ARMY RDT&E BUDGET ITEM JUSTIFICATION (R-2 Exhibit)

February 2003

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
6 - Management support	**0605605A - DOD High Energy Laser Test Facility**	**E97**

COST (In Thousands)	FY 2002 Actual	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate
E97 DOD HELSTF	22445	16679	17806	17999	18170	18599	19033	19472

A. Mission Description and Budget Item Justification: The High Energy Laser Systems Test Facility (HELSTF) provides a one-of-a-kind, broad based high energy laser (HEL) test and evaluation capability which directly supports testing of laser variants of the Future Combat System (FCS). Specifically, HEL weapons may be part of the Extended Area Air Defense (EAAD) system, a key component of the Objective Force supporting Full Dimensional Protection. Candidate HEL programs include Mobile Tactical High Energy Laser (MTHEL) and Solid State Heat Capacity Laser (SSHCL). HELSTF is the HEL T&E facility within the DoD Major Range and Test Facility Base (MRTFB) and supports Tri-Service HEL research and development, and damage, vulnerability, propagation, and lethality laser testing, and HEL weapon developmental and operational test and evaluation (DTE&OTE). The HELSTF's laser development support capabilities include a certified HEL test range, a fully integrated laser support facility, an extensive array of fully instrumented test sites, full laser meteorological support, and the only site for above-the-horizon dynamic HEL testing certified for predictive avoidance by the Laser Clearing House. HELSTF's location on White Sands Missile Range (WSMR) provides unparalleled testing flexibility because of WSMR's 3200 square miles of controlled land mass and 7000 square miles of controlled airspace. Additionally WSMR has a wide variety of radar and optics facilities and expertise that can support testing at HELSTF. HELSTF facilities include the Sea Lite Beam Director (SLBD), the Mid-Infrared Advanced Chemical Laser (MIRACL), the Laser Demonstration Device (LDD), the 10KW SSHCL testbed the THEL static test site, and the Low Power Chemical Laser (LPCL). HELSTF supports the Pulsed Laser Vulnerability Test System. This multiple use facility supports testing of laser effects for targets ranging from material coupon testing up through full-scale static and dynamic targets. HELSTF has embarked on its own transformation to develop state-of-the-art HEL diagnostic capabilities, data reduction, and a mobile HEL diagnostic test suite to support DTE and OTE for potential HEL weapons in the Army Objective Force in all relevant combat environments. HELSTF will also develop digitized scene generation capability, distributed training and testing capability, a live/virtual constructive test environment and open-architecture data links as part of the Army 21st Century Range. Another major upgrade will include a Battle-Management, Command, Control, Communication, Computer and Intelligence (BMC4I) Testbed. This capability is critical for DTE and OTE since modern HEL weapons will be software driven. HELSTF plans further include a high power free electron level testbed, which will operate a variety of HEL weapon lasing frequencies. This modernization will create a more efficient and versatile HEL T&E facility, which will also benefit the development of other Service solutions using HEL technologies. This PE provides support for all transition paths of the Transformation Campaign Plan.

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Accomplishments/Planned Program	FY 2002	FY 2003	FY 2004	FY 2005
Perform operation, maintenance and base operations support functions in support of the Army, Department of Defense and other agencies conducting high energy laser systems concept development studies and test and evaluation on candidate high energy laser weapons systems (THEL, Mobile-THEL, SOCOM Advanced Tactical Laser (ATL), Air Force Airborne Laser, Navy HEL Low Aspect Target Tracking (HEL-LATT), other laser programs). Continue lethality testing experiments using 10KW flash lamp pumped SSHCL in accordance with the lethality and propagation test program and support SMDC Technical Center lethality and propagation testing. Continue safety and control system upgrades to integrate other HEL technologies, and development of a mobile HEL diagnostic capability. Repair SLBD to support Navy HEL-LATT testing. Initiate pressure vessel certification and communications upgrades. Conduct a variety of tracking tests with SLBD to support SMDC, USAF and MDA (formerly BMDO)missions.	18294	16679	17806	17999
Continued Solid State Laser (SSL) Program.	4151	0	0	0
Totals	22445	16679	17806	17999

B. Program Change Summary	FY 2002	FY 2003	FY 2004	FY 2005
Previous President's Budget (FY 2003)	23188	14410	17173	17622
Current Budget (FY 2004/2005 PB)	22445	16679	17806	17999
Total Adjustments	-743	2269	633	377
Congressional program reductions				
Congressional rescissions		-340		
Congressional increases		3150		
Reprogrammings	-129	-96		
SBIR/STTR Transfer	-614	-445		
Adjustments to Budget Years			633	377

FY2003: Congressional increases for Sealite Camera Upgrade ($1050) and Infrastructure upgrades ($2100) to HELSTF.