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

February 2003

BUDGET ACTIVITY	PE NUMBER AND TITLE
3 - Advanced technology development	**0603734A - Military Engineering Advanced Technology**

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
	Total Program Element (PE) Cost	4554	13696	3441	3926	5448	6108	6256	6399
T08	COMBAT ENG SYSTEMS	4554	2783	3441	3926	5448	6108	6256	6399
T13	STATIONARY FUEL CELL TECHNOLOGIES	0	10913	0	0	0	0	0	0

A. Mission Description and Budget Item Justification: The objective of this project is to mature and demonstrate advanced military engineering technologies that support the Objective Force by improving capability to conduct logistics-over-the-shore (LOTS) operations in support of the Army's force projection goals. The inability to operate in rough seas and over soft beaches currently limits LOTS operations. A Rapidly Installed Breakwater (RIB) mitigates severe seas to permit off-loading ships, and mechanical reinforcement stabilizes the beach to permit traffic passage across the beach. Joint Rapid Airfield Construction (JRAC) technologies will support the expedient upgrading of existing airfields and rapid construction of new contingency airfields. Current construction technologies take too long. JRAC's terrain based site selection algorithms, computer assisted construction equipment, and fast curing soil stabilization chemical technologies support Army force projection goals. The time required to double the throughput of a minimal airfield will be reduced from four to two days. The cited work is consistent with the Army Science and Technology Master Plan (ASTMP) and the Army Modernization Plan. The program element contains no duplication with any effort within the Military Departments. Work is performed by the U.S. Army Engineer Research and Development Center. This program supports the Objective Force transition path of the Transformation Campaign Plan.

No Defense Emergency Response Funds have been provided to the program.

B. Program Change Summary	FY 2002	FY 2003	FY 2004	FY 2005
Previous President's Budget (FY 2003)	4705	2921	10004	8831
Current Budget (FY 2004/2005 PB)	4554	13696	3441	3926
Total Adjustments	-151	10775	-6563	-4905
Congressional program reductions				
Congressional rescissions		-200		
Congressional increases		11450		
Reprogrammings	-20	-79		
SBIR/STTR Transfer	-131	-396		
Adjustments to Budget Years			-6563	-4905

Change Summary Explanation:
Significant Changes:
FY 2004/2005: Funds realigned to PE 63125, Project DF1 to fund Base Camp Protection and Survivability requirements.

FY03 Congressional Adds:
DoD Fuel Cell Test and Evaluation Center, Project T13 ($5950); Canola Oil Fuel Cell, Project T13 ($1000); Solid Oxide Fuel Cell Development, Project T13 ($4500).

Projects with no R2-As:
- ($11450) Stationary Fuel Cell Technologies, Project T13: The objective of these one year Congressional adds is to test, demonstrate and validate fuel cell systems for military and civil stationary power applications. Projects funded include the DoD Fuel Cell Test and Evaluation Center ($5950); Canola Oil Fuel Cell ($1000); and Solid Oxide Fuel Cell Development ($4500).

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

February 2003

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
3 - Advanced technology development	**0603734A - Military Engineering Advanced Technology**	**T08**

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
T08	COMBAT ENG SYSTEMS	4554	2783	3441	3926	5448	6108	6256	6399

A. Mission Description and Budget Item Justification: The objective of this project is to mature and demonstrate advanced military engineering technologies that support the Objective Force by improving capability to conduct logistics-over-the-shore (LOTS) operations in support of the Army's force projection goals. The inability to operate in rough seas and over soft beaches currently limits LOTS operations. A Rapidly Installed Breakwater (RIB) mitigates severe seas to permit off-loading ships, and mechanical reinforcement stabilizes the beach to permit traffic passage across the beach. Joint Rapid Airfield Construction (JRAC) technologies will support the expedient upgrading of existing airfields and rapid construction of new contingency airfields. Current construction technologies take too long. JRAC's terrain based site selection algorithms, computer assisted construction equipment, and fast curing soil stabilization chemical technologies support Army force projection goals. The time required to double the throughput of a minimal airfield will be reduced from four to two days. The cited work is consistent with the Army Science and Technology Master Plan (ASTMP) and the Army Modernization Plan. The program element contains no duplication with any effort within the Military Departments. Work is performed by the U.S. Army Engineer Research and Development Center. This program supports the Objective Force transition path of the Transformation Campaign Plan.

No Defense Emergency Response Funds have been provided to the program.

Accomplishments/Planned Program	FY 2002	FY 2003	FY 2004	FY 2005
Enhanced Coastal Trafficability and Sea State Mitigation – In FY02, performed field demonstrations to include: fabrication of additional interchangeable RIB segments and mooring system; deployment of full-scale partial-length RIB and mooring system; and deployment/recovery of RIB by barge system.	4554	0	0	0
Joint Rapid Airfield Construction – In FY03, select promising new construction technologies to enhance airfield construction productivity and determine stabilizer technologies suitable for rapid stabilization of unsurfaced airfields. In FY04, demonstrate advanced airfield construction technologies for C-130 operations. In FY05, integrate advanced performance models and terrain data in airfield site selection.	0	2783	3441	3926
Totals	4554	2783	3441	3926