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ARMY RDT&E BUDGET ITEM JUSTIFICATION (R-2 Exhibit)	DATE February 2000
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BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604713A Combat Feeding, Clothing, and Equipment
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<i>COST (In Thousands)</i>	FY 1999 Actual	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	Cost to Complete	Total Cost
Total Program Element (PE) Cost	62500	60600	86321	66189	68738	67227	47653	Continuing	Continuing
DC40 Soldier Support Equipment	1555	4511	5871	9197	12488	13965	14299	Continuing	Continuing
DL40 Clothing and Equipment	4121	3505	4266	4542	4558	5126	5114	Continuing	Continuing
D548 Military Subsistence System	1194	1620	1747	1856	1863	1979	1976	Continuing	Continuing
D667 Land Warrior	43385	36411	60132	36547	35718	29736	9895	Continuing	Continuing
D668 Soldier Enhancement Program	12066	14360	14305	14047	14111	16421	16369	Continuing	Continuing
D680 Mounted Warrior	179	193	0	0	0	0	0	0	372

A. Mission Description and Budget Item Justification: Project supports Engineering and Manufacturing Development (EMD) and Non-Developmental Item (NDI) evaluation of unit/organizational equipment, weapons/munitions, clothing and individual equipment, fabric shelters, field service equipment, food and food service equipment to enhance soldier efficiency, effectiveness, lethality, sustainability and survivability. New food items and food service equipment will be developed to reduce food service logistics requirements for all four Services. The organizational equipment program supports development of a new generation of field device support items: small, large and collective protective shelters; decontamination items; and improved space heaters to shelter and sustain the soldiers in the field and improve quality of life. The Land Warrior program will produce the first fully integrated fighting system for dismounted combat soldiers. The Soldier Enhancement Program provides soldier items that can be procured in three years or less.

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B. Program Change Summary			
	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>
Previous President's Budget (<u>FY 2000/2001</u> PB)	67674	110829	136899
Appropriated Value	68218	60829	
Adjustments to Appropriated Value			
a. Congressional General Reductions	-544		
b. SBIR / STTR	-2192		
c. Omnibus or Other Above Threshold Reductions		-229	
d. Below Threshold Reprogramming	-2642		
e. Rescissions	-340		
Adjustments to Budget Years Since <u>FY 2000/2001</u> PB			-50578
Current Budget Submit (<u>FY 2001</u> PB)	62500	60600	86321
<p>Change Summary Explanation: Funding – FY 2001: Program reduction (-50578) due to program restructure and change in acquisition strategy for the Land Warrior Program, project (D667), thereby deferring the Mounted Warrior project (D680).</p>			

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BUDGET ACTIVITY 5 - Engineering and Manufacturing Development				PE NUMBER AND TITLE 0604713A Combat Feeding, Clothing, and Equipment				PROJECT DC40		
COST (In Thousands)	FY 1999 Actual	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	Cost to Complete	Total Cost	
DC40 Soldier Support Equipment	1555	4511	5871	9197	12488	13965	14299	Continuing	Continuing	
<p>A. <u>Mission Description and Budget Item Justification:</u> Develop and field soft shelters, showers, latrines, heaters, mortuary affairs, organizational equipment and other combat service support equipment to improve unit sustainability and combat effectiveness. Develop and transition to procurement cargo and personnel parachutes, airdrop containers and other aerial delivery equipment to improve safety and efficiency of airborne operations. Develop a series of Rigid Wall Shelters (RWS) with added capabilities and enhanced survivability.</p> <p>FY 1999 Accomplishments:</p> <ul style="list-style-type: none"> • 300 Type Classified the Modular General Purpose Tent System. Built Modular General Purpose Tent System (MGPTS) P3I test prototype. • 832 Awarded contract for commercial Aviation Maintenance Shelter and associated support items. • 150 Type Classified Laundry Advanced System to transition to production phase. • 221 Conducted Technical and Operational Testing on the Containerized Shower and Type Classified the system. • 52 Procured prototypes, conducted Technical Testing, and developed performance specification for Space Heater Small. Conducted study of heating requirements for new Modular General Purpose Tent System. <p>Total 1555</p> <p>FY 2000 Planned Program:</p> <ul style="list-style-type: none"> • 2245 Terminate the existing R&D contract for the Advanced Reserve Parachute System. Perform a Jump-off for new R&D ARPS Contract. • 125 Conduct Milestone I/II on the Space Heater Small. Award LRIP contract and obtain Materiel Release for Space Heater Convective. • 175 Procure and evaluate candidates for Chaplain's Logistic Support Package and Conduct Technical Testing. • 500 Acquire and begin testing Modular General Purpose Tent System P3I Items (fabric flooring, frame system, liners). • 1000 Complete Field Evaluations, procure additional LRIP items. Complete Milestone III for Cargo Bed Covers Type I (HMMWV) and Type II (1.5 ton cargo trailer) and obtain Material Release. • 430 Conduct Market Investigation and evaluate technologies for the Lightweight Maintenance Enclosure P3I and Temper Improvements. • 36 Small Business Innovation Research/Small Business Technology Transfer (SBIR/STTR) Program <p>Total 4511</p>										
Project DC40			Page 3 of 27 Pages				Exhibit R-2A (PE 0604713A)			

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BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604713A Combat Feeding, Clothing, and Equipment	PROJECT DC40
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FY 2001 Planned Program:

- 2437 Conduct Developmental Testing of Advanced Reserve Parachute System/Advanced Tactical Parachute System.
 - 300 Conduct Operational Testing and award LRIP contract for Chaplain's Logistic Support Package. Obtain Milestone III Type Classification Standard.
 - 450 Conduct Market Investigation, procure test prototypes and initiate technical testing for the Containerized Chapel.
 - 500 Conduct Production Demonstration Model First Article Test Evaluation and Production Verification Testing and Type Classify the Space Heater Small.
 - 1313 Complete testing and field evaluations of prototype developments of Modular General Purpose Tent System P3I.
 - 450 Procure prototypes and integrate airbeam technology and composite technical data for the Lightweight Maintenance Enclosure P3I and Temper Improvements.
 - 421 Conduct Market Investigation on the Low Velocity Airdrop System and perform concept testing.
- Total 5871

B. Other Program Funding Summary	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	To Compl	Total Cost
RDTE, 0603747.DC09, Unit/Org Equipment	1450	5564	6703	8878	11858	13040	13202	Cont	Cont
M82701, Laundry Advance System	7121	7880	12580	13224	18902	7161		Cont	Cont
M82703, Containerized Self-Service Laundry		976							
M82704, Containerized Shower		946		1258	1158	1231			
M82706, Follow-On Latrine				905	664	870			
MA7801, Advanced Tactical Parachute System					27894				
MA7802, Extraction Parachute Jettison Device		2381							
MA7805, Universal Static Line		976	3971						
MA8061, Lightweight Maintenance Enclosure		3690	1999	5613	6708	6424	6418		

C. Acquisition Strategy: Various Combat Service Support equipment is incorporated for Low Rate Initial Production (LRIP) for accelerated production.

D. Schedule Profile	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2004</u>	<u>FY 2005</u>
Type Classify Laundry Advanced System	2Q*								
Conducted Technical and Operational Testing on Containerized Shower	1Q*								
Developed frame and floor Modular General Purpose Tent System P3I	4Q*								

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BUDGET ACTIVITY 5 - Engineering and Manufacturing Development				PE NUMBER AND TITLE 0604713A Combat Feeding, Clothing, and Equipment				PROJECT DC40		
D. Schedule Profile	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2004</u>	<u>FY 2005</u>	
Award contract for AMS Shelter	3Q*									
Type Classified Containerized Shower	4Q*									
Type Classify Modular General Purpose Tent System	4Q*									
Conduct Milestone I/II for the Space Heater Convective		1Q								
Award LRIP contract for Space Heater Small		2Q								
Conduct Technical Testing of the Chaplancy Logistical Support Package		3Q								
Complete Milestone III for Cargo Bed Covers Type I (HMMWV) and Type II (1.5 ton trailer) variants		2Q								
Award LRIP Contract for the Chaplancy Logistical Support Package			2Q							
Complete Milestone III for the Chaplancy Logistical Support Package			4Q							
Conduct Developmental Testing of the Advanced Reserve Parachute System/Advanced Tactical Parachute System			3Q							
Conduct Field Evaluation for the Lightweight Maintenance Enclosure P3I and Temper Improvements			3Q							
Type Classify Space Heater Small			4Q							

*Milestone Completed

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ARMY RDT&E COST ANALYSIS (R-3)										DATE February 2000		
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development					PE NUMBER AND TITLE 0604713A Combat Feeding, Clothing, and Equipment					PROJECT DC40		
I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	<u>FY 1999</u> Cost	<u>FY 1999</u> Award Date	<u>FY 2000</u> Cost	<u>FY 2000</u> Award Date	<u>FY 2001</u> Cost	<u>FY 2001</u> Award Date	Cost To Complete	Total Cost	Target Value of Contract
a. SSCOM	In-House	NRDEC	2158	364		359		654		2522	6057	
b. Contracts	Various	Various	8858	601		754	Various	1392	Various	9606	21211	Cont.
c. Inflation Withhold										6	6	
Subtotal Product Development:			11016	965		1113		2046		12134	27274	
<p>II. Support Costs: There are no efforts associated with the delivery of any of a fully integrated system that are in direct support of this project and essential to the development, training, operation, and maintenance of systems in this project.</p>												
III. Test and Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	<u>FY 1999</u> Cost	<u>FY 1999</u> Award Date	<u>FY 2000</u> Cost	<u>FY 2000</u> Award Date	<u>FY 2001</u> Cost	<u>FY 2001</u> Award Date	Cost To Complete	Total Cost	Target Value of Contract
a. TECOM/OEC	MIPR	Various	4051	500		3220	Various	3537	Various	4551	15859	Cont
Subtotal Test and Evaluation:			4051	500		3220		3537		4551	15859	
IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	<u>FY 1999</u> Cost	<u>FY 1999</u> Award Date	<u>FY 2000</u> Cost	<u>FY 2000</u> Award Date	<u>FY 2001</u> Cost	<u>FY 2001</u> Award Date	Cost To Complete	Total Cost	Target Value of Contract
a. PM Office	In-House	PM-Soldier Support/SSCOM	1472	90		178		288		1562	3590	Cont.
Subtotal Management Services:			1472	90		178		288		1562	3590	
Project Total Cost:			16539	1555		4511		5871		18247	46723	

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BUDGET ACTIVITY 5 - Engineering and Manufacturing Development				PE NUMBER AND TITLE 0604713A Combat Feeding, Clothing, and Equipment				PROJECT DL40		
COST (In Thousands)		FY 1999 Actual	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	Cost to Complete	Total Cost
DL40 Clothing and Equipment		4121	3505	4266	4542	4558	5126	5114	Continuing	Continuing
<p>A. <u>Mission Description and Budget Item Justification:</u> This project develops state-of-the-art individual clothing and equipment to improve the survivability, mobility, sustainment affecting the quality of life of the individual soldier. Funding shown does not reflect funding from OSD PE 0604384BP to support the Chemical/Biological Defense program in accordance with Public Law 103-60 Title XVII.</p> <p>FY 1999 Accomplishments:</p> <ul style="list-style-type: none"> • 525 Update fabrics, style changes, and consolidate dress clothing for Joint Services • 327 Completed development testing/operational testing for Body Armor Set, Individual Countermine (BASIC) P3I • 475 Obtain Milestone I/II and procure test items for Concealable Body Armor • 635 Obtained Milestone III and transitioned to production Modular Body Armor "Interceptor" and Improved Toxicological Agent Protective (ITAP) Ensemble • 314 Achieved Milestone III and approval from the Chief of Staff, Army for the Improved Physical Fitness Uniform • 733 Completed operational testing for Modular Lightweight Loadcarrying Equipment (MOLLE) • 542 Completed market surveys, procured test items, and initiated test for Permethrin Battle Dress Uniforms, Cook's Shoes, and Lightweight Personal Armor Systems Ground Troop (PASGT) Helmet • 570 In-house engineering support services, computer services, and conduct technical and program reviews <p>Total 4121</p> <p>FY 2000 Planned Program:</p> <ul style="list-style-type: none"> • 1140 Correct minor deficiencies from previous test and incorporate Land Warrior compatibility for Modular Lightweight Loadcarrying Equipment (MOLLE) • 264 Initiate and complete developmental testing/operational testing for Concealable Body Armor • 138 Type classify and transition to production the Body Armor Set, Individual Countermine (BASIC) P3I • 410 Update fabrics, style changes, and consolidate dress clothing for Joint Services • 701 Obtain Milestone I/II, complete market survey, and procure test items for the Advanced Bomb Suit; Improved Toxicological Agent Protective (ITAP) Boots, Glove, and Apron; and Modular Glove Program Phase I (Cold/Wet Weather) • 207 Complete Permethrin Battle Dress Uniform test, write report, and provide results to the Army Uniform Board for • 35 Complete testing on the Cook's Shoe and authorize by Common Table of Allowances (CTA) 										
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BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604713A Combat Feeding, Clothing, and Equipment	PROJECT DL40
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FY 2000 Planned Program: (continued)

- 265 Complete operational testing on the Lightweight Personal Armor Systems Ground Troop (PASGT) Helmet and submit specification change for authorization
 - 263 In-house engineering support services, computer services, and conduct technical and program reviews
 - 82 Small Business Innovative Research/Small Business Technology Transfer Programs (SBIR/STTR)
- Total 3505

FY 2001 Planned Program:

- 740 Complete testing and obtain Milestone II for the Modular Glove Program Phase I (Cold/Wet Weather) and initiate Phase II (Barbed Wire/Flame Retardant) with market survey and procurement of test items
- 50 Type classify and transition to production the Concealable Body Armor
- 200 Award engineering manufacturing development contract, procure prototypes, and initiate testing for Improved Toxicological Agent Protective (ITAP) Boots, Glove, and Apron
- 575 Continue to update fabrics, style changes, and consolidate dress clothing for Joint Services
- 732 Investigate ballistic protection materials for Body Armor and apply upgrades (increased protection/lighter weight)
- 1440 Integrate advanced materials for ballistic protection and electronics (audio/microphone) into a Modular Integrated Helmet
- 529 In-house engineering support services, computer services, and conduct technical and program reviews

Total 4266

B. Other Program Funding Summary	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	To <u>Compl</u>	Total <u>Cost</u>
RDTE, 0603747.D669, Clothing & Individual Eq.	3645	4058	3491	4809	4849	5502	5223	Cont	Cont
OMA, 121017, Central Funding and Fielding	48310	88467	79590	90013	73401	80941	113533	Cont	Cont

C. Acquisition Strategy: Soldier modernization will be accomplished via acquisition programs ranging from NDI/modified NDI through integrated programs. Acquisition strategies will vary from: 1) quick fixes in 36 months or less from concept to Type Classification (TC) such as Soldier Enhancement Programs (SEP), 2) modular improvements which require limited RDT&E and will be completed in more than 36 months from concept to Type Classification.

D. Schedule Profile	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>
Life Cycle Systems Review	2&4Q*	2&4Q*	2*&4Q	2&4Q						

*Denotes a completed milestone

NOTE: There are numerous on-going individual projects and each project has its own milestone schedule.

Project DL40

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ARMY RDT&E COST ANALYSIS (R-3)

DATE **February 2000**

BUDGET ACTIVITY
5 - Engineering and Manufacturing Development

PE NUMBER AND TITLE
0604713A Combat Feeding, Clothing, and Equipment

PROJECT
DL40

I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY1999 Cost	FY1999 Award Date	FY 2000 Cost	FY 2000 Award Date	FY 2001 Cost	FY 2001 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a. Various	MIPRS	SBCCOM, Natick MA		2659		711		2281		Cont	5651	
b. Various	Contracts	Various		384	Various	1893	TBD	1300	TBD	Cont	3577	
Subtotal Product Development:				3043		2604		3581			9228	

Remark: Product development costs vary annually depending on the number and types of programs being evaluated.

II. Support Costs	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY1999 Cost	FY1999 Award Date	FY 2000 Cost	FY 2000 Award Date	FY 2001 Cost	FY 2001 Award Date	Cost To Complete	Total Cost	Target Value of Contract
c. Various	MIPR	TSM, Ft Benning, GA		33							33	
d. Various	Contracts	Various		250	Various						250	
a. Various	MIPR	SBCCOM, R.I., IL		29							29	
Subtotal Support Costs:				312							312	

Remark: Support Costs vary annually depending on number of and types of programs being evaluated.

III. Test and Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY1999 Cost	FY 1999 Award Date	FY 2000 Cost	FY 2000 Award Date	FY 2001 Cost	FY 2001 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a. Various	MIPRS	OPTEC		195		469		130			794	
b. Various	MIPRS	OFIG, Natick, MA		1		75		5			81	
Subtotal Test and Evaluation:				196		544		135			875	

Remark: Testing costs vary annually by item

IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 1999 Cost	FY 1999 Award Date	FY 2000 Cost	FY 2000 Award Date	FY 2001 Cost	FY 2001 Award Date	Cost To Complete	FY 2001 Cost	Target Value of Contract
a. Various	In-House	PM-S, Ft Belvoir, VA		570		275		550		Cont	1395	
b. SIBR/STTR						82					82	
Subtotal Management Services:				570		357		550			1477	

Remark: Management Services costs vary annually depending on the number and types of programs being evaluated.

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ARMY RDT&E COST ANALYSIS (R-3)	DATE February 2000
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BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604713A Combat Feeding, Clothing, and Equipment	PROJECT DL40
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		<u>FY 1999</u> Cost		<u>FY 2000</u> Cost		<u>FY 2001</u> Cost		<u>FY 2001</u> Cost	
Project Total Cost:		4121		3505		4266		11892	

Remark: Based on the number of years Clothing and Individual Equipment programs have been in existence, it is impossible to capture all prior year costs.

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ARMY RDT&E BUDGET ITEM JUSTIFICATION (R-2A Exhibit)							DATE February 2000					
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development				PE NUMBER AND TITLE 0604713A Combat Feeding, Clothing, and Equipment				PROJECT D548				
COST (In Thousands)				FY 1999 Actual	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	Cost to Complete	Total Cost
D548 Military Subsistence System				1194	1620	1747	1856	1863	1979	1976	Continuing	Continuing
<p><u>Mission Description and Budget Item Justification:</u> Project provides Engineering and Manufacturing Development (EMD) and Non-developmental Item (NDI) evaluation of food and food service equipment to enhance soldier efficiency and survivability. New food items and food service equipment will be developed to reduce food service logistics requirements for all four services. Development of Joint Service Food/Food Service Equipment to improve individual combat effectiveness and reduce logistics burden and operation and support costs of subsistence support for service men and women. Develop multi-fuel, rapidly deployable field food service equipment to support combat, humanitarian missions and operations-other-than-war. Improve equipment to enhance safety in food service, utilize battlefield fuels and decrease fuel and water requirements.</p> <p>FY 1999 Planned Program:</p> <ul style="list-style-type: none"> • 360 Designed and fabricated prototypes of improved tray ration heater, griddle, and stock pot assembly for improved heat transfer and removal of combustion by-products. Conducted Technical Testing and field evaluation of the Tray Ration Heater. • 368 Completed fabrication and conducted Development and Technical Testing of Marine Corps Rapid Deployment Kitchen. • 62 Completed Technical Testing of Non-Electric Field Refrigerator and developed performance specification. • 404 Completed user evaluations of steam generator/power washer for field food sanitation centers and initiated integration of gray water treatment/handling system for on-site wastewater disposal. <p>Total 1194</p> <p>FY 2000 Planned Program:</p> <ul style="list-style-type: none"> • 320 Complete fabrication of remaining field feeding components to improve efficiency and integrate into complete kitchen for formal testing. • 201 Conduct Developmental and Operational Testing of the Advanced Food Sanitation Center • 214 Develop kit components to allow use of Modern Burner Unit in extreme cold weather, and reduce noise levels. • 291 Prepare design concept for food service equipment. Conduct testing of prototype Air Force Expeditionary Field Feeding System. • 203 Complete User Testing of Marine Corps Rapid Deployment Kitchen. • 126 Design improved Tray Ration Heater System with enhanced operational capabilities and reduced cost. • 116 Conduct requirements analysis and develop concept for improved efficiency Advanced Design Refrigerator. • 116 Improve sanitation of Mess Kit to ensure safety of personnel. • 33 Small Business Innovation Research/Small Business Technology Transfer (SBIR/STTR) Program <p>Total 1620</p>												
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- FY 2001 Planned Program:**
- 275 Conduct Developmental and Operational Testing for field kitchen equipment efficiency upgrades.
 - 297 Complete documentation, type classify, and award production contract for Advanced Food Sanitation Center.
 - 300 Complete fabrication and initiate testing of Air Force Expeditionary Field Feeding System.
 - 189 Conduct noise level and cold weather evaluations of kitchen burner kit and transition to procurement.
 - 150 Evaluate improved Tray Ration Heater System, demonstrate enhanced operational capability.
 - 125 Perform in-house and user evaluations of improved sanitation methods for mess kits.
 - 311 Complete design and fabrication of Advanced Design Refrigerator with enhanced transportability and improved thermal efficiency.
 - 100 Develop and design improvements for the Navy COMMZ Kitchen, incorporating reliability, maintainability and efficiency innovations.
- Total 1747

B. Other Program Funding Summary	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	To <u>Compl</u>	Total <u>Cost</u>
RDTE, 0603747.D610, Food Adv Dev	2499	3097	3380	3728	3688	3872	3874	Cont	Cont
OPA3, M65803, Kitchen, Containerized, Field	7337	7032	6133	5609	7501	6975	6562	Cont	Cont
OPA 3, M65802, Sanitation Center, Field Feeding		658	4364	2398	7403	7606	7721	Cont	Cont
M65801, Refrigeration Equipment	5060	927	1479	922	2359	2504	2518		

C. Acquisition Strategy: Complete engineering and manufacturing development of food items and equipment for transition to procurement.

D. Schedule Profile	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2004</u>	<u>FY 2005</u>
Conduct Technical Testing of improved Army Field Feeding Equipment for MBU	3Q*								
Conduct Technical Testing on Rapid Deployment Kitchen	3Q*								
Conduct User Testing of Rapid Deployment Kitchen		3Q							
Design concepts for improved Mess Kit Sanitation		3Q							
Design and Evaluate US Air Force AFE Kitchen		2Q							
Conduct Milestone III and initiate production of Advanced Food Sanitation Center			2Q						

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D. Schedule Profile	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2004</u>	<u>FY 2005</u>
Conduct Developmental and Operational Testing on field kitchen equipment efficiency upgrades			2Q						
Initiate testing of Air Force temporary AEF Kitchen			2Q						
Test concept for Mess Kit Sanitation			3Q						
Complete design and fabrication of Advanced Design Refrigerator			2Q						

* Milestone completed

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ARMY RDT&E COST ANALYSIS (R-3)

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BUDGET ACTIVITY
5 - Engineering and Manufacturing Development

PE NUMBER AND TITLE
0604713A Combat Feeding, Clothing, and Equipment

PROJECT
D548

I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY1999 Cost	FY1999 Award Date	FY 2000 Cost	FY 2000 Award Date	FY 2001 Cost	FY 2001 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a. SSCOM	In-House	SSCOM	7499	463		890		963		Cont.	9815	Cont.
b. Various	Various	Various	851	154		153	Various	171	Various	Cont.	1329	Cont.
c. Inflation Withhold												
Subtotal Product Development:			8350	617		1043		1134			11144	

II. Support Costs: Not applicable

III. Test and Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY1999 Cost	FY1999 Award Date	FY 2000 Cost	FY 2000 Award Date	FY 2001 Cost	FY 2001 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a. TECOM/OEC	MIPR	Various	1981	490		490		525		Cont.	3486	Cont.
Subtotal Test and Evaluation:			1981	490		490		525			3486	

IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY1999 Cost	FY1999 Award Date	FY 2000 Cost	FY 2000 Award Date	FY 2001 Cost	FY 2001 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a. Project Ofc Management	In-House	SSCOM	513	87		87		88		Cont.	775	Cont.
Subtotal Management Services:			513	87		87		88			775	

Project Total Cost:			10844	1194		1620		1747			15405	
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ARMY RDT&E BUDGET ITEM JUSTIFICATION (R-2A Exhibit)							DATE February 2000			
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development				PE NUMBER AND TITLE 0604713A Combat Feeding, Clothing, and Equipment				PROJECT D667		
COST (In Thousands)		FY 1999 Actual	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	Cost to Complete	Total Cost
D667	Land Warrior	43385	36411	60132	36547	35718	29736	9895	Continuing	Continuing
<p>A. Mission Description and Budget Item Justification: The LW Program establishes the Infantry soldier as the Army's singularly unique weapons platform. It is a first generation integrated fighting system for soldiers and is the first system to provide combat overmatch for the five types of Infantry (air assault, airborne, light, mechanized, and Ranger) in the close, personal, and brutal fight. As a result of the Program not achieving its objectives under the original LW approach, PM-Soldier has developed a restructured acquisition concept. Although all LW subsystems will remain the same in concept, the restructured LW Program will take maximum advantage of components available from Commercial-Off-the-Shelf (COTS), as well as Government-Off-the Shelf (GOTS) components and technologies. With this change in approach, the Program will minimize the use of LW-unique hardware and software and develop a more open systems architecture. This architectural approach will provide greater flexibility to incorporate technology upgrades as they become available, reduce intellectual and proprietary rights issues, and reduce developmental and ownership costs. LW provides the foundation system upon which future Mounted, Air, and other warrior integrated systems will be based, as well as support to the Marine Corps and other services.</p> <p>FY 1999 Accomplishments:</p> <ul style="list-style-type: none"> • 30747 Conducted preliminary systems integration. Transitioned Modular Lightweight Load Equipment (MOLLE) and Interceptor Body Armor into Protective Clothing and Individual Equipment (PCIE) subsystem design. Developed and successfully tested new 16.3 volt/10-cell/2.8 lbs "LW Day Pack" primary battery powered a XM1 LW system for 13 hours. The 10-cell battery fits into the MOLLE 100-round Utility Pouch without modification. Began fabrication and integration of LW peripheral components. Conducted risk mitigation efforts utilizing Commercial Off The Shelf/Government Off The Shelf (COTS/GOTS) candidates. Fabricated 3 demonstration prototypes utilizing alternative COTS/GOTS candidates. • 3229 Conducted Force XXI Battle Command, Brigade and Below (FBCB2) interoperability contractor demonstration. Demonstrated voice and data communications via frequency hopping. Demonstrated ability to transmit FBCB2 Free Text, spot reports, position reports, and Call-For-Fire messages through a LW Platoon RTO to a Bradley Company XO outfitted with FBCB2-Applique software. • 5139 Conducted technology feasibility assessment to identify possible improvements with COTS/GOTS alternatives. Evaluated and implemented selected alternatives to reduce system weight to meet operational requirements. Increased program office to respond to Army Category (ACAT) I/II programmatic requirements. • 4270 Program management and systems engineering support from other government agencies for overall program efforts. Conducted technical and program reviews and briefings. Transitioned configuration management effort from contractor to government. Established PM Soldier - Monmouth the government integration facility located at Fort Monmouth, NJ. <p>Total 43385</p>										
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ARMY RDT&E BUDGET ITEM JUSTIFICATION (R-2A Exhibit)		DATE February 2000
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604713A Combat Feeding, Clothing, and Equipment	PROJECT D667
<p>FY 2000 Planned Program:</p> <ul style="list-style-type: none"> • 25870 Award Developmental contract to complete system hardware and software integration and produce 15 LW for safety testing and airborne certification. Participate in a platoon(-) exercise to demonstrate operational suitability and soldier acceptance. Conduct LW IPR. • 1748 Conduct safety testing. Conduct airborne certification, contractor component testing, user fightability evaluations, and obtain safety release. • 7824 Program management and systems engineering support from other Government agencies for overall program efforts. Conduct technical and program reviews, Army System Acquisition Review Council (ASARC) reporting/briefings, and increase program office resources to respond to Army Category (ACAT) I/II programmatic requirements. Continue operation of PM Soldier - Monmouth. Conduct LW demonstrations to higher headquarters and other countries to demonstrate system capability and functionality. Support to NATO Land Group 3 and other partnered countries to ensure compatibility with potential multinational military operations. • 969 Small Business Innovative Research (SBIR)/Small Business Technology Transfer program (STTR). <p>Total 36411</p> <p>FY 2001 Planned Program:</p> <ul style="list-style-type: none"> • 36427 Fabricate 55 LW prototypes for platoon LUT. Conduct Confidence Testing, Functional Qualification Testing (FQT), and Production Qualification Testing (PQT). • 9650 Complete Single Channel Ground/Airborne Radio System (SINCGARS) compatible Leader Radio (repackaged Advanced SINCGARS Improvement Program (ASIP)/Network Access Unit (NAU) or "mini-radio" with software router. Complete LW integration of Embedded Battle Command (EBC) software into Windows NT to ensure interoperability with FBCB2/Tactical Internet. Obtain software certification at the Central Technical Support Facility (CTSF) at Fort Hood (digitization). Obtain National Security Agency (NSA) Communications Security (COMSEC) level one certification for leader radio. Incorporate Multiple Integrated Laser Engagement System (MILES 2000) and Combat Identification Dismounted Soldier (CIDDS), and incorporate Integrated Navigation functionality into LW to meet threshold requirements. • 4644 Conduct airborne certification, user fightability assessments, and obtain safety release. Update training package and manuals for platoon (-) LUT and transition to electronic format. Develop interactive training scenarios, and evaluate integrated training environment. Conduct training for platoon LUT. • 9411 Program management and systems engineering support from other Government agencies for overall program efforts. Conduct technical and program reviews. Continue operation of PM Soldier - Monmouth. Conduct LW demonstrations to higher headquarters and other countries to demonstrate system capability and functionality. Support to NATO Land Group 3 and other partnered countries to ensure compatibility with potential multinational military operations. <p>Total 60132</p>		
Project D667	Page 16 of 27 Pages	Exhibit R-2A (PE 0604713A)

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ARMY RDT&E BUDGET ITEM JUSTIFICATION (R-2A Exhibit)	DATE February 2000
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BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604713A Combat Feeding, Clothing, and Equipment	PROJECT D667
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B. <u>Other Program Funding Summary</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	To <u>Compl</u>	Total <u>Cost</u>
RDTE, 0603001.DJ50, Force XXI Land Warrior	6587	6266	6308	7483	7772	12954	13056	Cont	Cont
OPA3, M80500, Land Warrior	0	0	0	0	0	20774	76783	Cont	Cont
OPA3, MS3610, Initial Spares-Land Warrior	0	0	0	0	0	0	248	Cont	Cont

C. Acquisition Strategy: As a result of technical challenges, the LW program was completely restructured last year. The restructured LW Program takes maximum advantage of components available from other Government agencies as well as Commercial-Off-the-Shelf (COTS) components and technologies. With this change in approach, the program will minimize the use of LW-unique hardware and software and develop a more open systems architecture. This architectural approach will provide greater flexibility to incorporate technology upgrades as they become available, reduce intellectual and proprietary rights issues, and reduce cost. System integration will be performed by the Government with products (i.e., subsystems, components) being provided by multiple contractors. These products would conform to standards identified in Interface Control Documents, which will be controlled by the Government. The strategy is to negotiate sole source for the Low Rate Initial Production (LRIP) with options or initial full rate production sufficient to equip the first division. Equipment for each subsequent division is planned to be recompeted. The LW total procurement objective is 34,000 systems. The LW Program supports the Chief of Staff of the Army's (CSA) vision of establishing lethal forces through the use of commercial technologies to lighten the force; increase soldier lethality, and making the force more survivable, more mobile, and more deployable.

D. <u>Schedule Profile</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>
Award Developmental Contract		2Q						
Conduct LW IPR		2Q						
Deliver prototypes for safety test/airborne certif		3Q	3Q		3Q		4Q	
Conduct Safety Testing; Airborne Certification		3Q	3Q		3Q		4Q	
Safety Releases		3Q	3Q		3Q		4Q	
Platoon (-) exercise		4Q						
Deliver remaining 55 prototypes for LUT			2-3Q					
Production Qualification Testing (PQT)			4Q	-----1Q	3Q-4Q	4Q	-----1Q	1Q
Limited User Tests (LUT)				4Q		2Q		1Q
Test-Fix					1-2Q		1-2Q	
LRIP Build Decision						4Q		
LRIP Contract Award							4Q	

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R-2A Exhibit) DATE **February 2000**

BUDGET ACTIVITY
5 - Engineering and Manufacturing Development

PE NUMBER AND TITLE
0604713A Combat Feeding, Clothing, and Equipment

PROJECT
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D. Schedule Profile	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>
Light Forces Initial Oper Test and Eval (IOTE)								2Q
MS III Decision								3Q
Company Mech Limited User Evaluation (LUE)								4Q
Battalion LUE								4Q

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ARMY RDT&E COST ANALYSIS (R-3)	DATE February 2000
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BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604713A Combat Feeding, Clothing, and Equipment	PROJECT D667
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I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY1999 Cost	FY1999 Award Date	FY 2000 Cost	FY 2000 Award Date	FY 2001 Cost	FY 2001 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a. Raytheon Systems	CPAF	McKinney, TX	99200	21902	Jul 95	2000	Oct 99	1000	TBD	0	124102	TBD
b. Computer Sciences Corp	Task Order	Eatontown, NJ		7850		20366	Oct 99	32757	TBD	Cont	60973	TBD
c. Optical Air Data Systems	Task Order	Potomac, MD		885		500	Jan 00	1500	TBD	Cont	2885	
d. CECOM	MIPR/Task Order	Ft Monmouth, NJ				3486	Oct 99	5520	TBD	Cont	9006	TBD
e. OGA (STRICOM, SBCCOM, etc.)	MIPR/Task Order	TBD						3000	TBD	Cont	3000	
Subtotal Product Development:			99200	30637		26352		43777			199966	

II. Support Costs	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY1999 Cost	FY1999 Award Date	FY 2000 Cost	FY 2000 Award Date	FY 2001 Cost	FY 2001 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a. SBCCOM	FAD	Natick, MA		893		550		2420			3863	
b. PM-SA/ARDEC	MIPR	Picatinny, NJ		108		80		90			278	
c. NRDEC	MIPR	Natick, MA		180		250		250			680	
d. CECOM	MIPR	Ft. Belvoir, VA		2249		460		477			3186	
e. TSM-Soldier	MIPR	Fort Benning, GA		125		150		150			425	
f. PM Soldier	In-house	Ft. Belvoir		744		1352		1564			3660	
g. Modern Tech Inc.	Task Order	Springfield, VA		1374		800		900			3074	
h. REDECS		Various	2780								2780	
Subtotal Support Costs:			2780	5673		3642		5851			17946	

Remark: Buys government and contract engineering and logistical support for overall program support.

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ARMY RDT&E COST ANALYSIS (R-3)

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BUDGET ACTIVITY
5 - Engineering and Manufacturing Development

PE NUMBER AND TITLE
0604713A Combat Feeding, Clothing, and Equipment

PROJECT
D667

III. Test and Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY1999 Cost	FY1999 Award Date	FY 2000 Cost	FY 2000 Award Date	FY 2001 Cost	FY 2001 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a. Ft Bragg	MIPR	Fort Bragg, NC		40		171		100		Cont	311	
b. Testing Organizations	MIPR	Aberdeen PG, MD		50		400		2000		Cont	2450	
c. ARL-HRED	MIPR	Ft. Benning, GA		110		110		110		Cont	330	
d. CECOM	MIPR	Fort Monmouth, NJ		305		500		1500		Cont	2305	
e. TSM Soldier	MIPR	Ft Benning, GA		125		150		150		Cont	425	
f. Test Equip/Support				155		417		600		Cont	1172	
Subtotal Test and Evaluation:				785		1748		4460			6993	

Remark: Costs in FY99/00 are for test planning, evaluations, and test equipment only. Testing will be conducted in FY01.

IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY1999 Cost	FY1999 Award Date	FY 2000 Cost	FY 2000 Award Date	FY 2001 Cost	FY 2001 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a. PM Soldier	In-House	Fort Belvoir, VA	525	2618		322		3200			6665	
b. Modern Technologies Corporation (MTC)	Task Order	Dayton, OH Springfield, VA	676	495		425		425			2021	
c. Wexford Group	Task Order	Vienna, VA		1009		1080		1080			3169	
d. CYIOS, Inc.	Task Order	Washington, DC		270		954		420			1644	
e. ANADAC, Inc./PSA	Task Order	Arlington, VA		397		60		60			517	
f. CSC	Task Order	Eatontown, NJ		464							464	
g. BRTRC	Task Order	Fairfax, VA		160		165		165			490	
h. SBCCOM	MIPR	Natick, MA/APG, MD	1160	183							1343	
i. SY-Tech	Task Order	Sherman Oaks, CA		694		694		694			2082	
j. SBIR/STTR						969					969	
Subtotal Management Services:			2361	6290		4669		6044			19364	

Project Total Cost:			104341	43385		36411		60132			244269	TBD
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ARMY RDT&E BUDGET ITEM JUSTIFICATION (R-2A Exhibit)							DATE February 2000					
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development				PE NUMBER AND TITLE 0604713A Combat Feeding, Clothing, and Equipment				PROJECT D668				
COST (In Thousands)				FY 1999 Actual	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	Cost to Complete	Total Cost
D668 Soldier Enhancement Program				12066	14360	14305	14047	14111	16421	16369	Continuing	Continuing
<p>A. <u>Mission Description and Budget Item Justification:</u> The Soldier Enhancement Program (SEP) increases the lethality, command and control, sustainability, mobility, and survivability of the soldier through accelerated acquisition of lighter, more lethal weapons and improved "soldier items" including lighter, more comfortable load-bearing equipment, field gear, survivability items, communications equipment, and navigation aids. For SEP purposes, soldiers are managed in three categories: dismounted soldiers, combat crews (air and ground), and other soldiers. Projects generally are completed in three years or less.</p> <p>FY 1999 Accomplishments:</p> <ul style="list-style-type: none"> • 1295 Completed evaluation/type classify/transition to production: Machine Gun Optics, Non Lethal 40MM (XM1006), XM84 Stun Grenade, Short Squad Automatic Weapon, Flashlight Mount, M249 Mounts, Infrared Illumination Hand Grenade, Midsize Riot Control Dispenser, and Advanced Protective Eyewear System • 4944 Continued evaluation/procured prototypes and/or tested: Long Range Sniper Rifle, 12 Gauge Breaching Round, Fire Control for the M203, Long Range Tactical Sniper Cartridge, Lightweight Fragmentation Hand Grenade, 40MM Cannister Round, 12 Gauge Non Lethal Point and Crowd Control, Rifle Launched Non Lethal Munitions, Backup Iron Sight for Modular Weapon System, Canteen Water Insert Purifier, Collapsible Grappling Hook, Small Unit Multi-Purpose Trailer (SUMT), Improved Combat Shelter, Helicopter Emergency Egress Device, Fighting Position Revetment, and Lightweight Voice Amplifier • 1123 Initiated market surveys and/or evaluations: Sniper Accessory Kit, Joint Service Combat Shotgun, M240B Ammunition Pack, Multiple Utility Digging System (MUDS), Concealable Stab Protective Body Armor (CSPBA), Camouflage Uniform System for Soldiers (CUSFS), Advanced Camouflage Face Paint, Protective Gloves, Micro Rappel System, Tactical Search Mirror System, Petroleum Oil Lubricants (POL) Handlers Glove System, and Riot Control Agent Neutralizer • 2496 In-house engineering support services, computer services, conducted technical and program reviews • 2208 Army Materiel Command Reprogram - place marker for Defense Finance and Accounting Services <p>Total 12066</p>												
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ARMY RDT&E BUDGET ITEM JUSTIFICATION (R-2A Exhibit)		DATE February 2000
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604713A Combat Feeding, Clothing, and Equipment	PROJECT D668
FY 2000 Planned Program:		
•	4628 Complete evaluation/type classify/transition to production: Rifle Launched Non Lethal Munitions, 40MM Cannister Round, 12 Gauge Breaching Round, 12 Gauge Non Lethal Point and Crowd Control, Long Range Tactical Sniper Cartridge, Long Range Sniper Rifle, Canteen Water Insert Purifier, Collapsible Grappling Hook, Micro Rappel System, Improved Combat Shelter, Helicopter Emergency Egrees Device, and Lightweight Voice Amplifier	
•	4086 Continue evaluation/procure prototypes, and/or test: Lightweight Fragmentation Hand Grenade, M203 Enhanced Fire Control, Sniper Accessory Kit, Backup Iron Sight for Modular Weapon System, Petroleum Oil Lubricants (POL) Handlers Glove System, Camouflage Uniform System for Soldiers, Multiple Utility Digging System, Tactical Search Mirror System, Concealable Stab Protective Body Armor, Protective Glove System, Riot Control Agent Neutralizer, Advanced Camouflage Face Paint, and Small Unit Multi-Purpose Trailer,	
•	3061 Initiate market surveys and/or evaluations: Joint Service Combat Shotgun, M240B Combat Ammunition Pack (CAP), 12 Gauge Chlorobenzalmalononitrile (CS) Dust Cartridge, Smart Mine Probe, Family of Batons/Night Sticks, Parachutist's Drop Bag, Tactical Assault Ladder Systems, Improved Cold Weather Mask, and Boot Gaiters	
•	2205 In-house engineering support services, computer services, conduct technical and program reviews	
•	380 Small Business Innovative Research/Small Business Technology Transfer Programs (SBIR/STTR)	
Total	14360	
FY 2001 Planned Program:		
•	4847 Complete evaluation/type classify/transition to production: Lightweight Fragmentation Hand Grenade, M203 Enhanced Fire Control, Sniper Accessory Kit, Backup Iron Sight for Modular Weapon System, Riot Control Agent Neutralizer, POL Handlers Glove System, Boot Gaiters, Camouflage Uniform System for Soldiers, Advanced Camouflage Face Paint, 12 Gauge CS Dust Cartridge, Multiple Utility Digging System, Tactical Assault Ladder System, Tactical Search Mirror System, Family of Batons/Night Sticks, Concealable Stab Protective Body Armor, Protective Glove System, Small Unit Multi-Purpose Trailer, and Smart Mine Probe	
•	2083 Continue evaluation/procure prototypes and/or test: Joint Service Shotgun, M240B Combat Ammunition Pack, Parachutist Drop Bag, and Thermal Cutting Device	
•	4875 Initiate market surveys and/or evaluations on new items to commence n FY2001	
•	2500 In-house engineering support services, computer services, conduct technical and program reviews	
Total	14305	
Project D668		
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BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604713A Combat Feeding, Clothing, and Equipment	PROJECT D668
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B. Other Program Funding Summary	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>To Compl</u>	<u>Total Cost</u>
OPA3, MA6800, Soldier Enhancement	4711	3571	3984	3129	3114	5771	6093	Cont	Cont
OPA2, BA5300, Soldier Enhancement	4539	18067	4374	5115	6100	8187	8230	Cont	Cont
WTCV, GC0076, Small Arms (SEP)	2365	5133	3506	301	1975	2417	1929	Cont	Cont
WTCV, GZ1290, Squad Automatic Wpn (Mods)		8289	9956	5422	4110	4834		Cont	Cont
WTCV, GZ2800, M16 Rifle Mods	5197	7148	9592	2087	0	2417	2411	Cont	Cont
WTCV, GB3007, M4 Carbine Mods	6721	5292	2504						12979
WTCV, G01500, Sniper Rifle		1133	3085	2136					6412
WTCV, GC0925, Mods	1118	1002	787	1253	847	1319	1316	Cont	Cont
PAA, F47500, 7.62mm AP	1911	1344							3276
PAA, FA7600, 5.56mm AP	1911	1876	1337	2933	2938	2935	2932		5740
PAA, F00900, 40mm Canister					5508				5553
PAA, E84900, XM84 Stun Grenade	1265	1760	2358	2383					7801
PAA, E86400, 12 Gauge Non Lethal			944						950
PAA, E86500, Cartridge, 12 Ga Crowd Dispersal		951							955
PAA, E91100, XM95 Cartridge, Non Lethal Crowd	2263	3885	6370	6494					20449
PAA, E89000, 40mm Non Lethal	1300	1576	1887	1962					7085
OMA, 121017, Central Funding & Fielding	48130	94559	79590	90013	73402	80942	113533	Cont	Cont

C. Acquisition Strategy: The Soldier Enhancement Program (SEP) consists of Non-Developmental Items (NDI) or Commercial Off-The-Shelf (COTS) that can transition to production in three years or less. Items that are technologically challenging requiring more than three years development are pursued under the appropriate system area. New SEP items are reviewed and approved for evaluation annually. Procurement varies by appropriation.

D. Schedule Profile	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>
SEP Requirements Reviews	2Q*	2Q*	2Q*	2Q						
SEP Projects Reviews	4Q*	4Q*	4Q*	4Q						

*Milestones Completed
NOTE: Numerous individual projects are ongoing under the Soldier Enhancement Program (SEP) and each project has its own milestone schedule.

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ARMY RDT&E COST ANALYSIS (R-3)										DATE February 2000		
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development					PE NUMBER AND TITLE 0604713A Combat Feeding, Clothing, and Equipment					PROJECT D668		
I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 1999 Cost	FY 1999 Award Date	FY 2000 Cost	FY 2000 Award Date	FY 2001 Cost	FY 2001 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a. Various	MIPR	SBCCOM, MA		1109		1686		3128			5923	
b. Various	MIPR	NVESD, VA		66							66	
c. Various	MIPR	PM-SA, NJ		3731		6347		6276			16354	
d. Various	MIPR	PM-PWL MI		147		260					407	
e. Various	MIPR	SBCCOM, MD		213		775		580			1568	
f. Various	MIPR	PM-NBC		250		200					450	
g. Various	MIPR	PM-MCD				300		350			650	
h. Various	Contracts	Various		30							30	
Subtotal Product Development:				5546		9568		10334			25448	
Remark: Soldier Enhancement Programs are Non-Development Items (NDI) and Commercial Off-the-Shelf (COTS) items. New items are identified annually. Contractual efforts are very low dollar amounts – used to procure a few prototypes for testing.												
II. Support Costs	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 1999 Cost	FY 1999 Award Date	FY 2000 Cost	FY 2000 Award Date	FY 2001 Cost	FY 2001 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a. Various	MIPR	TSM-SDR, GA		88		132		132			352	
b. Various	Contracts	Various		1713	Various	964	TBD	925	TBD		3602	
c. Various												
Subtotal Support Costs:				1801		1096		1057			3954	
Remark: Support costs vary annually depending on the type of items we are evaluating. Research Development and Engineering Centers support to evaluate items also varies annually depending on the number and type s of items.												
III. Test and Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 1999 Cost	FY 1999 Award Date	FY 2000 Cost	FY 2000 Award Date	FY 2001 Cost	FY 2001 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a. Various	MIPR	OFIG, MA		20		20		18			58	
b. Various	MIPR	OPTEC		955		1906		1321			4182	
Subtotal Test and Evaluation:				975		1926		1339			4240	
Remark: Testing costs vary annually by item.												
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ARMY RDT&E COST ANALYSIS (R-3)	DATE February 2000
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BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604713A Combat Feeding, Clothing, and Equipment	PROJECT D668
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IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 1999 Cost	FY 1999 Award Date	FY 2000 Cost	FY 2000 Award Date	FY 2001 Cost	FY 2001 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a. In-House		PM-Soldier, VA		1536		1390		1575			4501	
b. Reprogram		Army Mat Cmd, VA		2208							2208	
c. SBIR/STTR						380					380	
Subtotal Management Services:				3744		1770		1575			7089	

Remark: Costs vary annually depending on number and type of items being evaluated.

Project Total Cost:				12066		14360		14305	40731	40731	
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Remark: PM-Soldier has not managed the Soldier Enhancement Program since its inception, as a result it is impossible to capture all prior year costs.

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ARMY RDT&E BUDGET ITEM JUSTIFICATION (R-2A Exhibit)							DATE February 2000																																
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development				PE NUMBER AND TITLE 0604713A Combat Feeding, Clothing, and Equipment				PROJECT D680																															
<i>COST (In Thousands)</i>	FY 1999 Actual	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	Cost to Complete	Total Cost																														
D680 Mounted Warrior	179	193	0	0	0	0	0	0	372																														
<p>A. <u>Mission Description and Justification:</u> Mounted Warrior (MW) is an integrated modular system that will enhance the combat vehicle crewman's fighting capabilities. The MW system will be used by a wide variety of combat crewmen and will be tailored based on Mission, Enemy, Terrain/weather, Troops available and Time (METT-T). The physical burden imposed by cumbersome personal equipment degrades a crewman's effectiveness by increasing rates of fatigue, reducing mobility and restricting their ability to perform mission functions. Consideration will be given to optimizing the balance between vehicle mounted and crewman mounted equipment and designing an overall system that will improve crewman's endurance, safety, mission performance and crewman/vehicle interface. The MW system will provide hands free, tetherless communications, increased laser eye protection, maximum individual protection from Nuclear, Biological, Chemical (NBC) contamination, spill, flame and heat, and will provide for better performance of crew tasks without reducing tactility and agility.</p> <p>FY 1999 Accomplishments:</p> <ul style="list-style-type: none"> • 179 Provided engineering support to the USA Armor Center in development of the Mounted Warrior cordless communication and heads up display Operational Requirements Documents (ORD). Prepared a program structure and costs for Mounted Warrior and developed the management approach for the program <p>Total 179</p> <p>FY 2000 Planned Program:</p> <ul style="list-style-type: none"> • 188 Engineering support services, computer services, conduct technical and program reviews for program execution • 5 Small Business Innovative Research Program (SBIR) <p>Total 193</p> <p>FY 2001 Planned Program: Project not funded in FY 2001</p>																																							
<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="text-align: left;">B. <u>Other Program Funding Summary</u></td> <td style="text-align: center;"><u>FY 1999</u></td> <td style="text-align: center;"><u>FY 2000</u></td> <td style="text-align: center;"><u>FY 2001</u></td> <td style="text-align: center;"><u>FY 2002</u></td> <td style="text-align: center;"><u>FY 2003</u></td> <td style="text-align: center;"><u>FY 2004</u></td> <td style="text-align: center;"><u>FY 2005</u></td> <td style="text-align: center;">To <u>Compl</u></td> <td style="text-align: center;">Total <u>Cost</u></td> </tr> <tr> <td>RDTE D668 Soldier Enhancement Program</td> <td style="text-align: center;">12126</td> <td style="text-align: center;">14418</td> <td style="text-align: center;">14390</td> <td style="text-align: center;">14144</td> <td style="text-align: center;">14223</td> <td style="text-align: center;">16568</td> <td style="text-align: center;">16530</td> <td style="text-align: center;">Cont</td> <td style="text-align: center;">Cont</td> </tr> <tr> <td>OMA, 121017, Central Funding and Fielding</td> <td style="text-align: center;">48130</td> <td style="text-align: center;">94559</td> <td style="text-align: center;">79590</td> <td style="text-align: center;">90013</td> <td style="text-align: center;">73402</td> <td style="text-align: center;">80942</td> <td style="text-align: center;">113533</td> <td style="text-align: center;">Cont</td> <td style="text-align: center;">Cont</td> </tr> </table>										B. <u>Other Program Funding Summary</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	To <u>Compl</u>	Total <u>Cost</u>	RDTE D668 Soldier Enhancement Program	12126	14418	14390	14144	14223	16568	16530	Cont	Cont	OMA, 121017, Central Funding and Fielding	48130	94559	79590	90013	73402	80942	113533	Cont	Cont
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<p>C. <u>Acquisition Strategy:</u> The Mounted Warrior program is designed to field currently existing mature technologies to meet the needs of the combat vehicle crewman (CVC). Funding to support this program to completion will be requested during the next Program Objective Memorandum (POM).</p>																																							
Project D680			Page 26 of 27 Pages				Exhibit R-2A (PE 0604713A)																																

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ARMY RDT&E BUDGET ITEM JUSTIFICATION (R-2A Exhibit)	DATE February 2000
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BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604713A Combat Feeding, Clothing, and Equipment	PROJECT D680
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D. Schedule Profile	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>
Capstone Requirement Document Approved by USA Armor Center		3Q								
Concept Experimentation Program (CEP)		4Q								
Capstone Requirements Document Approved by Training and Doctrine Command (TRADOC)			2Q							
Operational Requirements Document				2Q*						
Milestone I/II Decision					2Q*					
Development Contract Award					4Q*					
Developmental Testing						4Q*				
Operational Testing							2Q*			
Milestone III Decision							3Q*			
Full Rate Production								2Q*		

*Completion of these milestones is dependent upon receipt of funding.