Receiving and Processing Station Sensor Upgrade	Air Force	0.874	0	0

This project, initiated in FY 2002, is evaluating the improvement in Eagle Vision performance achieved by incorporating 2.5-meter resolution imagery from the French SPOT 5 satellite. The use of the most advanced commercial imagery products in aircrew mission planning and rehearsal systems provides a dramatic increase in aircrew/aircraft survivability and mission effectiveness. Eagle Vision is the Department of Defense's only deployable commercial satellite imagery receiving and processing ground station.

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FY 2003 (Accomplishments): Used to provide imagery to forces engaged in combat in both Iraq and Afghanistan in Operations SOUTHERN WATCH, ENDURING FREEDOM and IRAQI FREEDOM. Most recently, Eagle Visions proved its multifunctional role by providing badly needed imagery to FEMA in support of disaster relief for hurricane Isabel. Anticipate contract in December for \$20M for SpotV system for Hawaii, upgrade system I to the level of Spot V.

	Service	FY 2003	FY 2004	FY 2005
Eye-Safe Laser Rangefinder for M1A1 Main Battle Tank	Marine Corps	1.464	0.612	0.053

This project, initiated in FY 2003, will evaluate eye-safe lasers developed by Zeiss of Germany and Thales (formerly AVIMO) of the United Kingdom, for range, beam divergence, output energy, shot life, receiver field of view, sustained rate of ranging, and other parameters used to locate distant targets for the M1A1 Firepower Enhancement Program. The eye-safe laser is expected to increase the range performance by 2000 meters.

FY 2003 (Accomplishments): Awarded contract for test articles. Received foreign test data. Complete test planning and Preliminary Design Review (PDR) with both foreign vendors. Conducted weekly system and integration working group meetings.

FY 2004 (Plans): Receive test articles and conduct M1A1 integration tests. Conduct system testing at the Aberdeen Proving Ground, MD. Conduct user evaluation tests.

FY 2005 (Plans): Complete data analysis and evaluation. Make procurement decision (projected 2nd Quarter).

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	Service	FY 2003	FY 2004	FY 2005
		0 0 0	0	0
Fiber Optic Security Fence	Air Force	0.058	Ü	0

This project, initiated in FY 2002, is evaluating a perimeter fence developed by Zinus, Inc. of the Republic of Korea that continuously monitors laser pulses to detect and locate physical intrusion with high alarm reliability and a low false-alarm rate. The system provides intrusion detection and requires minimal maintenance. It can be placed on existing fences or walls or used as a stand-alone fence.

FY 2003 (Accomplishments): Completed equipment installation and testing at the Test Site, Eglin AFB. Due to both hardware and software deficiencies the tests were not favorable. The mechanical failure was corrected by changing a metal fastener and the software anomaly was identified and corrected. The equipment will be retested in 1st Qtr FY 2004 at vendors expense.

	Service	FY 2003	FY 2004	FY 2005
	Manaian Caran	0	0 (02	0
Floating Smoke Pot System	Marine Corps	U	0.683	U

This project, initiated in FY 2001, is evaluating a Floating Smoke Pot manufactured by Diehl Munitionssysteme (formerly Comet Pyrotechnik) to replace the current K867 floating smoke pot for use in training and combat, on land and in water. The current floating smoke pot produces a smoke that possesses carcinogenic properties and a fuze that has experienced reliability problems. The German item adds infrared smoke to screen troops in low-light situations against night-vision devices.

FY 2003 (Accomplishments): Diehl successfully completed the production and Initial Operating Test (IOT) of 120 Floating Smoke Pot units.

FY 2004 (Plans): Initiate and complete initial functional, insensitive munitions, safety, environmental, durability, hazard and user tests to be conducted at the Naval

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Surface Warfare Center, Crane Division and the US Army Soldier and Biological Command. Make procurement decision (projected for 1st QTR, FY 2005).

	Service	FY 2003	FY 2004	FY 2005
Fuel Cells for Dismounted Soldier Systems	Army	0.912	0.612	0

This project, initiated in FY 2003, is evaluating electrochemical fuel cells developed by Ballard Power Systems and Hydrogenics, both of Canada; NoVars and Smart Fuel Cells, both of Germany; Intelligent Energy, Inc. of the United Kingdom, to meet Army requirements for longer lasting, lighter-weight portable power sources. This project directly supports Army "Transformation" in that it has direct application to the "Landwarrior" program, and potential application to the Future Combat System program, making for a lighter, more mobile, more lethal, yet more survivable fighting force.

FY 2003 (Accomplishments): Contract prep/award. Test planning/prep complete. Safety assessment complete.

FY 2004 (Plans): Test articles received. Conduct/complete/report lab/environmental/safety/operational testing/evaluation. IPR decision.

	Service	FY 2003	FY 2004	FY 2005
Global Cellular Phone System Optimization	USSOCOM	1.743	0.367	0

This project, initiated in FY 2003, is evaluating commercially available hardware and software that can monitor, exploit, and interrupt portable cellular phone transmissions.

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FY 2003 (Accomplishments): Placed delivery orders with companies in three countries to procure equipment and software; Established agreements with test organizations and completed test planning.

FY 2004 (Plans): Receive test hardware; Complete technical testing and begin operational/user testing.

FY 2005 (Plans): Complete user testing and compile test results; Prepare decision packet and obtain procurement decision.

	Service	FY 2003	FY 2004	FY 2005
High Frequency Adaptive Antenna Receive System Replacement	Navy	0.256	0	0

This project, initiated in FY 2002, is evaluating a high-frequency adaptive antenna system developed by SED Systems to meet a Navy requirement to improve the quality, range, and antijam performance of Link-11, ANDVT, and HF radio communications with maritime patrol and surveillance aircraft.

FY 2003 (Accomplishments): Due to the technical circumstances surrounding the development and testing of the PHFARS system, the project will be carried over into FY04. The technical issues that affected the performance of the system, the maintenance, training, and installation requirements have been corrected and are complete. The system was delivered and installed at SSCC Charleston test bed. Factory acceptance test has been completed and discrepancies are being addressed. Antennas' evaluation will be conducted concurrently with system operational evaluation test.

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	Service	FY 2003	FY 2004	FY 2005
High Temperature Protective Coating for Gas Turbine Engines	Navy	0.523	0.851	0.698

This project, initiated in FY 2003, is evaluating a protective coating made by MDS-PRAD, of Ural Works of Russia (PRAD) and MDS Aerospace of Canada, for the high-temperature section of turbine engines. The protective coating reduces hot-gas corrosion, oxidation and thermal fatigue.

FY 2003 (Accomplishments): Down selected potential engine candidates based on various factors. MDS (Canada) and PRAD (Russia) met in Moscow in August 2003 to review the FCT HT Coating program objectives and schedule.

FY 2004 (Plans): Finalize contract award with MDS-PRAD. Continue planning and coordination with the NAVAIR AV-8B/F402 engine Accelerated Mission Endurance Test (ASMET). Turbine vane sets will be coated for the turbine rainbow wheel. The rainbow wheel will include the MDS-PRAD coated blades as well as uncoated blades and a few other coatings. The ASMET will evaluate the coating system under a realistic engine-operating environment and simulate the full engine duty cycles.

FY 2005 (Plans): Import an EB-PVD Coating Machine from Russia and make it operational in Canada. Demonstrate NAVAIR coated engines during ASMET. Work with engine contractors to transition coating system via an engine contract change proposal (ECP) and vendor source qualification plan (funded by the NAVAIR engine Component Improvement Program (CIP).

	Service	FY 2003	FY 2004	FY 2005
Improved Specific Emitter Identification System	Navy	0.967	0.306	0

This project, initiated in FY 2003, is comparing NSA-compliant alternatives developed by QinetiQ of the United Kingdom to the U.S. specific emitter identification processors for

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passive identification and fingerprinting of emitters in naval applications. The two NSA-compliant systems currently in Navy use will be included in the tests for comparison.

FY 2003 (Accomplishments): The I-SEI FCT focused specifically on the operational capabilities of the US and UK systems in a dense electronic environment limited to pulsed maritime and land-based radars. Four specific tests were conducted, using both live emitters from US electronic range facilities and controlled laboratory testing using recorded ELINT signatures. The evaluation focused on a comparative analysis of a series of measurable performance parameters in a real and simulated ELINT environment. Both the hardware and algorithms were examined. The specific test scenarios that were used in order to maximize data collection and observational information include: identification specificity, generated and pre-recorded signals laboratory testing, maritime range testing, and land-based range testing. All test scenarios have been completed and the Center for Naval Analyses (CNA), the I-SEI FCT Test Evaluator, has completed the data analysis.

FY 2004 (Plans): Environmental Test Phase: The I-SEI environmental test phase will conclude all phases of the test and evaluation. This testing phase will include the purchase of three I-SEI cardsets for use in shake/rattle/roll testing in case of destruction. The I-SEI final report on the preliminary findings will be completed and distributed upon conclusion of this phase.

	Service	FY 2003	FY 2004	FY 2005
Infrared (IR) Decoy	Navv	1 655	0	0
Initiated (IK) Decoy	iva v y	1.000	0	J

This project, initiated in FY 2002, is evaluating an infrared decoy produced by Magellan Aerospace, the Canadian MJU-5188 liquid pyrophoric decoy, which may have the spectral and spatial characteristics required to provide tactical aircraft with dramatically increased self-protection against IR threat missiles. The MJU-5188 was developed for use on tactical aircraft and has demonstrated excellent effectiveness in Canadian tests against advanced threats.

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FY 2003 (Accomplishments): Collected banded calibrated imagery radiometric measurements during flight function testing at Pt. Mugu, CA (NOV 2002). Created a MJU-5188 Flare model for use in the MOSAIC digital model as a tool for optimizing dispense patterns during flight (JUN 2003). Met with Canadian Government officials at MSIC Huntsville for preliminary discussions based on quick look SEP 02 flight test (AUG 2003). Conducted a comprehensive flight function test at China Lake, CA (SEP 2003). Utilized seven F/A-18E missions, which dispensed multiple patterns at various aspects. Fielded 20 captive threat infrared seekers in three Seeker Test Vans (STV's). Collected ground-to-air spectral and banded infrared calibrated imagery. Commenced data analysis. Decoy failed to perform and continuation was cancelled for FY 2004 and beyond.

	Service	FY 2003	FY 2004	FY 2005
Multi-Role Anti-Armor Anti-Personnel Weapon System (MAAWS) Illumination Round	USSOCOM	0.540	0.717	0

This project, initiated in FY 2001, is evaluating illumination ammunition developed by Saab Bofors Dynamics of Sweden for the 84mm Carl Gustaf recoilless rifle. The round has a visible candle with increased burn duration and a dual safe fuse that meets US Army Fuse Safety Review Board Standards.

FY 2003 (Accomplishments): Incorporated design changes strengthening the material in the fuze to improve handling qualities and reliability; Ordered test rounds to be used in product qualification testing.

FY 2004 (Plans): Receive test hardware; Conduct technical and safety testing; Begin user testing.

FY 2005 (Plans): Complete user testing; Receive safety and production certification; Begin production.

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	Service	FY 2003	FY 2004	FY 2005
Man Portable Intrusion Detection System	Air Force	0.151	0	0

This project, initiated in FY 2003, is evaluating a wireless surveillance system developed by Sensor Electronics, Ltd., United Kingdom. This palm-sized, passive infrared detector/sensor system has potential to provide covert or overt, high-value item protection, standoff perimeter approach surveillance, or area protection for airbase ground defense operations.

FY 2003 (Accomplishments): The system did not test well, yet NATO/USAFE verbal feedback on the system, one version of which has a NATO stock number, is positive. The detrimental Florida environmental conditions encountered may require a deployment limitation for certain USAF applications. Additional configuration evaluations are being investigated.

	Service	FY 2003	FY 2004	FY 2005
Man Portable Satellite Communications (SATCOM) System	USSOCOM	1.801	0.222	

This project, initiated in FY 2003, is evaluating small, lightweight satellite dishes manufactured by SweDish of Sweden that can provide one-person operation of a turnkey satellite communications solution. Two sizes of small dishes promise to provide secure communications (live video/audio streaming, broadband transmission and automated setup) without sacrificing the identity or location of the user.

FY 2003 (Accomplishments): Established infrastructure for long term support of the satellite dish system; Procured test articles; Completed technical testing and began operational user assessment with positive results to date; Assessment has extended to

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operational units deployed in Iraq; Broad interest in procuring systems includes FBI, FEMA, NSA, National Guard and others.

FY 2004 (Plans): Complete testing and certification process; Compile test data; Prepare procurement packet and obtain procurement decision.

	Service	FY 2003	FY 2004	FY 2005
Missile Reserve Battery Replacement	Air Force	0.325	0.690	0

This project, initiated in FY 2003, is evaluating battery cells developed by Saft Alcatel of France and Japan Storage Battery, Ltd. (Nippondenchi) for use in missile/booster environments. If testing is successful, Eagle Picher will assemble the batteries with cells from candidate source(s) incorporating the newer technologies.

FY 2003 (Accomplishments): An unexpected issue during the 2nd quarter with strong advocates for both cell and full up battery testing. This has delayed the project due to funding constraints which preclude testing both. The final result of the study was a return to the original intent of the program to test several individual cells rather than one battery.

FY 2004 (Plans): Complete contract actions with the testing facility; draft and provide Test Requirements Document to NSWC Crane, Indiana. Complete acquisition 'negotiations for test articles.

	Service	FY 2003	FY 2004	FY 2005
NBC Multipurpose Protective Sock	Marine Corps	1.173	0	0

This project, initiated in FY 2002, is evaluating candidate launderable socks developed by Paul Boye of France, Texplorer GmbH and Helsa-Werke GmbH of Germany, and Purification Products, Ltd. of the United Kingdom as integral components of the Joint Service Lightweight

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Integrated Suit Technology (JSLIST) ensemble. The multipurpose protective sock component of the ensemble must provide chemical/biological protection and friction protection to the foot.

FY 2003 (Accomplishments): Completed validation and verification of Swatch test fixtures at Dugway Proving Grounds, Utah. Began user tests to include aviator tests by HMX-1. FY 2004 (Plans): Current anti-terror operations caused Test Range unavailability, requiring a shift of effort to FY 2004 (using FY 2003 funds). Receive test articles. Initiate and complete Swatch tests, field durability tests, and selected follow-on chemical tests. Procurement decision is projected for 4th Quarter.

	Service	FY 2003	FY 2004	FY 2005
Rayon for Heatshield and Motor Nozzles	Air Force	0.988	0.790	0

This project, initiated in FY 2003, will evaluate high-quality rayon from Lenzing Technik of Austria, Snecma Moteurs of France, Acordis of Germany; and Acordis of the United Kingdom to meet Air Force requirements for use in high temperature applications, such as heat shields and rocket motor nozzles. There are no longer any domestic suppliers of aerospace-grade rayon for rocket nozzles and reentry heat shield thermal protection.

FY 2003 (Accomplishments): A final selection of materials was made based on a variety of factors including processing, manufacturing, schedule, and test benefits. The materials selected for processing and testing are Acordis Enka, Acordis Cordenka 610F, Snecma C2, Acordis Tencel, and Fabelta. All of these fibers have been ordered and a couple of the fibers are on hand to start the weaving process.

FY 2004 (Plans): The candidate fibers will be processed into carbon phenolic, the test plans will be finalized and the evaluation will be conducted.

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	Service	FY 2003	FY 2004	FY 2005
Replacement Structures for Aircraft	Navy	1.010	1.613	0.308

This project, initiated in FY 2003, will certify and qualify PZL-Swidnik of Lublin, Poland, as an approved source for the manufacture of aluminum honeycomb panels and sub-structures to support in-service, but out-of-production aircraft. Hexcel of Belgium will provide honeycomb sub-cores to PZL-Swidnik for the project. The immediate objective is to provide a cost-effective solution to the warfighter for the replacement of flight control surfaces and sub-structures for the F-14, which is no longer in production and for which parts are no longer available from the original manufacturer.

FY 2003 (Accomplishments): Awarded technical support and services contract to PZL-Swidnik for the execution of a certification and subsequent qualification effort to certify the existing facility and qualify the artisans in the production fabrication of metallic- and composite-bonded components. Awarded teaming and consultation services contract to Aurora Flight Sciences for the provisioning of technical and logistics services to PZL-Swidnik and the US Navy/F-14 Program Office for direct assistance in the successful execution of the FCT effort. Established a technical and logistics team to successfully execute the FCT effort.

FY 2004 (Plans): Provide manufacturing data package and production representative (non-flyable part) to PZL-Swidnik. Procure necessary raw materials from approved domestic sources in order to execute effort (skins, aluminum core, adhesive, primer, epoxy paint). Disassemble sample part and Fabricate bond form tools and associated holding fixtures required to fabricate new part (reverse engineering effort). Fabricate coupon samples and production representative part for fit check followed by first article destructive evaluation. Conduct first article destruction/qualification testing.

FY 2005 (Plans): Submit qualification data package to NAVICP and Defense Supply Center Richmond (DSCR) for acceptance and subsequent inclusion into approved vendors procurement database. Establish production/procurement contract with PZL-Swidnik.

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	Service	FY 2003	FY 2004	FY 2005
Resilient Abrasive Resistant Skirt for Landing Craft Air Cushion (LCAC)	Navy	0.436	1.946	0.399

This project, initiated in FY 2003, is evaluating candidate materials developed by Reeves S.P.A. of Italy, Trelleborg of Sweden, and Northern Rubber of the United Kingdom to determine if they can provide a 50 percent improvement in the LCAC skirt's resistance to abrasion without a weight or cost penalty.

FY 2003 (Accomplishments): Conducted site visits to Akron Rubber Dev Labs, Dayton Test Facility, and Westland Aerospace to evaluate test capabilities and obtain information on applicable test procedures. Conducted Deep Skirt finger load characterization testing on LCAC 091. Measured underway finger loads and accelerations. Issued purchase orders to Northern Rubber of U.K. and Trelleborg of Sweden for visit to U.S. and delivery of phase-one evaluation materials. Conducted preliminary review and made revisions to LCAC skirt material Project Peculiar Document to eliminate legacy requirements. Sent current skirt material samples to foreign vendors to assist in their comparisons. Contact made with JHRG, a domestic company interested in supplying test material in conjunction with this FCT. Researched standardized test candidates (ISO and ASTM). Started development of laboratory test plan.

FY 2004 (Plans): Issue purchase orders to Reeves of Italy for the meeting/visit to the United States and for delivery of phase one material. Complete laboratory test plan and accomplish lab comparative testing of phase one materials. Perform finger load characterization testing on LCAC 066 for comparison to standard skirt loads. Install test fingers of phase one materials onto LCAC. Procure phase two evaluation materials, perform laboratory comparative testing, and install test fingers on LCAC. Complete evaluation of phase one and two and make final downselect of top three materials.

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FY 2005 (Plans): Procure full sets of LCAC fingers made of top three materials and install onto Fleet craft. Start Fleet In-Service evaluation and complete FCT Close-out report. Make final revision to skirt material Project Peculiar Document to reflect performance of top material(s).

	Service	FY 2003	FY 2004	FY 2005
Self Destruct Fuze for Multiple Launch Rocket System (MLRS)	Army	0.295	0.378	0

This project is evaluating the performance, safety, and feasibility of a self-destruct fuze developed by Israeli Military Industries of Israel. The fuze will be integrated into the submunitions of the MLRS system for testing, to the current dud rate of the submunitions from more than 5% to less than 1%. This is critical because that would greatly enhance both the operational capability and safety of our forces maneuvering on the battlefield, environmental cleanup of our training ranges, and future MLRS FMS cases to countries who have a self-destruct/dud-reducing requirement for their own munitions.

FY 2003 (Accomplishments): Completed phase I testing/evaluation/analysis. Down-selected to the single foreign candidate.

FY 2004 (Plans): Conduct/complete/report phase II testing/evaluation. Production IPR decision.

	Service	FY 2003	FY 2004	FY 2005
Self-Regulating Anti-G Ensemble	Air Force	0.265	0.145	0

This project, initiated in FY 2002, is evaluating an advanced technology liquid-filled g-suit manufactured by the Swiss-German joint venture, Autoflug Libelle GmbH. Gravity- induced loss of consciousness plagues fighters above 6g, and current equipment limits crews from achieving and maintaining sustained high-q maneuvers without significant risk and fatigue.

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FY 2003 (Accomplishments): Completed testing at Eglin AFB, FL and the results could not support flight certification. SAGE requires additional study prior to fielding to determine why SAGE is not providing adequate g-protection for all of the FCT test subjects? Are aircrew proficiency training methods inadequate? If so, how can they be changed to achieve 100% usability? And, from a scientific perspective, does SAGE actually reduce fatigue? Does it provide an adequate response to rapid G-onset.

FY 2004 (Plans): Began Phase IV, a laboratory study at the AFRL/HEPA acceleration laboratory at Wright-Patterson AFB to resolve issues precluding flight certification of SAGE.

	Service	FY 2003	FY 2004	FY 2005
Chinhaand Anti Tam CDC Antanna	Marri	1 075	0	0
Shipboard Anti-Jam GPS Antenna	Navy	1.0/5	U	U

This project, initiated in FY 2003, is evaluating the GAS-1 Global Positioning System (GPS) anti-jam antenna for Navy surface ship applications. The GAS-1 is produced by Raytheon Systems Limited, Harlow, United Kingdom, and is mounted on large U.S. Air Force aircraft. Emphasis will be placed on electromagnetic compatibility in the dense electronic environment of a Navy battle group. The FCT Program recently qualified the smaller GAS-1N anti-jam antenna for tactical aircraft.

FY 2003 (Accomplishments): Completed the EMC survey to determine a worst-case ship class, which will present the greatest Blue Force Emitter (BFE) interference to GAS-1. Due to fleet assets unavailability, testing delayed until 2nd QTR FY 2004 (using FY 2003 funds). Verify antenna performance within the ship and Battle Group environment. Conduct ship testing at port environmental, EMI, and platform interface for the MCM platform, and the MCM ship testing at sea: Anti-Jam effectiveness performance evaluation. The SAGA blue force emitter test on the identified ship class will be a key

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part of the NAVWAR Ship IPT effort. Its objective will be to demonstrate compatibility with the Navy shipboard environment and provide additional test data on the GPS Anti-jam System (GAS-1) antenna for final evaluation of the antenna performance in the Battle Group environment.

	Service	FY 2003	FY 2004	FY 2005
Silverized Kevlar	Army	0.610	0	0

This project, initiated in FY 2002, evaluated Silverized Kevlar developed by Silverleaf Materials, Ltd. for use on the Army's RAH-66 Comanche helicopter. This material was to enhance the performance characteristics of the structure with regard to conductive ground plane, electro-magnetic interference shielding, and static discharge, and achieve overall weight savings by eliminating layers of parasitic conductive materials. It was important because decreased weight greatly enhances helicopter operational performance and survivability, while greatly increasing RDT&E cost avoidance.

FY 2003 (Accomplishments): Conducted/completed/reported on all scheduled test/evaluation activities to date. Based upon results, which showed that the product was not achieving the required results, and not having any fixes, the PM/Service/OSD jointly decided to terminate the project.

	Service	FY 2003	FY 2004	FY 2005
Small Bundle Resupply System	Army	0.267	0	0

This project, initiated in FY 2003, is evaluating compact guidance and control units developed by two of the following three competing vendors: MMist of Canada; and Koable of the Republic of Korea as alternatives to the Parafoil Aerial Delivery System - Extra Light. If successful, the project would provide extremely precise high-altitude delivery of small bundles and airborne troops for missions such as re-supply for military operations in urban, or extremely

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rugged/difficult/remote natural, terrain, delivery of small robots and sensors, counter-terror operations, and humanitarian support missions. This has direct application to many current on-going U.S. Army operations world-wide.

FY 2003 (Accomplishments): Project approval. Contract prep/award. Test plan completed. FY 2004 (Plans): Receive test items. Conduct/complete/report on all test/evaluation activities. IPR decision.

	Service	FY 2003	FY 2004	FY 2005
Special Effects Small Arms Marking System (SESAMS)	Marine Corps	0.488	0.367	0

This project, initiated in FY 2003, is evaluating the safety and integration suitability of Simunition's 5.56mm linked low-velocity training munitions for the M249 Squad Automatic Weapon (SAW). The SESAMS is a user-installed weapons modification kit that allows the individual Marine to fire low velocity ammunition with non-toxic primers, and a non-toxic marking medium at short range while precluding the weapon from firing live ammunition.

FY 2003 (Accomplishments): Signed contract for test articles. Received foreign test data.

FY 2004 (Plans): Complete laboratory technical and safety testing and user tests. Make Procurement decision (projected for 1^{st} QTR FY 2005).

	Service	FY 2003	FY 2004	FY 2005
Ultra Light Aero Diesel Engine	USSOCOM	0.682	0.181	0

This project, initiated in FY 2003, is evaluating a non-developmental diesel engine candidate in the 100 hp range for possible use on various Special Forces wind-supported air-delivery platforms.

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FY 2003 (Accomplishments): Completed full and open competition leading to selection of Diesel Air Limited of the United Kingdom; Awarded a contract for two engines to be integrated and tested on the Wind Supported Air Delivery System for further testing.

FY 2004 (Plans): Integrate test engines into the Wind Supported Air Delivery System; Complete bench testing, safety certification, and operational flight testing.

FY 2005 (Plans): Compile and evaluate test results; Complete procurement decision and close the FCT project.

	Service	FY 2003	FY 2004	FY 2005
Underwater Communication and Tracking				
System for Submarines	Navy	0.930	0.890	0

This project, initiated in FY 2003, is evaluating the suitability of the Nautronix/Maripro underwater digital communication (HAIL) system from Australia for real-time data exchange of positional information between submarines participating in open ocean exercises. The system has been successfully demonstrated in joint U.S.-Australian submarine exercises.

FY 2003 (Accomplishments): Awarded contract to Nautronix/ Maripro. Communicated successfully between Advanced SEAL Delivery System (ASDS), Host Submarine (HOSUB), and C-commando SEAL Host Platform. Communicated successfully on Dabob Bay between MK-69 Pinger and test platform. Participated in Lungfish '03 exercises with Australia. Issued Predicted Range Analysis report. Removed HAIL from the USS City of Corpus Christi (SSN 705) in Guam. Trained five crewmembers of ASDS, HOSUB, and C-commando on the installation and operation of HAIL.

FY 2004 (Plans): Prepare test plan for Sea Test 2A and Sea Test 2B. Develop Temporary Alterations (TEMPALTs) to support Sea Test 2A and Sea Test 2B. Conduct Sea Test 2A (ST2A). Conduct Sea Test 2B (ST2B) in conjunction with "Assured Access" exercise.

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	Service	FY 2003	FY 2004	FY 2005
Wireless Local Area Network (LAN) Monitoring System	USSOCOM	0.174	0	0

This project, initiated in FY 2003, is evaluating commercial lightweight, portable wireless local area network monitoring systems developed by Wlanbit of Finland to meet Special Forces requirements for a component of the Joint Threat Warning System (JTWS).

FY2003 (Accomplishments): Awarded contract for test articles; Established agreements with test organizations and completed test planning.

FY2004 (Plans): Receive equipment from vendors and begin technical and user evaluations; Compile test data, prepare decision packet, and obtain procurement decision.

FY 2004 NEW START PROJECTS:

The projects identified below were highlighted as FY 2004 FCT new start projects in our Congressional Notification letter dated 20 August 2003.

	Service	FY 2003	FY 2004	FY 2005
		_		
20mm Replacement Round	Air Force	0	1.012	0.096

This project will evaluate 20mm ammunition developed by Diehl Munitionssyteme of Germany and Oerlikon of Switzerland to replace current 20mm combat rounds which limit mission effectiveness and expose both pilot and aircraft to unnecessary risk. Although the current PGU-28B meets requirements for employment ranges and target damage, it is currently suspended due to twenty-five in-barrel detonations that caused aircraft damage and could have resulted in pilot death and aircraft loss. The PGU-28B inventory has been declared "For Emergency Wartime Use Only". Alternative M-56 rounds do not present these safety hazards, they require

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the pilot to engage targets at significantly closer ranges without the same expected results and with a resultant increase in vulnerability.

FY 2004 (Accomplishments): The Ogden Air Logistics Center Air to Surface Munitions Directorate (OO-ALC/WM) has conducted testing on all likely replacement rounds and is currently in the process of acquiring 2,000 rounds for handling and initial live fire testing. The FCT program will fund further development and operational testing required to field the ammunition.

FY 2005 (Plans): Complete Operational Testing and non-nuclear certification and initiate procurement if testing provides favorable results.

	Service	FY 2003	FY 2004	FY 2005
40mm High Explosive Dual Purpose (HEDP) Improvement	Marine Corps (joint w/USSOCOM)	0	0.584	1.703

This project will integrate and evaluate an improved propulsion propellant "after armor" effect technology and a standardized fuze interface into a 40mm HEDP cartridge for use in both the MK19 Grenade Machine Gun and MK 47 Advanced Lightweight Grenade Launcher. NAMMO of Norway developed the warhead and standardized fuze interface, Nico-Pyrotechnik of Germany developed the propulsion system, and Nitrochemie AG of Switzerland developed the propellant for the cartridge to be evaluated.

FY 2004 (Plans): Conduct fuze variations, IM compliant warhead, cartridge testing. Initiate integration tests of sub-assemblies.

FY 2005 (Plans): Upon successful completion of technical testing, the system integrator (NAMMO) will conduct integration testing of the components to ensure the performance of the cartridge meets the key performance parameters. The testing will include safety and environmental testing as well as an evaluation on production mechanics of the integrated design. Upon completion of the integration testing, the project will conduct testing

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necessary to determine the cartridge's ability to meet the requirements of MIL-STD 2105B. Finally, upon completion of the safety/environmental testing, the project will conduct user evaluations for both the Mk19 and Mk47 weapon systems to ensure the cartridge functions to standard in the intended environment. Procurement decision is projected for 2nd quarter, FY 2006.

	Service	FY 2003	FY 2004	FY 2005
Advanced Family of Interfaces for Chem				
Bio Clothing	USSOCOM	0	0.389	0

With the advent of emerging chemical/biological (CB) protective material technologies a need arises for enhanced methods of sealing CB garment interfaces. The vulnerabilities created by the emerging barrier materials are the interfaces at the wrist, ankles, zippers, and the neck of CB garments, as demonstrated in recent vapor and aerosol testing. This project will evaluate new types of CB closures and interfaces developed by YKK Universal Fasteners of Japan and RiRi SA of Switzerland.

FY 2004 (Plans): Award contract for test articles; Receive test articles and conduct technical and user testing.

FY 2005 (Plans): Compile test results; Prepare decision packet.

	Service	FY 2003	FY 2004	FY 2005
Biocular Image Control for M1A1 Main				
Battle Tank	Marine Corps	0	0.662	0.362

This project will evaluate the Biocular Image Control Unit (BICU developed by Brimar, as part of the Marine Corps' M1A1 Firepower Enhancement Program. The BICU directly supports the tank crew's situational awareness by enabling the 2nd generation Forward Look Infrared (FLIR) imagery to be displayed in the Gunner's Primary Sight monocular display and also the biocular display. The BICU will provide eye relief to the gunner that will significantly reduce gunner's fatigue. A successful FCT will enable the crewman to utilize the best features of

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direct view optics and 2^{nd} generation FLIR imagery at the same time to acquire and engage targets.

FY 2004 (Plans): Conduct laboratory tests at the US Army's Night Vision & Electronic Sensors Directorate (NVESD), Fort Belvoir, VA. Initiate integration of the BICU into the Gunner's Sight of the M1A1 Main Battle Tank at the US Army Research and Development Center (ARDEC), Picatinny Arsenal, NJ.

FY 2005 (Plans): Conduct BICU system testing at Aberdeen Proving Ground, MD. Complete User evaluation tests. Make procurement Decision (projected for 4th QTR, FY 2005).

	Service	FY 2003	FY 2004	FY 2005
Biosensors for Explosive Detection	Marine Corps	0	0.180	0.100

This project will evaluate Biosens-E explosive detectors developed by Biosensors Applications of Sweden against improvised explosives devices, and conduct comparison analysis of test results of conventional explosive detection technologies being conducted by the Navy for the past three years.

FY 2004 (Plans): Prepare contract for purchase of test items; prepare test equipment; receive test item sensors and initiate testing.

FY 2005 (Plans): Complete testing; evaluate results; procurement decision.

	Service	FY 2003	FY 2004	FY 2005
Celluloid Mortar Increment Containers	Army	0	0.840	0.500

This project will evaluate and qualify a second source for nitrocellulose-based belted-fiber Mortar Increment Containers (MIC) for use with 60mm, 81mm and 120mm mortars. Qualification of the celluloid MICs developed by Kaufman & Gottwald GmbH (KAGO), of Austria, will

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significantly reduce procurement cost, thereby reducing overall program production costs, and will improve the robustness of the propulsion charge systems for semi- and auto- loading capabilities required for the Army's Future Combat System. These containers are also more "environmentally friendly" and safer than the current domestic product.

FY 2004 (Plans): Contract prep/award. Receive test articles. Begin phase I initial test/evaluation.

FY 2005 (Plans): Complete phase I initial test/evaluation. Conduct/complete phase II qualification test/evaluation. Publish report.

	Service	FY 2003	FY 2004	FY2005
Deployable GSM Cellular Network	USSOCOM	0	0.334	1.911

This project will evaluate a commercially available transportable cellular network developed by Ericsson of Sweden, that can be deployed worldwide (stand-alone) in support of mission requirements in austere environments. If testing is successful, the Swedish equipment will satisfy critical requirements of the Special Operations Forces Tactical Assured Connectivity System and the Joint Threat Warning System.

FY 2004 (Accomplishments): Enter agreement with U.S. Army for joint evaluation; Contract for and take receipt of test article, and receive vendor training; Conduct technical testing and begin operational testing.

FY 2005 (Plans): Complete operational testing; Compile test data, prepare decision packet and obtain procurement decision.

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	Service	FY 2003	FY 2004	FY 2005
Deployable Multi-Purpose Moving Target System	Marine Corps	0	0.467	0.351

This project will evaluate a deployable moving pop-up automated marking and targeting system developed by Thiessen Training Systems GmbH for range performance, target lifting life, hit indication, and other critical reliability performance parameters. A successful FCT will enable Marines to train as they fight and enhance proficiency with anti-armor engagement tactics.

FY 2004 (Plans): Receive test articles and conduct laboratory tests to include: Multiple Integrated Laser Engagement System (MILES) 2000 interface, safety, and integration with the Special Effects Small Arms Marking System (SESAMS) ammunition. Initiate User Tests.

FY 2005 (Plans): Complete User Evaluation Test at Camp Pendleton, CA and Camp Lejuene, NC. Make procurement decision (projected for 1st QTR, FY 2006).

	Service	FY 2003	FY 2004	FY2005
Gamma Titanium Sheets	Army	0	0.710	0.745

This project will evaluate gamma-titanium sheets developed by Plansee of Austria as potential replacement for current structural components used on Army helicopter manifolds and exhaust firewalls. The potential benefits of γ -TiAl are being recognized throughout the aerospace community and this substitution, for example, could increase Vertical Rate-of-Climb performance for Comanche aircraft, which would greatly increase both aircraft operational capability and survivability, while reducing RDT&E costs.

FY 2004 (Plans): Contract prep/award. Receive test articles. Integration. Complete test

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plan. Begin phase I technical test/evaluation.

FY 2005 (Plans): Complete/report phase I technical test/evaluation. Begin phase II technical test/evaluation.

FY 2006 (Plans): Complete/report phase II technical test/evaluation. IPR decision.

	Service	FY 2003	FY 2004	FY 2005
		_		
Guidance Components for Missiles	Air Force	0	0.534	0.532

This project will evaluate the performance of missile guidance components developed by Radstone Technology of the United Kingdom, DY4/Force Computers of Canada, Aitech Defense of Israel, Saab Ericsson Space of Sweden, SBS (OR) Technologies of Germany, and Thales Computers of France. Improvements to basic guidance and control (G&C) technology and miniaturization of G&C components have potential to enhance the performance of U.S. non-strategic missile systems. Advanced components have been developed, are being used by foreign suppliers, and are candidates for easy integration into U.S. programs.

FY 2004 (Accomplishments): Data received to date indicates that the components are applicable to USAF purposes. This data will be used to plan the FCT testing. Components will be down selected based on an the predicted performance of the components and two sets from the down selected foreign vendor will be evaluated. The down select will be conducted in the first year by the gov't with assistance from Northrop Grumman and the Launch service contractor

FY 2005 (Plans): Hardware will be purchased and tested in the second year. One set will be reused for environmental testing for final validation of the capability of the chosen articles.

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	Service	FY 2003	FY 2004	FY 2005
		·	· · · · · · · · · · · · · · · · · · ·	
JSLIST Alternative Footwear Solution	Marine Corps	0	0.493	0

This project will evaluate a one-size-fits-all, small packaged chemical-biological protective boot developed by Acton International, Inc. to meet urgent requirements of the Joint Service Lightweight Integrated Suit Technology (JSLIST) program. A successful FCT will enable improved operational suitability for the warfighter, meet urgent needs, and result in at least 25 percent production cost savings.

FY 2003 (Accomplishments): Initial FCT project tests were conducted under the Contamination Avoidance at Seaports of Debarkation (CASPOD) Advanced Concept Technology Demonstration (ACTD) Project. The ACTD funds were used to support the purchase of JSLIST Alternative Footwear Solution samples from Acton International to support the CASPOD follow on chemical testing.

FY 2004 (Plans): Complete field durability tests and initiate qualification testing. Make procurement decision (project FY 2005).

	Service	FY 2003	FY 2004	FY 2005
JSLIST Block II Glove Upgrade	Marine Corps	0	0.763	0.461

This project will evaluate nuclear, biological, chemical (NBC) protective gloves manufactured by Acton International, Inc. to meet the requirements for a "JB2GU" glove, a component of the Joint Service Lightweight Integrated Suit Technology (JSLIST) ensemble. The JB2GU will provide NBC protective gloves for the Army, Marine Corps, Navy and Air Force military personnel. The JB2BGU will be worn as part of the NBC protective ensemble and allow the warfighter to perform a full range of missions in NBC environments worldwide up to 30 days without performance degradation, by increasing tactility, dexterity, and durability beyond that found in the currently fielded butyl glove.

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FY 2003 (Accomplishments): Initial FCT project tests were conducted under the Contamination Avoidance at Seaports of Debarkation (CASPOD) Advanced Concept Technology Demonstration (ACTD) Project. The ACTD funds were used to support the purchase of JSLIST Block II Glove Upgrade samples from Acton International to support the CASPOD follow on chemical testing.

FY 2004 (Plans): Complete field durability tests and initiate qualification testing. FY 2005 (Plans): Complete data analysis and qualification testing. Complete operational testing. Make procurement decision (projected for 4th QTR FY 2005).

	Service	FY 2003	FY 2004	FY 2005
			·	
Large Scale Display System	Army	0	0.222	0

This project will evaluate very high resolution Flat Screen Displays developed by NEC/Mitsubishi of Japan and Samsung of the Republic of Korea for potential application in Army battlefield C2 requirements. Successful evaluation and fielding will allow the commander and staff to simultaneously view the Command Operational Picture, employ collaborative tools, and directly monitor various feeds from sensors or news services to rapidly gain situational awareness/understanding. This will greatly enhance battlefield C2, thus overall operational effectiveness and survivability for units engaged in combat.

FY 2004 (Plans): Contract prep/award. Test items received. Integration. Conduct/complete/report all test/evaluation activities. IPR decision.

	Service	FY 2003	FY 2004	FY 2005
Lightweight Prime Mover	Marine Corps	0	0.556	1.596

The Lightweight Prime Mover Project is an FY04 Out-of-Cycle New Start Project. Separate

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Congressional notification will be forwarded in February 2004. This project will evaluate foreign non-developmental high mobility off-road vehicles manufactured by Automotive Technik Ltd and Supacat Ltd of UK and Krauss-Maffei-Wegman of Germany. These systems will be tested to verify vendor performance claims and to satisfy, at a minimum, the requirement for towing capability, operational suitability, and external transport via MV-22 Osprey. The Lightweight Prime Mover project will incorporate lessons learned from the joint program venture between the US Marine Corps, US Army, and United Kingdom for the LW155 medium howitzer program.

FY 2004 (Plans): Receive Test Articles/Prime Mover (2 per vendor), and perform testing. FY2005 (Plans): Upon completion of end user evaluation and Milestone C decision, the program will determine whether to pursue production of 120 vehicles.

	Service	FY 2003	FY 2004	FY 2005
Lightweight Smoke Generator	Armv	0	0.594	0.245

This project will evaluate a camouflage smoke generator developed by PZL Rzeszow of Poland that is significantly lighter, and produces a better screen, than the U.S. Army's M56 system. A key aspect of the Polish system is that it uses a combination of fog oil and infrared obscuring particles in one solution to provide visual/IR obscuration. This is in contrast to the M56 system, which uses additional components to separately disseminate fog oil and graphite. If the project is successful, significant weight reduction could be achieved and the Polish system could be incorporated into the Army's M56 production program, the Robotic Obscuration production program and the Future Combat System Obscuration development program. This will greatly enhance both operational effectiveness and survivability on the battlefield, as well as greatly increasing RDT&E cost avoidance. This is the very first U.S. Army FCT project with Poland, a new NATO ally, and active coalition partner in Operation Iraqi Freedom..

FY 2004 (Plans): Contract prep/award. Test items delivery. Complete test plan. FY 2005 (Plans): Conduct/complete/report on all test/evaluation activities. IPR

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decision.

	Service	FY 2003	FY 2004	FY 2005
Lithium-Ion Battery Cells				
	Army	0	2.002	1.838

This project will evaluate the potential for Li-Ion battery cells developed by SKC of the Republic of Korea, E-One Moli Energy Ltd. of Canada, and AGM Batteries, Ltd. of the United Kingdom to satisfy Army and USMC portable electrical power requirements for a high energy density, high cell potential fuel source. The candidates may provide greater energy than present Li-Ion cell-based batteries and have the potential to reduce the logistics burden and enhance cost effectiveness through increased mission times (increases in power), greater shelf life, increases in power, and greater recharging capability. This project is also estimated to result in a \$10 million RDT&E cost avoidance and a \$10 million O&S cost savings.

FY 2004 (Plans): Contract prep/award. Receive test items (cells).

Conduct/complete/report technical test/evaluation.

FY 2005 (Plans): Receive test items (batteries). Conduct/complete/report field test/evaluation. IPR production decision.

	Service	FY 2003	FY 2004	FY 2005
Low Probability of Intercept				
Communications Intelligence Direction	USSOCOM	0	0.356	0.064
Finding				

This project will evaluate commercially available equipment developed by Elta Electronics, Ltd. of Israel that will detect sideband, spread spectrum/broadband, and other types of low probability of intercept communication signals from potential adversaries to provide threat warning to meet the requirements of the Joint Threat Warning System.

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FY 2004 (Plans): Award contract for test articles and receive equipment; Begin technical testing.

FY 2005 (Plans): Complete technical and operational testing; Compile test data, prepare decision packet, and obtain production decision.

	Service	FY 2003	FY 2004	FY 2005
		0	0 100	0.000
MARIA (Congressional Plus Up)	Navy	0	2.100	0.000

The FY 2004 Appropriation included a \$2.1 million plus up for MARIA to the Advanced Concept Technology Demonstration (ACTD) Program under Program Element 0603750D8Z. The ACTD Program did not have an existing MARIA Program in which to execute the FY 2004 funds appropriated. A Below Threshold Reprogramming Action was executed to reprogram these funds into the Foreign Comparative Testing (FCT) Program Element since MARIA was an active FCT project initiated in FY 2001. This project is evaluating a software-based command and control system from Teleplan AS that provides superior battlespace awareness through the rapid display of geographic imagery and positional information on friendly, neutral, and enemy units. The system provides advanced planning and decision aids such as communication and emitter propagation analysis tools. The project has the added benefit of increasing interoperability with U.S. allies. The objective is to integrate Maria into the Navy's Global Command and Control System-Maritime (GCCS-M) or the GCCS Integrated Imagery and Intelligence program. The Space and Naval Warfare Systems Command, San Diego, California, is conducting the test program at the Undersea Warfare Center, Newport, Rhode Island.

The Congressional plus up was reprogrammed under PBD 633 from the ACTD Program (Program Element 0603750D8Z) to the FCT Program. The Navy is currently conducting planning meetings to ensure the intent of this Congressional plus up is satisfied.

FY 2004 (Plans): Finalize RDT&E plan to upgrade and integrate MARIA into GCCS-M. MARIA was determined to be a robust mapping application that supports many of the features currently available in the Command and Control Personal Computer (C2PC) application

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fielded as part of the GCCS-M Program of Record (POR). This FCT has been valuable to the Navy Command and Control Systems Program Office in that testing was able to support this Office's "GEOBJECT" initiative. GEOBJECT is designed to introduce "map application independence" to C4ISR systems through adherence to a set of open-source based application program interfaces (APIs). GEOBJECT has been presented to and accepted by the GCCS Family of Systems as part of the way ahead for future C4ISR systems. The Global Information Grid Enterprise Services (GES) and Joint Command and Control (JC2) initiatives are in the process of determining the direction for mapping and visualization applications and technologies in future DOD C4ISR systems.

FY 2005 (Plans): Further test and evaluation will be performed to determine the MARIA's capabilities in supporting the GES and JC2 initiatives.

	Service	FY 2003	FY 2004	FY 2005
Micro Electro Mechanical System (MEMS)				
Inertial Measurement Units (IMUs)	Air Force	0	0.612	1.330

This project will evaluate the currently developed and deployed British Aerospace (BAE) Systems MEMS Inertial Measurement Unit which is reported to represent a significant size, weight, and cost advantage over domestic alternatives. Many current U.S. weapons require an IMU to make them intelligent/precision assets that can strike targets accurately. IMU costs have always been a major contributor to the high overall guidance system cost. Additionally, the IMU's relatively large size has driven the guidance system to be a significant portion of the "payload mass" that is lifted by the propulsion system, thereby reducing the available mass for lethal portion of the payload.

FY 2004 (Accomplishments): Technical specification (evaluation data) describing SiIMU01 has been received the Program Office confirmed that the components are suitable for tactical assets. Anticipate acquiring three each SiIMU01/02: one each for testing at the launch service subcontractors (OSC and Draper) and one for environmental testing. The IMUs will be integrated into a hardware-in-the-loop test fixture for evaluation. Efforts and costs are part of the launch service integrators' responsibility

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FY 2005 (Plans): Test and assess the SiIMU01/02 to verify its performance and suitability for both strategic and tactical assets. The tests will include verifying input/output throughput capabilities, power consumption, and performance against vendor-supplied specifications. Environmental testing will be conducted and will include testing against vibration, shock, temperature, humidity, and altitude operating environment requirements. The tests are intended to be non-destructive, but destructive tests may be conducted to assess the ultimate capabilities of the unit. Initiate procurement if results are favorable.

	Service	FY 2003	FY 2004	FY 2005
Mine Countermeasures Small Unmanned Underwater Vehicle	Navy	0	0.417	0.192

This project will evaluate the capabilities of a small unmanned underwater vehicle, developed by Hafmynd of Finland, in mine countermeasures operations in the very shallow water zone (10 to 40 feet depth). This type of small underwater vehicle can be used to search coastal areas and identify hazards to naval operations in preparation for amphibious assault, force protections and harbor security operations.

FY 2004 (Plans): Upon receipt of funding, let the contract for purchase of properly MCM equipped GAVIA UUV with Hafmynd, Ltd.

Initiate manufacturing process, which is expected to take 6-7 months.

FY 2005 (Plans): GAVIA UUV will undergo a 2-3 month Very Shallow Water Mine Countermeasure Test and Evaluation by SPAWAR Systems Center San Diego and a User Operational Evaluation conducted by fleet personnel in Naval Special Clearance Team One. Hafmynd, Ltd. to provide technical support during these trials. Consider contract option to purchase up to 10 more GAVIA UUV's with logistical support for incorporation into fleet operations.

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	Service	FY 2003	FY 2004	FY 2005
MK48 (7.62mm Lightweight Machine Gun)				
Semi-rigid Ammunition Container	USSOCOM	0	0.100	0

This project will evaluate a semi-rigid ammunition container from FN Herstal of Belgium for the MK48 Lightweight Machine Gun, an organic weapon for U.S. Special Forces Teams. The container increases the reliability of the weapon by protecting the ammunition while operating in harsh environments such as surf zones. The container also provides for a better balanced weapon due to its mounting under the centerline, providing greater operational suitability while patrolling.

FY 2004 (Plans): Procure test articles; Conduct technical and operational testing; Prepare a decision packet and obtain a procurement decision.

	Service	FY 2003	FY 2004	FY 2005
		_		
Mobile Acoustic Support System	Navy	0	0.445	0.160

This project will evaluate a mobile ground-based system developed by General Dynamics Canada to meet a Navy requirement for post flight analysis of sonabuoy (underwater microphone) acoustic data recorded on Maritime Patrol Reconnaissance Aircraft from fixed and rotary wing aircraft and surface and sub-surface units conducting anti-submarine warfare missions. The Mobile Analysis Support System (MASS) is a system that performs Post Flight Analysis (PFA) of recorded sonobuoy (underwater microphones) information from all Anti-Submarine Warfare (ASW) platforms (fixed and rotary wing, surface and subsurface). The MASS would replace the current Fast Time Analysis System (FTAS) system fielded in the fleet, which has been in service for at least 10 years and has reached the end of its projected life cycle. It will provide operational commanders with post-mission acoustic intelligence and provide a scalable system that will keep pace with emerging technology.

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FY 2004 (Plans): Evaluate the system against the current specification and assess the following suitability areas: Reliability, Maintainability, Availability, Logistic Supportability, Compatibility, Interoperability, Training, Human Factors, and Safety Documentation.

FY 2005 (Plans): Complete all Key Performance Parameters testing. Conduct final data analysis. Complete evaluation.

	Service	FY 2003	FY 2004	FY 2005
Mounted Cooperative Target Identification System (MCTIS)	Marine Corps	0	0.556	0.447

This project will evaluate a combat identification system developed by Thales Missile Electronics that may be capable of meeting the requirement for the Marine Corps MCTIS. The British system provides a positive encrypted identification of friend or unknown, bore sighted through the gunner's primary sight on Marine Corps M1A1 Tanks, Light Armored Vehicles (LAVs), and Advanced Amphibious Assault Vehicles (AAAVs). As a result, the range at which threat targets may be engaged without fear of misidentification regardless of battlefield obscurants will increase significantly and related incidents of fratricide will decline significantly.

FY 2004 (Plans): Initial FCT project tests will have been conducted under the Coalition Combat Identification (CCID) Advanced Concept Technology Demonstration (ACTD) Project at \$0.500 million in the ACTD Program Element in addition to the \$0.500 million shown above. Continue/complete testing to perform design verification to validate the design and performance characteristics against established requirements, to include: performance, environmental, vibration/shock, electromagnetic interference, reliability, and maintainability.

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	Service	FY 2003	FY 2004	FY 2005
Mortar Propellant	Army	0	0.639	0.532

This project will evaluate a high-performance Extruded-Impregnated (EI) propellant for long-range mortar systems developed by Rheinmetall/Nitrochemie Wimmis AG of Switzerland. Qualification of EI propellant will support the Army's Future Combat System requirements for a 15% increased range over current 120mm mortar systems, will eliminate use of a hazardous/toxic stabilizer, reduce blast overpressure, increase rate of fire, decrease gun tube wear, and increase propellant shelf life.

FY 2004 (Plans): Contract prep/award. Receive test items. Begin phase I initial test/evaluation.

FY 2005 (Plans): Complete phase I initial test/evaluation. Conduct/complete phase II qualification test/evaluation. Publish reports.

IPR decision.

	Service	FY 2003	FY 2004	FY2005
Naval Active Intercept and Collision Avoidance	Navy	0	0.667	0.851

This project will evaluate a system developed by Sonartech, to support the submarine force's number one priority of collision avoidance and situational awareness. The Australian system detects and localizes emissions from active sources such as sonar, sonabuoys, and active homing torpedoes using sensors already installed on US submarines. System functionality will be tested against the requirements for the AN/WLY-1 currently applicable to SSN688, SSN21, and

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SSN774 class submarines. It will prevent collisions with ships that have occurred in the past.

FY 2004 (Plans): Conduct FCT Kick-off meeting with program office and Sonartech (contractor). Obtain and analyze technical data on NAIRCAS hardware and software. Conduct meeting between NAIRCAS personnel and Active Intercept and Ranging (AI&R) personnel at the Washington Navy Yard. Conduct stand-alone test of the Naval Active Intercept and Ranging and Collision Avoidance System (NAIRCAS) followed by a test of a card set integrated into the A-RCI sonar system.

FY 2005 (Plans): Conduct two submarine test events and system integration tests. Measure parameters such as bearing, bearing rate, range, range rate, passive detection, false alarm, and false alert rates; gauge against US active intercept and ranging requirements. Test NAIRCAS system at various depth and sound velocity profile (SVP) conditions against multiple platform types. Integrate NAIRCAS functionality into the AN/BQQ-10 (V) (A-RCI) sonar system using PEO SUB (PMS 401) development and integrate funds as part of the established Advanced Processing Build (APB) and Technical Insertion (TI) process.

FY 2006 (Plans): Perform Follow-On Test and Evaluation (FOT&E) by the Commander of Operational Test and Evaluation Group (COMOPTEVFOR). Analyze and evaluate results of FOT&E to determine the effectiveness of NAIRCAS with respect to US active intercept and ranging requirements.

	Service	FY 2003	FY 2004	FY2005
Pitch Adaptive Composite Marine Propeller	Navy	0	0.500	1.064

This project will evaluate commercial Contur-series propeller developed by AIR Fertigung Technologies GmbH to improve submarine stealth. The propeller blades are designed to flex in a controlled manner under certain operating conditions, which causes a pitch modification that is claimed to improve vehicle stealth, speed, and propulsion efficiency. In addition, the

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pitch modification reduces cavitation damage, marine growth fouling, and permits in-water blade replacement. This advanced performance is enabled by the use of blades constructed from carbon fibers, instead of traditional metals.

FY 2004 (Plans): Gather information and specifications to develop the propeller blades to ensure compatibility with US Navy systems. Develop hydrodynamic and structural design of the new propeller for SSBN/SSGN.

FY 2005 (Plans): Acquire a series of Contur Series Propeller blades for evaluations in land-based facilities, and then on the Advanced Swimmer Delivery System (ASDS). Compare USN propeller design cavitation avoidance techniques against those claimed by the vendor. Determine the structural adequacy of the blade material and hub designs, and the non-cavitating acoustic performance anticipated. Determine whether the vendor's product is a viable alternative to the metal propeller that the USN will be developing. Receive test items: ASDS blades (1), ASDS propellers (2), and SSBN sized blades (3) Complete Test and Evaluation plan. Test Plan and evaluation will be completed. Conduct fatigue and water tunnel Large Cavitation Channel Technical tests 1 and 2 (This testing will enable measurement of radiated noise, cavitation avoidance, and unsteady forces as well as permit a long-term operation to demonstrate the durability of the material. Conduct LCC Technical test 3).

FY 2006 (Plans): Determine whether to order new propellers in FY 2007. Complete LCC Technical test 3. Complete ship installation and trial along with the FCT Close-out Report and Tech Data package.

	Service	FY 2003	FY 2004	FY 2005
Radarsat II Commercial High Resolution SAR	Air Force	0	0.556	0.511

This project will evaluate the ability of the Canadian Radarsat II, developed by MacDonald-

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Dettwiler, to provide all-weather imaging capability at 3 meter resolution for support of target detection, ocean surveillance, homeland defense, moving target indicators, and disaster response, as an upgrade when integrated with the Air Force's Eagle Vision Deployable Satellite Imagery Receiving and Processing Station. The Canadian Radarsat II satellite is the first commercially available high resolution synthetic aperture radar imaging capability.

FY 2004 (Accomplishments): Eagle Vision is an open architecture satellite ground station that will support the interface to Radarsat II with the existing hardware architecture. The FY04 effort will acquire the test article and integrate it into the system. The evaluation will include field operations to collect, process, the data received from Radarsat II to evaluate operational effectiveness and performance.

FY 2005 (Plans): Interface to the satellite, operator interface, quality and performance of the imagery products, and operational utility will be evaluated.

	Service	FY 2003	FY 2004	FY 2005
Barraratina Brina Custom	7 rmsz	0	0 883	0 7/15
Regenerative Drive System	Army	U	0.005	0.743

This project will evaluate for use in large vehicles, such as the Army's Family of Medium Tactical Vehicles, the capability of a hydraulic hybrid technology developed by Perma-Drive Technologies to recycle wasted power during vehicle deceleration and apply it to acceleration and braking. The Australian technology, which is easily retrofitted to most military truck platforms, captures normally wasted braking energy, stores it in the form of hydraulic pressure, and releases it to enhance dash capability and braking performance. This greatly enhances fuel economy and brake life. This is estimated to result in an overall O&S cost savings of over \$10,000 per truck, per year, over the life of the truck (typically over 20 years).

FY 2004 (Plans): Contract prep/award. Receive test items. Conduct/complete/report technical test/evaluation.

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FY 2005 (Plans): Conduct/complete/report operational test/evaluation. IPR decision.

	Service	FY 2003	FY 2004	FY 2005
Special Operations Forces (SOF) Combat Rifle	USSOCOM	0	0.834	0

This project will evaluate advanced 5.56mm rifles developed by FN Herstal of Belgium and Heckler and Koch GmbH of Germany, along with domestic sources, to meet requirements for a highly reliable and modular combat rifle for Special Forces as a replacement for the aging M4A1 carbine.

FY 2004 (Plans): Award contract for test samples; Obtain safety release and safety certification; Begin operational assessment.

FY 2005 (Plans): Complete operational assessment; Obtain Milestone C production decision.

	Service	FY 2003	FY 2004	FY 2005
Traveling Wave Tube Amplifier				
	USSOCOM	0	0.237	0.341

This project will evaluate alternative traveling wave tube amplifiers developed by ELTA Electronics, Inc. of Israel, Dornier Satellitensystems GmbH of Germany, and Thomson Tubes Electroniques (Thales) of France for use within the Joint Threat Warning System and Deployable Multi-Channels Satellite Communications (SATCOM) Systems. The objective of this project is to qualify additional sources of amplifiers in order to reduce SATCOM terminal cost and reduce program risk due to reliance on a single source.

FY 2004 (Plans): Award contract and procure test articles from one vendor; Conduct technical testing both as a stand alone unit and integrated into the SATCOM terminal.

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FY 2005 (Plans): Award contract and procure test articles from remaining two vendors; Conduct technical testing both as a stand alone unit and integrated into the SATCOM terminal; Prepare procurement decision package.

FY 2005 FCT Program Plans:

For FY 2005, the FCT program will continue testing activities on 29 projects executing \$18.669 million in FY 2005 funding. Services and USSOCOM are currently developing their requirements for the FY 2005 New Start selection process, which began January 2004. The final selection of the FY 2005 New Start Projects will be determined in August 2004. FY 2005 funding totaling \$16.964 million will support the initiation of these selections. The selected FY 2005 New Start projects will be addressed in a formal notification letter submission to Congress in August 2004.

(U) PROGRAM CHANGE SUMMARY:

C. **(U) OTHER PROGRAM FUNDING** NA

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