ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2004

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604716A - TERRAIN INFORMATION - ENG DEV**	**579**

COST (In Thousands)		FY 2003 Actual	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost
579	FIELD ARMY MAP SYS ED	8092	6905	3199	4348	4000	3740	3745	Continuing	Continuing

A. Mission Description and Budget Item Justification: This Project funds development of the Digital Topographic Support System (DTSS)-L (HMMWV), DTSS-D (COTS, Transportable), DTSS-B (COTS, Garrison) and HVMP. The traditional terrain analysis, topographic and reproduction support provided by Army Engineer Terrain Teams is a slow, labor intensive process that does not meet the needs of the digital battlefield. Current force CTIS systems provide the commander the ability to rapidly obtain terrain information and topographic products. The DTSS provides digital terrain analysis and map updates to commanders and weapons platforms in support of mission planning (e.g., imagery exploitation, Cover and Concealment, other IPB), rehearsal (e.g., 3D fly through, simulations) and execution (e.g., Common Tactical Picture, route planning). The DTSS automates terrain analysis and visualization, data base (development, updating, management, and dissemination), and graphics reproduction. The Combat Terrain Information Systems (CTIS) Modernization Plan emphasizes the development of a combined, integrated, tactically deployable, fully autonomous terrain analysis and graphics reproduction capability. These capabilities are being provided in HMMWV shelterized (DTSS-L) and transit case (DTSS-D) configurations. The DTSS-L is highly mobile and capable of supporting a full range of military operations, as well as peacetime stability and support operations. The DTSS-L has been Type Classified-Standard. The DTSS-D provides a Commercial Off the Shelf (COTS) configuration that is capable of operating all of the terrain analysis software. The DTSS-D consists of transportable workstations and peripherals that can be set up to augment the tactical configurations. The DTSS-D does not include tactically deployable shelters and vehicles or tactical communications. The DTSS-D has been Type Classified-Standard. The DTSS-B was procured in response to a USAEUR initiative to develop the capability to generate terrain information over sparsely mapped areas to support contingency, mission rehearsal and training operations. The DTSS-B is designed to augment NIMA capabilities at the EAC level by providing quick response data generation, special purpose mapping, terrain analysis, and data baseing. The DTSS-B currently includes a Top Secret - SCI component that is capable of handling national technical means information in a secure environment. The DTSS-B has been Type Classified-Standard. The HVMP provides a tactical capability to rapidly reproduce large volumes of topographic materiel. HVMPs are capable of reproducing information from a variety of digital and hardcopy sources via direct digital interfaces. CTIS systems are deployed from Brigade through Echelon above Corps (EAC). Additionally, an institutional training classroom environment has been developed and integrated into the curriculum at the National Geospatial/Intelligence School (NGS)(formerly Defense Mapping School). NGS provides critical MOS specific training on the operation and use of CTIS developed systems. Products developed as part of the CTIS RDT&E program (e.g., improved Battle Command Systems interoperability, migration to Joint Technical Architecture - Army (JTA-A) and Common Operating Environment (COE), improved data base management and distribution, automated feature extraction, improved tactical decision aid functionality, rapid terrain visualization, battlefield terrain reasoning (BTRA), migration to Distributed Common Ground Station - Army (DCGS-A) architecture, improved graphics reproduction) are being incorporated into all of the DTSS hardware and software architectures. Additionally, the Current Force Topographic Support System (TSS) is outdated and must be modernized to keep pace with Army digitization. The modernization initiatives associated with the TSS include updating the Operations, Distribution and Photomechanical Sections with computer workstations, copiers and printers. The Survey section will be downsized to a HMMWV configuration and the Drafting section will be updated to include digital cartographic equipment. This system supports the Current-to-Future Force transition path of the Transformation Campaign Plan (TCP).

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Accomplishments/Planned Program	FY 2003	FY 2004	FY 2005
Continue P3I development for DTSS - TDA enhancements (route/region LOS, terrain reasoning, mobility enhancements), map server/data dissemination improvements, semi-automated feature extraction, metadata standardization	7402	0	0
ABCS Systems Engineering & Integration (SE&I)	140	0	0
Complete SDD for HVMP	250	0	0
Initiate upgrade analysis for DTSS-L	300	0	0
Continue P3I development for DTSS - Enhanced 3-D terrain visualization, semi-automated feature extraction, data conflation, Hydrology, Battlefield Terrain Reasoning and Assessment (BTRA) enhancements, Urban(MOUT) TDAs and improved data base design (seamless enterprise database)	0	5405	0
Complete development of MCS-Engineer	0	1500	0
Continue P3I development for DTSS - Initiate transition of functionality to DCGS-A, continue investigation of COTS upgrades, continue improvement of coalition/joint interoperability.	0	0	3199
Totals	8092	6905	3199

B. Program Change Summary	FY 2003	FY 2004	FY 2005
Previous President's Budget (FY 2004)	8096	6977	5965
Current Budget (FY 2005 PB)	8092	6905	3199
Total Adjustments	-4	-72	-2766
Congressional program reductions		-65	
Congressional rescissions			
Congressional increases			
Reprogrammings	-4	-7	
SBIR/STTR Transfer			
Adjustments to Budget Years			-2766

FY05: (-)$2715K, Funds realigned to higher priority requirements.

C. Other Program Funding Summary	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	ToCompl	TotalCost
OPA - KA2550 - Digital Topographic Support System (DTSS)	16208	12907	9138	3058	14495	17668	13934	Continue	Continue

D. Acquisition Strategy: The Acquisition Strategy for the Digital Topographic Support System (DTSS) - Light EMD phase was to utilize Army standard equipment and the Common Hardware/Software (CHS) computer workstations in conjunction with non-development item (NDI) components to develop an integrated baseline hardware configuration. The previous Combat Terrain Information Systems (CTIS) System Engineering and Integration (SE&I) contractor (Lockheed Martin Corp) executed the EMD phase, performing system integration, and provided units for formal test and evaluation. Milestone III for the DTSS-L was successfully completed in Jan 98. Production of the DTSS-L commenced in February 1999. Funding to support technology refreshment of the DTSS-H (DTSS-L will replace the DTSS-H in FY02/03)and DTSS-L has been programmed on a 5-yr. cycle. Acquisition of the DTSS-D and DTSS-B was completed in FY 1995 and FY 1996, respectively. Based upon Combatant Commanders, TRADOC and PEO C3S User Evaluation approvals, the DTSS-D was Type Classified - Standard and added to the gaining unit's Table of Organization and Equipment. Funding to support a 5-yr. technology refreshment program for the DTSS-D commenced in FY 2000 and for the DTSS-B commenced in FY 2002. The DTSS-B has also been Type Classified-Standard. The acquisition of the DTSS-D and DTSS-B relied upon existing contracts and commercial-off-the-shelf to the fullest extent possible. The Project Office will continue with this strategy for all technology refreshment programs. The HVMP Acquisition Strategy utilizes COTS and NDI components integrated with Army standard hardware (e.g., trucks, shelters, power equipment) to develop an integrated baseline. The pre-planned product improvement program (P3I) will be executed with the current SE&I contractor (Northrup Grumman, Inc.). The contracting strategy for the DTSS-Light program was to execute the EMD phase through the previous SE&I contractor, Lockheed Martin Corporation. A Competitive Cost Plus Fixed Fee (CPFF) contract was awarded for both the previous and existing CTIS SE&I contracts. A competitively awarded, Firm Fixed Price (FFP) contract was awarded to Sechan Electronics, Inc. for the Full Rate Production of the DTSS-Light. The HVMP contracting strategy is to execute the System Design and Demonstration (SDD) phase through the current SE&I contractor. A competitively awarded FFP contract was awarded to Sechan Electronics for the Full Rate Production of the HVMP. The computer workstations for CTIS programs are being procured, where appropriate, through the project manager for CHS.

ARMY RDT&E COST ANALYSIS(R3)

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I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2003 Cost	FY 2003 Award Date	FY 2004 Cost	FY 2004 Award Date	FY 2005 Cost	FY 2005 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a . Primary Hardware Development	C/CPFF C/CPFF	Loral Corp, OH Lockheed Martin, PA	23280	0		0		0		0	23280	23280
b . Primary Hardware Development	C/CPFF	Northrup Grumman, Chantilly, VA	3295	700	1Q	1110	1-4Q	0		Continue	5105	Continue
c . ABCS SE&I	MIPR	PEO C3S, Ft. Monmouth, NJ	150	140	1Q	0		0		0	290	290
Subtotal:			26725	840		1110		0		Continue	28675	Continue

II. Support Cost	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2003 Cost	FY 2003 Award Date	FY 2004 Cost	FY 2004 Award Date	FY 2005 Cost	FY 2005 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a . Software Development	C/CPFF	Loral Corp, OH Lockheed Martin, PA	34919	0		0		0		0	34919	34919
b . Software Development	C/CPFF	Northrup Grumman, Chantilly, VA	14070	4363		0		0		0	18433	18461
c . Software Development	C/CPFF	Northrup Grumman, Chantilly, VA	0	1500	3Q	4401	1-4Q	1574	1-4Q	Continue	7475	Continue

ARMY RDT&E COST ANALYSIS(R3)

February 2004

BUDGET ACTIVITY
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II. Support Cost (continued)	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2003 Cost	FY 2003 Award Date	FY 2004 Cost	FY 2004 Award Date	FY 2005 Cost	FY 2005 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Subtotal:			48989	5863		4401		1574		Continue	60827	Continue

III. Test and Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2003 Cost	FY 2003 Award Date	FY 2004 Cost	FY 2004 Award Date	FY 2005 Cost	FY 2005 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a . Acceptance Testing	MIPR	AEC	755	0		0		250	3Q	Continue	1005	Continue
Subtotal:			755	0		0		250		Continue	1005	Continue

IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2003 Cost	FY 2003 Award Date	FY 2004 Cost	FY 2004 Award Date	FY 2005 Cost	FY 2005 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a . Contractor Eng Support	MIPR	MITRE, McLean, VA	5217	0	1Q	0		0		Continue	Continue	Continue
b . Government Eng Support	MIPR	Various	16728	100	1Q	100	1Q	100	1Q	Continue	Continue	Continue
c . Program Mgmt Support*	Delivery Orders	Various	2855	171	1Q	175	1Q	175	1Q	Continue	Continue	Continue

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BUDGET ACTIVITY
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IV. Management Services (continued)	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2003 Cost	FY 2003 Award Date	FY 2004 Cost	FY 2004 Award Date	FY 2005 Cost	FY 2005 Award Date	Cost To Complete	Total Cost	Target Value of Contract
d . Program Mgmt Personnel	MIPR	TEC, Ft. Belvoir, VA	11780	1118	1-4Q	1119	1-4Q	1100	1-4Q	Continue	Continue	Continue
Subtotal:			36580	1389		1394		1375		Continue	Continue	Continue

Remarks: *This category primarily covers Office Automation

Project Total Cost:			113049	8092		6905		3199		Continue	Continue	Continue

Schedule Profile (R4 Exhibit)

February 2004

BUDGET ACTIVITY
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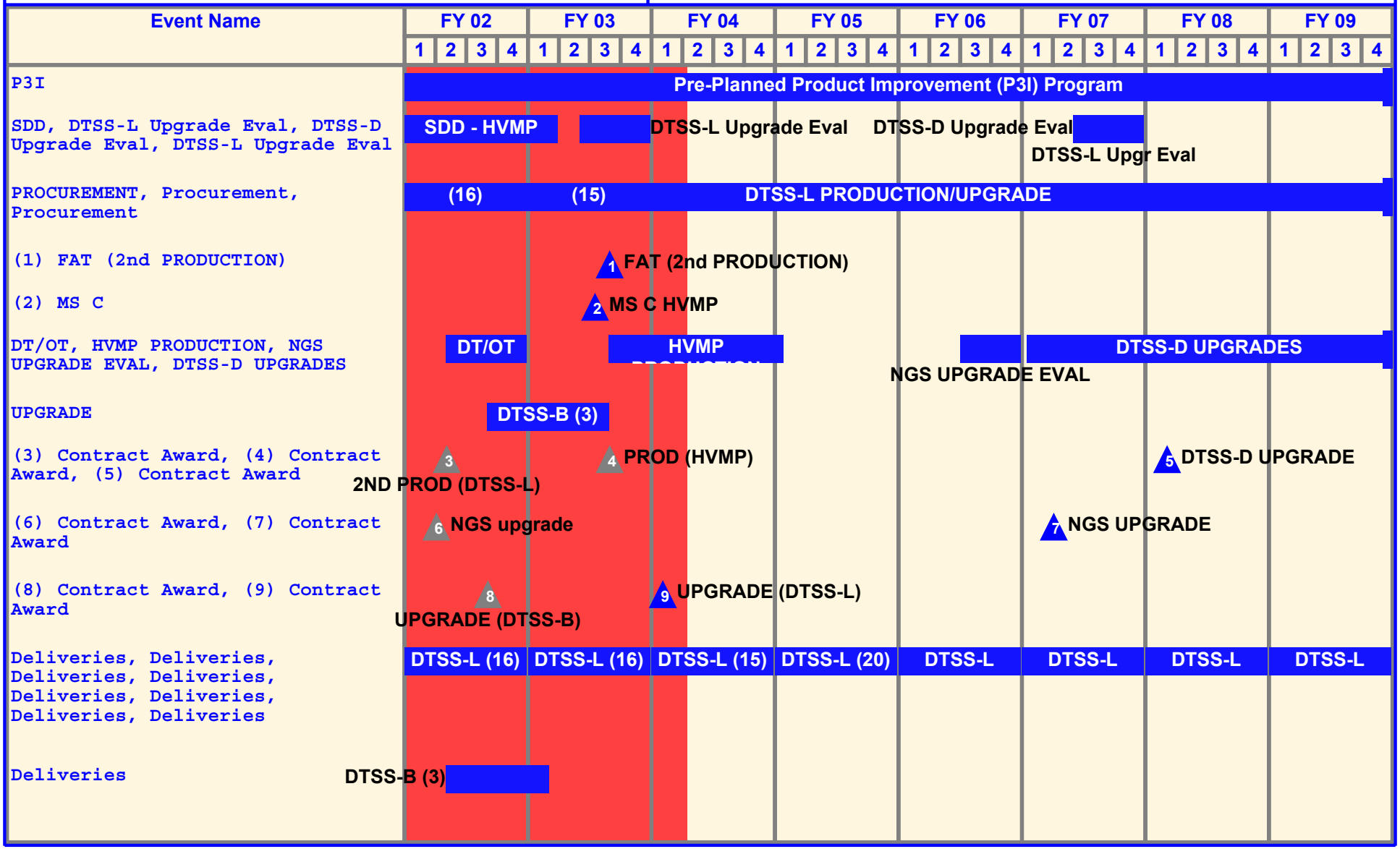

Schedule Detail (R4a Exhibit)

February 2004

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Schedule Detail	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Award DTSS-L Production Contract/Options	1Q						
DTSS-L Production	1-4Q						
Continue DTSS P3I Program	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q
Field DTSS-L	3-4Q	3-4Q					
Technology Refreshment and Fielding of DTSS-D					3-4Q	1-2Q	
Technology Refreshment and Fielding of DTSS-B						1-3Q	
Continue SDD for HVMP (initiated in FY01)	1Q						
Milestone III for HVMP	3Q						
Production of HVMP	3-4Q	1-2Q					
Field DTSS Build 8.0 Software	2Q						
Technology Refreshment of DTSS-L		2-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q
Conduct Technology Refreshment of Institutional Training Classroom (DTSS-L)					1-2Q		
Technology Refreshment of HVMP						1-4Q	1-4Q