ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

May 2009

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

COST (In Thousands)	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate
E97 DOD HELSTF	8394	6813	2891

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 Systems (FCS). Specifically, HEL weapons will play a major role in the Counter Rockets, Artillery and Mortars (CRAM) initiative and can be a key component of the Future Force supporting Full Dimensional Protection. HELSTF is part of the Department of Defense (DoD) Major Range and Test Facility Base (MRTFB) and supports Tri-Service HEL research and development to include damage, vulnerability, propagation, and lethality laser testing as well as HEL weapon developmental and operational test and evaluation (DTE&OTE). The HELSTF's laser development support capabilities include a fully certified open-air HEL test range, test cells for bringing breadboard to brassboard test devices, fully integrated Command, Control, Communications & Intelligence (C3I) systems and a suite of beam directors to perform both static and dynamic tracking tests. Other capabilities include an extensive array of fully instrumented test sites, full laser meteorological support, and an approved 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. This location also enables HELSTF to leverage the existing WSMR T&E infrastructure. Current HELSTF facilities include the Sea Lite Beam Director (SLBD), the Mid-Infrared Advanced Chemical Laser (MIRACL), the Large Vacuum Chamber (LVC) with associated Vacuum Test System (VTS), the Solid State Laser testbed, the Tactical High Energy Laser (THEL) testbed, and the Low Power Chemical Laser (LPCL). This multiple use facility supports testing of laser effects for targets ranging from material coupon testing up through full-scale static and dynamic targets, explosive targets, and testing of targets in a high altitude space environment. HELSTF has embarked on its own modernization to fully upgrade its mission control systems, 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 Future Force in all relevant combat environments.

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6 - Management support	**0605605A - DOD High Energy Laser Test Facility**

B. Program Change Summary	FY 2008	FY 2009	FY 2010
Previous President's Budget (FY 2009)	8746	2835	2874
Current BES/President's Budget (FY 2010)	8394	6813	2891
Total Adjustments	-352	3978	17
Congressional Program Reductions	-56	-22	
Congressional Rescissions			
Congressional Increases		4000	
Reprogrammings	-52		
SBIR/STTR Transfer	-244		
Adjustments to Budget Years			17

Change Summary Explanation: Funding - FY 2009 - $4.000 million increase for congressional add.

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

May 2009

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

COST (In Thousands)	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate
E97 DOD HELSTF	8394	6813	2891

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Accomplishments/Planned Program:	FY 2008	FY 2009	FY 2010
In FY 2008 continued to perform operation, maintenance and base operations support functions in support of the Army, Department of Defense and other agencies (Missile Defense Agency (MDA) MUDPACK program, Special Operations Command (SOCOM) Advanced Tactical Laser (ATL), Air Force Airborne Laser (ABL) program, Full Scale Airflow Static Test (FAST) program, the US Army Space & Missile Defense Command (USASMDC) Technical Center High Energy Laser Technology Demonstrator (HEL-TD) program, and other laser programs. Conducted a variety of tracking tests with SLBD to support USASMDC, U.S. Air Force (USAF) and MDA missions. Continued development of the Solid State Laser Lethality Test bed and Solid State Laser Transition Test bed based on the ex-THEL Pointer-Tracker System (THEL-PTS) in FY2008. In FY 2009-2011, HELSTF will continue to provide limited support to the Laser T&E programs of all Services and DoD Agencies using the Solid State Laser (SSL) Lethality Test bed and the SSL Transition Test bed. Projected test to be supported include the Joint High Power Solid State Laser Program, a 100Kw solid state laser device to be housed at HELSTF for lethality and dynamic testing, a series of Relay Mirror experiments for the Air Force and numerous low power Counter Rocket and Mortar (CRAM) type laser systems for close in engagements.	8394	6660	2891
Small Business Innovative Research / Small Business Technology Transfer Programs.		153	
Total	8394	6813	2891