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ARMY RDT&E BUDGET ITEM JUSTIFICATION (R-2 Exhibit)							DATE February 2000		
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development				PE NUMBER AND TITLE 0604804A Logistics & Engineer Equipment - Engineering Development					
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
Total Program Element (PE) Cost	26620	22844	20457	17664	15560	26882	33869	Continuing	Continuing
DH01 Combat Engineer Equipment - Engineering Development	7171	2743	823	923	1023	12959	18839	Continuing	Continuing
DH02 Tactical Bridging - Engineering Development	332	0	643	1110	828	1981	1980	Continuing	Continuing
DH14 Materials Handling Equipment - Engineering Development	3741	102	595	593	591	592	591	Continuing	Continuing
DL39 Water, Maintenance and Environmental Equipment - Engineering Development	2621	2112	4529	2989	901	1455	1451	Continuing	Continuing
DL41 Fuels Handling Equipment - Engineering Development	1024	5288	6338	7285	5492	4594	4025	Continuing	Continuing
DL42 Camouflage System - Engineering Development	754	388	380	327	343	486	1456	Continuing	Continuing
DL43 Engineer Support Equipment - Engineering Development	182	53	578	250	1206	542	1188	Continuing	Continuing
D194 Engine Driven Generators - Engineering Development	4702	7892	5124	2980	2481	1514	1516	Continuing	Continuing
D279 Airdrop Equipment - Engineering Development	3230	0	0	0	0	0	0	0	3230
D429 Rigidwall Shelter - Engineering Development	899	0	0	0	0	0	0	0	2305
D461 Marine Oriented Logistics Equipment - Engineering Development	1964	4266	1447	1207	2695	2759	2823	Continuing	Continuing
<p><b>A. Mission Description and Budget Item Justification:</b> Included within this program element is the development of military tactical bridging, materiel handling equipment, water purification equipment, petroleum distribution equipment, mobile electric power and water craft.</p>									

UNCLASSIFIED

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BUDGET ACTIVITY <b>5 - Engineering and Manufacturing Development</b>	PE NUMBER AND TITLE <b>0604804A Logistics &amp; Engineer Equipment - Engineering Development</b>
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<b>B. Program Change Summary</b>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>
Previous President's Budget ( <u>FY 2000/2001</u> PB)	25820	22996	16074
Appropriated Value	26002	22996	
Adjustments to Appropriated Value			
a. Congressional General Reductions	-182		
b. SBIR / STTR	-619		
c. Omnibus or Other Above Threshold Reductions		-90	
d. Below Threshold Reprogramming	+1523		
e. Rescissions	-104	-62	
Adjustments to Budget Years Since <u>FY 2000/2001</u> PB			+4383
Current Budget Submit ( <u>FY 2001</u> PB)	26620	22844	20457

Change Summary Explanation: Funding - FY 2001: Increase (+4383) to support Improved Environmental Control Unit development.

**UNCLASSIFIED**

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R-2A Exhibit)							DATE February 2000					
BUDGET ACTIVITY <b>5 - Engineering and Manufacturing Development</b>				PE NUMBER AND TITLE <b>0604804A Logistics &amp; Engineer Equipment - Engineering Development</b>				PROJECT <b>DH01</b>				
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
DH01 Combat Engineer Equipment - Engineering Development				7171	2743	823	923	1023	12959	18839	Continuing	Continuing
<p><b>A. Mission Description and Budget Item Justification:</b> This project supports the engineering and manufacturing development (EMD) of military tactical bridging for wet and dry gap bridging requirements such as the Common Bridge Transporter (CBT), the Improved Ribbon Bridge (IRB) Bays, Heavy Dry Support Bridge (HDSB), and Bridge Erection Boat (BEB). All bridging work is in support of the increased capabilities of the Multi-Role Bridge Company (MRBC). The completion of the MRBC EMD effort is essential to implement bridging modernization programs, allowing planned force structure reductions. This project also provides for market investigations of engineer construction equipment.</p> <p><b>FY 1999 Accomplishments:</b></p> <ul style="list-style-type: none"> <li>• 2051 Prepared and fabricated HDSB EMD System Support Package including Technical Publications &amp; Training.</li> <li>• 923 Completed contractor testing of HDSB EMD Prototype. (Qty – 2)</li> <li>• 2810 Conducted Production Qualification Test (PQT) of HDSB.</li> <li>• 395 Prepared HDSB Production Solicitation.</li> <li>• 210 Modified Bridge Erection Boat (BEB) for engineering evaluation. (Qty –1)</li> <li>• 300 Initiated IRB Flotation Modeling and Simulation.</li> <li>• 482 Conducted market investigation, revised performance specifications, performed Non-Developmental Item (NDI) testing , etc. for reprocurments of construction equipment.</li> </ul> <p>Total 7171</p> <p><b>FY 2000 Planned Program:</b></p> <ul style="list-style-type: none"> <li>• 700 Completion of HDSB prototype contracts. (Qty – 2)</li> <li>• 705 Complete PQT of HDSB.</li> <li>• 414 Fabricate Bridge Erection Boat (BEB) prototypes. (Qty – 4)</li> <li>• 250 Complete IRB Flotation Modeling and Simulation.</li> <li>• 600 Conduct market investigation, revise performance specifications, perform Non-Developmental Item (NDI) testing, etc. for reprocurments of construction equipment.</li> <li>• 74 Small Business Innovation Research/Small Business Technology Transfer (SBIR/STTR) Programs</li> </ul> <p>Total 2743</p>												
Project DH01				Page 3 of 32 Pages				Exhibit R-2A (PE 0604804A)				

UNCLASSIFIED

<b>ARMY RDT&amp;E BUDGET ITEM JUSTIFICATION (R-2A Exhibit)</b>							DATE <b>February 2000</b>		
BUDGET ACTIVITY <b>5 - Engineering and Manufacturing Development</b>				PE NUMBER AND TITLE <b>0604804A Logistics &amp; Engineer Equipment - Engineering Development</b>			PROJECT <b>DH01</b>		
<p><b>FY 2001 Planned Program:</b></p> <ul style="list-style-type: none"> <li>• 313 Conduct market investigation for reprocurments of construction equipment.</li> <li>• 300 Revise performance specifications for reprocurments of construction equipment.</li> <li>• 210 Perform Non-Developmental Item (NDI) testing for reprocurments of construction equipment.</li> </ul> <p>Total 823</p>									
<b>B. Other Program Funding Summary</b>	<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>
OPA3, G82400, Heavy Dry Support Bridge		15326	19224	20592	44474	44972	44923	Cont	Cont
OPA3, GA1200, Bridge Site Mobility						6844	7225	Cont	Cont
OPA3, M26800, Bridge, Float-Ribbon, Transporter	9558	21095	7844	18170	23668	29366	29335	Cont	Cont
OPA3, M26600, Bridge, Float-Ribbon, Interior Bays		2975	7825	9771	10094	10895	9922	Cont	Cont
OPA3, M26700, Bridge, Float-Ribbon, Ramp Bays		1275						Cont	Cont
OPA3, M27200, Float Bridge Propulsion			1942	1939	4409	7224	7068	Cont	Cont
OPA3, M06600, Crane Shovel Crawler		3849	3127	3170	3245	2312	678	Cont	Cont
OPA3, M03900, Loader, Scoop Type		7704	1444	10090	11531	4008	4067	Cont	Cont
OPA3, M06100, Tractor, Full Tracked Low Sp				5839	14243	12058	12193	Cont	Cont
OPA3, M06000, Tractor, Sectionalized,				6326	6953			Cont	Cont
OPA3, M06400, Loader, Scoop 2.5 Cu Yd.					13732	15408	15392	Cont	Cont
OPA3, M07000, Crushing/Screen Plan	8127	7328	89	7646	7632	4044		Cont	Cont
OPA3, R02800, Scraper, Earthmoving 14-18 Cu					3961	1926	1924	Cont	Cont
OPA3, R14200, Scraper, Elevating, 9 Cu Yd				7185	5965	6121	6175	Cont	Cont
OPA3, R03801, Grader, Mtzd, Hvy				9305	17446	17534	17515	Cont	Cont
OPA3, R03806, Grader, Airborne					2159	6715	3957	Cont	Cont
<p><b>C. Acquisition Strategy:</b> HDSB - Competitive RDTE followed by competitive procurement. IRB – Limited RDTE followed by competitive procurement. BEB – Limited RDTE followed by competitive procurement</p>									
Project DH01			Page 4 of 32 Pages			Exhibit R-2A (PE 0604804A)			

**UNCLASSIFIED**

<b>ARMY RDT&amp;E BUDGET ITEM JUSTIFICATION (R-2A Exhibit)</b>	DATE <b>February 2000</b>
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<b>BUDGET ACTIVITY</b> <b>5 - Engineering and Manufacturing Development</b>	<b>PE NUMBER AND TITLE</b> <b>0604804A Logistics &amp; Engineer Equipment - Engineering Development</b>	<b>PROJECT</b> <b>DH01</b>
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<b>D. Schedule Profile</b>	<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 2004</u>	<u>FY 2005</u>
Conducted HDSB PPQT	3Q*	1Q						
HDSB Production Contract Award/MS IIIA		2Q						
HDSB PVT/IOT&E Complete/MS Full Rate			3Q	2Q				
HDSB FUE				4Q				
Conducted IRB Flotation Model and Simulation	3Q*	1Q						
IRB Production Contract Award/MS IIIA		2Q						
IRB PVT / MS III Full Rate			2Q	1Q				
IRB FUE				3Q				
BEB Prototype Contract Award/MSII		4Q						
BEB Production Contract Award/MS IIIA				4Q				
BEB PVT Complete/ MS III Full Rate					4Q			
BEB FUE						4Q		
Market Investigations, Testing, Perf Spec Updating, etc for Construction Equipment	4Q*	4Q						

\* Milestone Completed

UNCLASSIFIED

<b>ARMY RDT&amp;E BUDGET ITEM JUSTIFICATION (R-2A Exhibit)</b>	DATE <b>February 2000</b>
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<b>BUDGET ACTIVITY</b> <b>5 - Engineering and Manufacturing Development</b>	<b>PE NUMBER AND TITLE</b> <b>0604804A Logistics &amp; Engineer Equipment - Engineering Development</b>	<b>PROJECT</b> <b>DH02</b>
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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
DH02 Tactical Bridging - Engineering Development	332	0	643	1110	828	1981	1980	Continuing	Continuing

**A. Mission Description and Budget Item Justification:** This project supports the development and transition to procurement of military tactical bridge site mobility equipment to meet requirements such as the Anchorage System for the Ribbon Bridge and Improved Ribbon Bridge (IRB), Access Egress Roadway System (AERS) for bridge approaches, and performance upgrades to the Bridge Erection Boat (BEB).

**FY 1999 Accomplishments:**

- 100 Conducted market investigation for Bridge Erection Boat (BEB).
  - 232 Obtained BEB to prove out the specification and prepared for FY01 production in RFP.
- Total 332

**FY 2000 Planned Program:** Project not funded in FY 2000.

**FY 2001 Planned Program:**

- 100 Conduct Market investigation for Access Egress Roadway System (AERS).
  - 543 Award EMD contract for AERS.
- Total 643

<b>B. Other Program Funding Summary</b>	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Compl	Total Cost
OPA3, GA1200, Bridge Site Mobility						6844	7225	Cont	Cont
OPA3, M27200 Float Bridge Propulsion			1942	1939	4409	7224	7068	Cont	Cont

**C. Acquisition Strategy:** Anchorage System and Competitive RDTE AERS contracts followed by procurement. BEB-Limited RDTE develop performance specification followed by competitive procurement to specification.

UNCLASSIFIED

<b>ARMY RDT&amp;E BUDGET ITEM JUSTIFICATION (R-2A Exhibit)</b>	DATE <b>February 2000</b>
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BUDGET ACTIVITY <b>5 - Engineering and Manufacturing Development</b>	PE NUMBER AND TITLE <b>0604804A Logistics &amp; Engineer Equipment - Engineering Development</b>	PROJECT <b>DH02</b>
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<b>D. Schedule Profile</b>	<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>
BEB Market Investigation complete	4Q*							
BEB Develop Specification		2Q						
AERS Market Investigation complete			1Q					
AERS EMD award			4Q					

\* Milestone Completed

**UNCLASSIFIED**

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R-2A Exhibit)							DATE February 2000					
BUDGET ACTIVITY <b>5 - Engineering and Manufacturing Development</b>				PE NUMBER AND TITLE <b>0604804A Logistics &amp; Engineer Equipment - Engineering Development</b>				PROJECT <b>DH14</b>				
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
DH14 Materials Handling Equipment - Engineering Development				3741	102	595	593	591	592	591	Continuing	Continuing
<p><b>A. Mission Description and Justification:</b> This project supports development of Material Handling Equipment (MHE) that support Combat Service Support units with MHE for world wide rapid movement of supplies including container handling equipment, forklifts, and other cargo handling related items. Necessary efforts include validating requirements, developing acquisition strategies, developing performance specifications and test and evaluation planning.</p> <p><b>FY 1999 Accomplishments:</b></p> <ul style="list-style-type: none"> <li>• 53 Developed performance specifications for Rough Terrain Container Crane.</li> <li>• 40 Conducted pre-award contract efforts for buy Rough Terrain Container Crane and Spreader Bars.</li> <li>• 3648 Awarded contract for the Rough Terrain Container Handler (RTCH) prototype vehicles. (Qty – 2)</li> </ul> <p>Total 3741</p> <p><b>FY 2000 Planned Program:</b></p> <ul style="list-style-type: none"> <li>• 20 Monitor Production Qualification test (PQT) testing of the Rough Terrain Container Handler (RTCH).</li> <li>• 37 Develop performance specification for Electric Forklift.</li> <li>• 42 Prepare/update All Terrain Lifting Army System (ATLAS) purchase description for FY01 buy.</li> <li>• 3 Small Business Innovation Research (SBIR) Program</li> </ul> <p>Total 102</p> <p><b>FY 2001 Planned Program:</b></p> <ul style="list-style-type: none"> <li>• 50 Preparation of program documentation for Non-Developmental Item (NDI) MHE procurements.</li> <li>• 45 Updating performance specifications for use in upcoming NDI MHE procurements.</li> <li>• 500 Procurement and testing of NDI prototype 50K Rough Terrain Forklift. (Qty – 1)</li> </ul> <p>Total 595</p>												
Project DH14				Page 8 of 32 Pages				Exhibit R-2A (PE 0604804A)				

UNCLASSIFIED

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BUDGET ACTIVITY <b>5 - Engineering and Manufacturing Development</b>				PE NUMBER AND TITLE <b>0604804A Logistics &amp; Engineer Equipment - Engineering Development</b>			PROJECT <b>DH14</b>	

  

<b>C. <u>Other Program Funding Summary</u></b>	<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, 0603804.DG14, Logistics Support Equipment, Advanced Development	95	105	188	199	194	195	195	Cont	Cont
OPA3, M41200, Forklift, DE, PT, RT, 50K lbs.(RTCH)	20416	0	40031	43083	45227	15996	15731	Cont	Cont
OPA3, M41800, All Terrain Lifting Army System (ATLAS)	18805	23469	24407	29931	29791	30073	28462	Cont	Cont
OPA3, X00900, Rough Terrain Container Crane(RTCC)	1124	10883	2056	0	0	0	0	Cont	Cont
OPA3, ML5365, Items Less Than \$5.0M (MHE)	1732	1756	1231	1478	1493	1433	1444	Cont	Cont

**D. Acquisition Strategy:** RDT&E Logistics Support Engineering Equipment – Competitive formal source selection for prototype equipment. RTCH – Competitive procurement for prototype and sole source for production using NDI integration of commercial components. ATLAS – The current contract was competitive award; FY01 new start to be sole source. RTCC – Sole source procurement to original manufacturer. Items less than \$5M – Competitive procurements for various MHE.

<b>E. <u>Schedule Profile</u></b>	<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>
Market Investigation	1Q-3Q*	1Q-3Q	1Q-3Q	1Q-3Q	1Q-3Q	1Q-3Q	1Q-3Q
Performance Specifications	2Q-4Q*	2Q-4Q	2Q-4Q	2Q-4Q	2Q-4Q	2Q-4Q	2Q-4Q
Testing of development systems	3Q-4Q*	1Q			3Q	3Q	
Pre-award contract efforts	2Q*						

\* Milestone Completed

**UNCLASSIFIED**

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BUDGET ACTIVITY <b>5 - Engineering and Manufacturing Development</b>				PE NUMBER AND TITLE <b>0604804A Logistics &amp; Engineer Equipment - Engineering Development</b>				PROJECT <b>DL39</b>				
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
DL39 Water, Maintenance and Environmental Equipment - Engineering Development				2621	2112	4529	2989	901	1455	1451	Continuing	Continuing
<p><b>A. Mission Description and Justification:</b> Program develops and transition to procurement water purification equipment, maintenance equipment and environmental control units (ECU) that do not use ozone depleting refrigerants.</p> <p><b>FY 1999 Accomplishments</b></p> <ul style="list-style-type: none"> <li>• 1128 Engineering and management support of 1500 Gallons Per Hour (GPH) Tactical Water Purification System (TWPS) EMD contract effort.</li> <li>• 200 Completed 1500 GPH TWPS Source Selection Evaluation Board (SSEB).</li> <li>• 698 Awarded EMD contract for design and fabrication 1500 GPH TWPS EMD prototype. (Qty – 2)</li> <li>• 55 Prepared and initiate Production Qualification Testing (PQT)/Engineering User Testing (EUT) for 1500 GPH TWPS.</li> <li>• 200 Developed purchase description for 18K BTU/H ECU.</li> <li>• 220 Developed purchase description for large diesel heaters (250K + BTU/H).</li> <li>• 120 Completed testing of large heater prototypes. (Qty –2)</li> </ul> <p>Total 2621</p> <p><b>FY 2000 Planned Program:</b></p> <ul style="list-style-type: none"> <li>• 175 Engineering and management support of the 1500 GPH PQT/EUT.</li> <li>• 355 Contractor support of PQT and completion of 1500 GPH TWPS EMD contract.</li> <li>• 150 Engineering and management support of 1500 GPH TWPS EMD contract effort.</li> <li>• 850 Complete PQT/EUT for 1500 GPH TWPS.</li> <li>• 69 Initiate 1500 GPH TWPS production contract solicitation and MS III IPR.</li> <li>• 240 Complete Purchase Description for Improved Environmental Control Units (IECU) Family</li> <li>• 100 Complete testing of 18K BTU/H ECU prototypes.</li> <li>• 118 Complete MS I/II IPR for IECU</li> <li>• 55 Small Business Innovation Research/Small Business Technology Transfer (SBIR/STTR) Programs</li> </ul> <p>Total 2112</p>												
Project DL39				Page 10 of 32 Pages				Exhibit R-2A (PE 0604804A)				

**UNCLASSIFIED**

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<p><b>FY 2001 Planned Program:</b></p> <ul style="list-style-type: none"> <li>• 3200 Award EMD contract for IECU family.</li> <li>• 1005 Engineering and management support of EMD contract for IECU.</li> <li>• 324 Test Support for EMD contract for IECU.</li> </ul> <p>Total 4529</p>									
<b>B. <u>Other Program Funding Summary</u></b>	<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>
OPA 3, R05600, Water Purification Systems		10352	40727	40259	45291	21889	22140	Cont	Cont
OPA3, MF9000, Environmental Control Units (ECU)	6057	5955	6348	7051	16541	8933	8923	Cont	Cont
<p><b>C. <u>Acquisition Strategy:</u></b> Development and transition to competitive procurement for all items under this project.</p>									
<b>D. <u>Schedule Profile</u></b>	<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>FY2005</u>		
Award EMD contract for 1500 TWPS.	2Q*								
Conduct CDR for the 1500 TWPS	3Q*								
Complete 1500 TWPS prototype fabrication.		2Q							
Complete contractor testing on 1500 TWPS.		2Q							
Complete PQT/EUT on 1500 TWPS		4Q							
Conduct MS III on 1500 TWPS			2Q						
Completed in-house testing of 18K IECU ECU	3Q*								
MS I/II IPR for IECU		2Q							
Release EMD RFP for IECU		3Q							
Award EMD contract for IECU			1Q						
Award follow-on EMD contract				1Q					
Complete Testing for IECU				4Q					
MS III/TCRP for IECU				4Q					
Production RFP Released					1Q				
* Milestone Completed.									

UNCLASSIFIED

ARMY RDT&E COST ANALYSIS (R-3)										DATE February 2000		
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development					PE NUMBER AND TITLE 0604804A Logistics & Engineer Equipment - Engineering Development					PROJECT DL39		
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. 1500 GPH TWPS	In-House	TARDEC	2721	663	Dec 99					Cont	3384	
b. 1500 GPH TWPS	C-CPFF	SFA, Inc.		795	Jan 99	300	2Q			Cont	1095	
d. Complete Large Heater Purchase Description (PD)	In-house	US Army CECOM, Ft. Belvoir, VA		183	Dec 99						183	
e. Complete Family IECU PD	In-house	US Army CECOM, Ft. Belvoir, VA				600					600	
f. Engr. IECU EMD	In-house	US Army CECOM, Ft. Belvoir, VA						474			474	
g. IECU EMD	C-CPFF	Contractor TBD						3200	1Q		3200	
Subtotal Product Development:			2721	1641		900		3674			8936	
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. Large Heater PD	Time & Material	US Army CECOM, Ft. Belvoir, VA		20	Dec 99						20	20
b. IECU PD	Time & Material	US Army CECOM, Ft. Belvoir, VA		533		20	1Q	20	1Q		573	20
Subtotal Support Costs:				553		20		20			593	
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. PQT (1500 TWPS)	MIPR	TECOM (ATC)	20	55	Apr 99	887	Dec 00			Cont	962	
b. Engineering tests of heater	in-house	US Army CECOM, Ft. Belvoir, VA		225							225	
c. ECU component tests	in-house	US Army CECOM, Ft. Belvoir, VA		107							107	

UNCLASSIFIED

ARMY RDT&E COST ANALYSIS (R-3)										DATE February 2000		
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development					PE NUMBER AND TITLE 0604804A Logistics & Engineer Equipment - Engineering Development					PROJECT DL39		
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
d. Engineering tests of IECU prototypes	in-house	US Army CECOM, Ft. Belvoir, VA				250		700			950	
Subtotal Test and Evaluation:			20	387		1137		700			2244	
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. IECU management	In-house	US Army CECOM, Ft. Belvoir, VA		40				135			175	
b. SBIR/STTR						55					55	
Subtotal Management Services:				40		55		135			230	
Project Total Cost:			2741	2621		2112		4529			12003	

**UNCLASSIFIED**

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R-2A Exhibit)							DATE February 2000					
BUDGET ACTIVITY <b>5 - Engineering and Manufacturing Development</b>				PE NUMBER AND TITLE <b>0604804A Logistics &amp; Engineer Equipment - Engineering Development</b>				PROJECT <b>DL41</b>				
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
DL41 Fuels Handling Equipment - Engineering Development				1024	5288	6338	7285	5492	4594	4025	Continuing	Continuing
<p><b>A. Mission Description and Justification:</b> The Army has the mission to supply fuel for all land-based forces, including the Marines and the Air Force. This developmental program provides the capability to perform battlefield sustainment operations, including receiving and transferring petroleum from trucks, ships, and permanent and temporary storage facilities; moving petroleum between storage to and within corps and division areas; quality surveillance testing; and dispensing in support of tactical operations, including rapid refueling of airfields. In FY01 this project also includes the development and transition to procurement of water purification equipment which has previously been accomplished in project DL39.</p> <p><b>FY 1999 Accomplishments:</b></p> <ul style="list-style-type: none"> <li>• 305 Updated Petroleum Quality Surveillance Lab (PQSL) system specification, program documents and plans.</li> <li>• 90 Initiated pre-planned product improvements in testing capability for Petroleum Quality Analysis laboratory (PQAS).</li> <li>• 307 Initiated development of advanced fuel filter-separators and coalescer elements.</li> <li>• 109 Demonstrated modular fuel farm concept.</li> <li>• 213 Conducted testing of improved PQAS hardware components.</li> </ul> <p>Total 1024</p> <p><b>FY 2000 Planned Program:</b></p> <ul style="list-style-type: none"> <li>• 2750 Award and administer development contract and conduct test/evaluation of PQAS prototypes.</li> <li>• 2037 Award incrementally-funded contract for lightweight pipeline alternatives.</li> <li>• 361 Program management and general support.</li> <li>• 140 Small Business Innovation Research/Small Business Technology Transfer (SBIR/STTR) Programs</li> </ul> <p>Total 5288</p> <p><b>FY 2001 Planned Program:</b></p> <ul style="list-style-type: none"> <li>• 933 Continue development and test/evaluation of PQAS EMD prototypes.</li> <li>• 250 Continue development of pre-planned improvements to PQAS components.</li> <li>• 2389 Award and administer EMD contract for Petroleum Quality Surveillance Lab (PQSL) prototypes.</li> <li>• 1032 Award second increment for lightweight pipeline alternatives. Complete test and evaluation.</li> <li>• 800 Program management and general support.</li> </ul>												
Project DL41				Page 14 of 32 Pages				Exhibit R-2A (PE 0604804A)				

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<b>ARMY RDT&amp;E BUDGET ITEM JUSTIFICATION (R-2A Exhibit)</b>	DATE <b>February 2000</b>
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<b>BUDGET ACTIVITY</b> <b>5 - Engineering and Manufacturing Development</b>	<b>PE NUMBER AND TITLE</b> <b>0604804A Logistics &amp; Engineer Equipment - Engineering Development</b>	<b>PROJECT</b> <b>DL41</b>
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**FY 2001 Planned Program: (continued)**

- 300 Conduct IOT&E for 1500 GPH Tactical Water Purification System (TWPS).
  - 100 Conduct MS III IPR for 1500 GPH TWPS.
  - 534 Evaluate Pre-Planned Product Improvements (P3I) for water purification systems.
- Total 6338

<b>B. Other Program Funding Summary</b>	<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, 0603804.DK41, POL Distribution Equipment Advanced Development	781	862	2195	2318	2320	2491	2487	2900	2900
OPA 3, MB6400, Quality Surveillance Equipment	0	6225	7120	7580	40458	2452	2566	Cont	Cont
OPA 3, RO5600, Water Purification Systems	0	10352	40727	40259	45291	21889	22140	Cont	Cont

**C. Acquisition Strategy:** Development of and transition to competitive procurement for all items under this project.

<b>D. Schedule Profile</b>	<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>
Completed PQAS specification and program documentation.	3Q-4Q*						
Demonstrated concept for modular fuel farm.	4Q*						
Award contract for the lightweight pipeline alternatives.		2Q					
Award PQAS EMD contract.		3Q					
Evaluate P3I for water purification systems			1Q-4Q				
Complete evaluation of FBTT & XRF as screening methods for PQAS.			4Q				
Conduct 1500 TWPS IOT&E Testing and MS III			2Q-4Q				
Complete DT/OT of pre-production PQAS prototypes.			3Q				
Award PQSL contract.			2Q				
Award second increment for lightweight pipeline alternatives. Test & Evaluate.			2Q-4Q				

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<b>ARMY RDT&amp;E BUDGET ITEM JUSTIFICATION (R-2A Exhibit)</b>	DATE <b>February 2000</b>
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<b>BUDGET ACTIVITY</b> <b>5 - Engineering and Manufacturing Development</b>	<b>PE NUMBER AND TITLE</b> <b>0604804A Logistics &amp; Engineer Equipment - Engineering Development</b>	<b>PROJECT</b> <b>DL41</b>
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<b>D. Schedule Profile</b>	<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>
Complete technical evaluation of FTIR spectroscopy as screening tool for PQAS.				4Q			
Prepare specification for POL Quality Analyzer.				1Q			
Award POL Quality Analyzer.				3Q			
Complete PQSL DT/OT.					2Q		
Conduct PQSL MS III IPR.					3Q		
Complete Dev Test POL Quality Analyzer.					2Q		
Develop Force XXI and AAN Tactical Petroleum Distribution System.						1Q-4Q	
Award and test Tactical Petroleum Distribution System.							1Q-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**  
**0604804A Logistics & Engineer Equipment -  
Engineering Development**

**PROJECT**  
**DL41**

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. PQAS	In-House	TARDEC	1569	258	Dec 98	150	Jan 00	183	Dec 00	Cont	2160	
b. PQAS	C-CPFF	Contractor TBD	2172			2255	Jan 00	400	Dec 00		4827	
c. PQAS P3I	In-House	TARDEC		15	Dec 98			150	Jan 01	Cont	165	
d. PQAS P3I	C-Work Dir	TFLRF		75	Sep 99			100	Jan 01		175	
e. PQSL	In-House	TARDEC						150	Dec 00	Cont	150	
f. PQSL	C-CPFF	Contractor TBD						2089	May 01		2089	
g. Advance Fuel Filtration	In-House	TARDEC		257	Dec 98						257	
h. Modular Fuel Farm	C-FP	Oshkosh Truck Corp		109	Oct 98						109	
i. Lightweight Pipeline	In-House	TARDEC				150	Dec 99	150	Dec 00	Cont	300	
j. Lightweight Pipeline	C-CPFF	Contractor TBD				1887	May 00	582	Apr 01		2469	
k. Improved PAWS hardware components	In-House	TACOM		186							186	
l. 1500 TWPS	In-House	TARDEC						600	Jan 01	Cont	600	
m. 1500 TWPS hardware	C-CPFF	SFA, Inc						534	Jan 01		534	
n. SIBR/STTR						140					140	
Subtotal Product Development:			3741	900		4582		4938			14161	

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. PQAS	In-House	TACOM	270	74	Dec 98	361	Dec 99	300	Dec 00	Cont	1005	
b. PQSL	In-House	TACOM						100	Jan 01	Cont	100	
c. Advance Fuel Filtration	In-House	TACOM		50	Dec 98						50	
Subtotal Support Costs:			270	124		361		400			1155	

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<b>ARMY RDT&amp;E COST ANALYSIS (R-3)</b>										DATE <b>February 2000</b>		
BUDGET ACTIVITY <b>5 - Engineering and Manufacturing Development</b>					PE NUMBER AND TITLE <b>0604804A Logistics &amp; Engineer Equipment - Engineering Development</b>					PROJECT <b>DL41</b>		
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. PQAS DT	MIPR	TECOM	187			345	Jun 00				532	
b. PQAS OT	MIPR	TEXCOM						350	Mar 01		350	
c. PQSL	MIPR	TECOM						50	May 00		50	
d. Lightweight Pipeline	MIPR	TECOM						300	Dec 00		300	
e. 15500 GPH TWPS	MIPR	OTC						300	Jan 01		300	
Subtotal Test and Evaluation:			187			345		1000			1532	
Project Total Cost:			4198	1024		5288		6338			16848	

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<b>ARMY RDT&amp;E BUDGET ITEM JUSTIFICATION (R-2A Exhibit)</b>	DATE <b>February 2000</b>
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<b>BUDGET ACTIVITY</b> <b>5 - Engineering and Manufacturing Development</b>	<b>PE NUMBER AND TITLE</b> <b>0604804A Logistics &amp; Engineer Equipment - Engineering Development</b>	<b>PROJECT</b> <b>DL42</b>
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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
DL42 Camouflage System - Engineering Development	754	388	380	327	343	486	1456	Continuing	Continuing

**A. Mission Description and Justification:** Project DL42 provides for development and transition to procurement low cost, low observable systems for suppression of visual, near-infrared, thermal, radar, and acoustic signatures of highly mobile and semi-mobile weapon assets.

**FY 1999 Accomplishments:**

- 190 Prepared Test Plan for Woodlands Ultra-Lightweight Camouflage Net System (ULCANS).
  - 190 Completed Type Classification Actions for Woodlands ULCANS.
  - 374 Completed Woodland ULCANS Production Qualification testing (PQT)/Operational Test (OT).
- Total 754

**FY 2000 Planned Program:**

- 191 Complete Desert ULCANS PQT/OT testing.
  - 100 Finalize test report.
  - 86 Prepare final Desert ULCANS Engineering Change Proposal (ECP).
  - 11 Small Business Innovation Research/Small Business Technology Transfer (SBIR/STTR) Programs
- Total 388

**FY 2001 Planned Program:**

- 280 Prepare draft ECP for Urban ULCANS.
  - 100 Prepare Urban ULCANS PQT/OT test plan.
- Total 380

<b>B. <u>Other Program Funding Summary</u></b>	<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>
RDTE, 0602712.AH35, Camouflage Technology	1956	2094	2410	2465	2520	2676	2799	Cont	Cont

**C. Acquisition Strategy:** Develop camouflage systems for the Services and transition items to competitive procurement.

<b>ARMY RDT&amp;E BUDGET ITEM JUSTIFICATION (R-2A Exhibit)</b>	DATE <b>February 2000</b>
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BUDGET ACTIVITY <b>5 - Engineering and Manufacturing Development</b>	PE NUMBER AND TITLE <b>0604804A Logistics &amp; Engineer Equipment - Engineering Development</b>	PROJECT <b>DL42</b>
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<b>D. Schedule Profile</b>	<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 2004</u>	<u>FY 2005</u>
Complete Desert ULCANS P3I MDR PQT/OT Test, and test report		4Q						
Prepare draft ECP for Snow ULCANS and Snow ULCANS PQT/OT test plan			4Q					

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ARMY RDT&E BUDGET ITEM JUSTIFICATION (R-2A Exhibit)							DATE February 2000					
BUDGET ACTIVITY <b>5 - Engineering and Manufacturing Development</b>				PE NUMBER AND TITLE <b>0604804A Logistics &amp; Engineer Equipment - Engineering Development</b>				PROJECT <b>DL43</b>				
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
DL43 Engineer Support Equipment - Engineering Development				182	53	578	250	1206	542	1188	Continuing	Continuing
<p><b>A. Mission Description and Justification:</b> Project develops Engineer Support Equipment (CSSE) such as small boats, diving equipment, well drilling machines, firetrucks, tool outfits, large power generator plants, electrical distribution systems, and floodlights which are used for field operations.</p> <p><b>FY 1999 Accomplishments:</b></p> <ul style="list-style-type: none"> <li>• 29 Conducted market investigation and developed performance specification for the 88.6 cfm Compressor.</li> <li>• 51 Conducted market investigation and developed performance specification for the Deep Sea Diving Sets.</li> <li>• 56 Conducted market investigation and developed performance specification for the Underwater Cutting and Welding Set.</li> <li>• 46 Conducted market investigation, developed performance specification and conducted testing of general purpose survey sets.</li> </ul> <p>Total 182</p> <p><b>FY 2000 Planned Program:</b></p> <ul style="list-style-type: none"> <li>• 20 Develop performance specification for outboard motors.</li> <li>• 19 Conduct market investigation for outboard motors.</li> <li>• 13 Conduct market investigation testing for outboard motors.</li> <li>• 1 Small Business Innovation Research (SBIR) Program</li> </ul> <p>Total 53</p> <p><b>FY 2001 Planned Program:</b></p> <ul style="list-style-type: none"> <li>• 55 Conduct market investigation, develop performance specifications and conduct evaluation of commercial components for diving equipment.</li> <li>• 433 Conduct market investigation, develop performance specifications and conduct evaluation of commercial components for a 500KW electric power system, power distribution system and power control station.</li> <li>• 90 Conduct market investigation and develop performance specifications for a 7 man assault boat.</li> </ul> <p>Total 578</p>												
Project DL43				Page 21 of 32 Pages				Exhibit R-2A (PE 0604804A)				

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<b>ARMY RDT&amp;E BUDGET ITEM JUSTIFICATION (R-2A Exhibit)</b>	DATE <b>February 2000</b>
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<b>BUDGET ACTIVITY</b> <b>5 - Engineering and Manufacturing Development</b>	<b>PE NUMBER AND TITLE</b> <b>0604804A Logistics &amp; Engineer Equipment - Engineering Development</b>	<b>PROJECT</b> <b>DL43</b>
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<b>B. <u>Other Program Funding Summary</u></b>	<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>
OPA 3, ML5325/MA8050, Items Less than \$5.0M (CSS Equipment)	6447	2543	1909	10976	5639	12049	25003	Cont	Cont
OPA 3, MA8800, Items Less than \$5.0M (Generator Equipment)	0	0	0	2648	2721	4482	3696	0	13547
OPA 3, M59100, Secondary Distribution System 150 KW	0	0	0	2779	2850	1679	0	0	7308
OPA 3, M56400, Generator Set, DE, 750KW 60HZ	0	0	0	2966	3039	6536	6346	0	18887

**C. Acquisition Strategy:** EMD and transition to production.

<b>D. <u>Schedule Profile</u></b>	<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 2004</u>	<u>FY 2005</u>
Conduct market investigation and testing for diving equipment	4Q*							
Conduct market investigation and testing for outboard motors		4Q						
Develop performance specifications for 500KW and 750KW Electric Power Systems			2Q					
Develop performance specifications for Power Distribution and Control System			2Q					
Conduct market investigation testing for Power Distribution and Control System			4Q					
Conduct market investigation testing for 500KW and 750KW Electric Power Systems			4Q					

\* Milestone Completed.

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ARMY RDT&E BUDGET ITEM JUSTIFICATION (R-2A Exhibit)							DATE February 2000					
BUDGET ACTIVITY <b>5 - Engineering and Manufacturing Development</b>				PE NUMBER AND TITLE <b>0604804A Logistics &amp; Engineer Equipment - Engineering Development</b>				PROJECT <b>D194</b>				
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
D194 Engine Driven Generators - Engineering Development				4702	7892	5124	2980	2481	1514	1516	Continuing	Continuing
<p><b>A. <u>Mission Description and Budget Item Justification:</u></b> Develop and transition to procurement a series of diesel engine driven generator sets/auxiliary power units and provide continual modernization of fielded sets in order to meet federally mandated environmental statutes with reduced weight and size with reduced thermal signatures.</p> <p><b>FY 1999 Accomplishments:</b></p> <ul style="list-style-type: none"> <li>• 935 Completed development and testing for the 3kW generator set (Qty – 8).</li> <li>• 2274 Completed hardware and development of Deployable Power Generation &amp; Distribution System (DPGDS) (Qty – 2).</li> <li>• 222 Initiated 100/200kW program.</li> <li>• 1271 Initiated evaluation of 5-60kW Advanced Medium Sized Mobile Power Sources (AMMPS) generator designs.</li> </ul> <p>Total 4702</p> <p><b>FY 2000 Planned Program:</b></p> <ul style="list-style-type: none"> <li>• 462 Complete DPGDS test and evaluation and transition to procurement.</li> <li>• 4367 Initiate hardware development and testing for 100 &amp; 200kW TQG. (Qty – 8)</li> <li>• 2862 Design and fabricate prototype 5-60kW AMMPS. (Qty – 8)</li> <li>• 201 Small Business Innovation Research/Small Business Technology Transfer (SBIR/STTR) Programs</li> </ul> <p>Total 7892</p> <p><b>FY 2001 Planned Program:</b></p> <ul style="list-style-type: none"> <li>• 2675 Continue hardware development &amp; testing for 100 &amp; 200kW TQG. (Qty – 28).</li> <li>• 2449 Complete fabrication and initiate evaluation and test of 5-60kW AMMPS prototypes. (Qty – 9).</li> </ul> <p>Total 5124</p>												
<b>B. <u>Other Program Funding Summary</u></b>				<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>
RDT&E:PE0603804A/Advanced Electrical Energy Concepts Advanced Development(DG11)				1303	988	726	607	1038	639	639	Cont	Cont
Other Procurement, Army BA Generators & Assoc. Equip (MA9800)				65552	79589	85886	58856	70697	67084	58678	Cont	Cont

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<b>ARMY RDT&amp;E BUDGET ITEM JUSTIFICATION (R-2A Exhibit)</b>	DATE <b>February 2000</b>
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<b>BUDGET ACTIVITY</b> <b>5 - Engineering and Manufacturing Development</b>	<b>PE NUMBER AND TITLE</b> <b>0604804A Logistics &amp; Engineer Equipment - Engineering Development</b>	<b>PROJECT</b> <b>D194</b>
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**C. Acquisition Strategy:** Develop and transition to competitive procurement all items in this project.

<b>D. Schedule Profile</b>	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005
Design prototype fabrication & testing of DPGDS	1Q*						
Award Phase II EMD for DPGDS	2Q*						
Complete procurement package and issue RFP for 100/200kW	4Q*						
Complete testing 3kW generator set	4Q*						
Award competitive contract(s) for design, prototype fabrication & testing of 100/200kW TQG/Phase I)		2Q					
Transition 3kW TQG to procurement (MS III)		2Q					
Complete testing of DPGDS		3Q					
Award contract for AMMPS proof of principle prototype		2Q					
Milestone III of DPGDS		3Q					
Award Phase II EMD for fabrication of PPQT 100/200kW TQG sets			2Q				
Complete fabrication 5-60kW AMMPS proof of principle prototype			3Q				
Initiate testing of AMMPS proof of principle prototype			3Q				
Develop solicitation package for AMMPS				2Q			
Complete AMMPS prototype testing				4Q			
Transition 100/200kW TQG to Procurement (Milestone III)					2Q		
Award Phase I contracts for AMMPS: Develop military system					2Q		
Complete Phase I contracts and downselect to one AMMPS contract						4Q	
Award Phase II contract for AMMPS family							1Q

\* 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**  
**0604804A Logistics & Engineer Equipment -  
Engineering Development**

**PROJECT**  
**D194**

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. DPGDS EMD	C-CPFF (2 <sup>nd</sup> increment)	Radian -Alexandria, VA	1800	1964	Mar99					36	3800	
b. 100/200kW	C-CPFF	TBD				3800	Dec99	2075	Mar01		5875	
c. AMMPS(5-60kW)	Small Purchase	TBD		200	Mar99						200	
d. AMMPS(5-60kW)	C-CPFF	TBD		671	Jan99	2200	Dec99	1327	Jan01	6040	10238	
e. 3kW			4500								4500	
Subtotal Product Development:			6300	2835		6000		3402		6076	24613	

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. 3kW		CECOM-In-house	440	220	Oct98						660	
b. AMMPS(5-60kW)		CECOM-In-house		300	Oct98	430	Oct99	400	Oct00	2100	3230	
c. 100/200kW		CECOM-In-house		122	Oct98	395	Oct99	450	Oct00	300	1267	
d. DPGDS		CECOM-In-house	520	260	Oct98	50	Oct99				830	
Subtotal Support Costs:			960	902		875		850		2400	5987	

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. DPGDS		Eglin AFB, FL				362	Nov99			57	419	
b. 100/200kW		TBD								3697	3697	
c. 3kW		APG, MD	1500	300	Feb99						1800	
d. 3kW		TEXCOM		315	Feb99						315	
e. AMMPS(5-60kW)		TBD				75	Mar00	522	Mar01	3000	3597	
Subtotal Test and Evaluation:			1500	615		437		522		6754	9828	

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ARMY RDT&E COST ANALYSIS (R-3)										DATE February 2000		
BUDGET ACTIVITY <b>5 - Engineering and Manufacturing Development</b>				PE NUMBER AND TITLE <b>0604804A Logistics &amp; Engineer Equipment - Engineering Development</b>					PROJECT <b>D194</b>			
IV. Management Services	Contract Method & Type	Performing Activity & Location	Total Pys Cost	<u>FY1999</u> Cost	<u>FY1999</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. DPGDS		CECOM-In-house	300	50	Oct98	50	Oct99				400	
b. 100/200kW		CECOM-In-house	100	100	Oct98	172	Oct99	150	Oct00	150	672	
c. 3kW		CECOM-In-house	200	100	Oct98						300	
d. AMMPS(5-60kW)		CECOM-In-house	200	100	Oct98	157	Oct99	200	Oct00	600	1257	
e. SBIR/STTR						201					201	
Subtotal Management Services:			800	350		580		350		750	2830	
Project Total Cost:			9560	4702		7892		5124		15980	43258	

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<b>ARMY RDT&amp;E BUDGET ITEM JUSTIFICATION (R-2A Exhibit)</b>	DATE <b>February 2000</b>
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<b>BUDGET ACTIVITY</b> <b>5 - Engineering and Manufacturing Development</b>	<b>PE NUMBER AND TITLE</b> <b>0604804A Logistics &amp; Engineer Equipment - Engineering Development</b>	<b>PROJECT</b> <b>D279</b>
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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
D279 Airdrop Equipment - Engineering Development	3230	0	0	0	0	0	0	0	3230

**A. Mission Description and Justification:** Develop and transition to procurement cargo and personnel parachutes, airdrop containers and other aerial deliver equipment to improve safety and efficiency of airborne operations.

**FY 1999 Accomplishments:**

- 307 Conducted planning for Developmental Testing of Advanced Reserve Parachute System.
  - 1023 Conducted Developmental Testing of Advanced Reserve Parachute System.
  - 130 Purchased Universal Static Line test items for Developmental and Operational Testing.
  - 340 Conducted planning for Developmental and Operational Testing of Universal Static Line.
  - 1124 Conducted Developmental Testing of Universal Static Line.
  - 306 Conducted Operational Testing of Universal Static Line.
- Total 3230

**FY 2000 Planned Program:** Program funded in 0604713A/DC40

**FY 2001 Planned Program:** Program funded in 0604713A/DC40

**B. Other Program Funding Summary:** Not applicable

**C. Acquisition Strategy:** Not applicable

<b>D. Schedule Profile</b>	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005
Conduct Advanced Reserve Parachute System Developmental Testing	4Q*						

\* Milestone Completed

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<b>ARMY RDT&amp;E BUDGET ITEM JUSTIFICATION (R-2A Exhibit)</b>							DATE <b>February 2000</b>																																		
<b>BUDGET ACTIVITY</b> <b>5 - Engineering and Manufacturing Development</b>				<b>PE NUMBER AND TITLE</b> <b>0604804A Logistics &amp; Engineer Equipment - Engineering Development</b>				<b>PROJECT</b> <b>D429</b>																																	
<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																																
D429 Rigidwall Shelter - Engineering Development	899	0	0	0	0	0	0	0	2305																																
<p><b>A. <u>Mission Description and Justification:</u></b> Develops a series of Rigid Wall Shelters (RWS) with added capabilities and enhanced survivability.</p> <p><b>FY 1999 Accomplishments:</b></p> <ul style="list-style-type: none"> <li>• 899 Completed Milestone I/II for Cargo Bed Cover HMMWV (Type I) and 1.5 ton trailer variants (Type II). Awarded LRIP/production contract for Type I and Type II variants, built LRIP items, conducted First Article Testing and initiated field evaluations. Completed Government testing of commercial Cargo Bed Cover Type I. The Lightweight Maintenance Shelter program was terminated per sponsoring PM. Funds placed on Cargo Bed Cover program procured additional LRIP items.</li> </ul> <p>Total 899</p> <p><b>FY 2000 Planned Program:</b> Program funded in 0604713A/DC40</p> <p><b>FY 2001 Planned Program:</b> Program funded in 0604713A/DC40.</p> <p><b>B. Other Program Funding Summary:</b> Not applicable</p> <p><b>C. Acquisition Strategy:</b> Not applicable</p> <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td><b>D. <u>Schedule Profile</u></b></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> </tr> <tr> <td>Completed Milestone I/II for CBC HMMWV (Type I) and 1.5 ton trailer (Type II).</td> <td style="text-align: center;">4Q*</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Awarded LRIP/Production contract for CBC HMMWV (Type I) and 1.5 ton trailer (Type II).</td> <td style="text-align: center;">2Q*</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Completed testing of commercial CBC HMMWV (Type I)</td> <td style="text-align: center;">1Q*</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table> <p>* Milestone Completed</p>										<b>D. <u>Schedule Profile</u></b>	<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>	Completed Milestone I/II for CBC HMMWV (Type I) and 1.5 ton trailer (Type II).	4Q*							Awarded LRIP/Production contract for CBC HMMWV (Type I) and 1.5 ton trailer (Type II).	2Q*							Completed testing of commercial CBC HMMWV (Type I)	1Q*						
<b>D. <u>Schedule Profile</u></b>	<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>																																		
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Project D429			Page 28 of 32 Pages			Exhibit R-2A (PE 0604804A)																																			

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ARMY RDT&E BUDGET ITEM JUSTIFICATION (R-2A Exhibit)							DATE February 2000				
BUDGET ACTIVITY <b>5 - Engineering and Manufacturing Development</b>			PE NUMBER AND TITLE <b>0604804A Logistics &amp; Engineer Equipment - Engineering Development</b>					PROJECT <b>D461</b>			
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
D461	Marine Oriented Logistics Equipment - Engineering Development		1964	4266	1447	1207	2695	2759	2823	Continuing	Continuing
<p><b>A. Mission Description and Justification:</b> Provides funds for the engineering and pre-production development of equipment in support of the Army's Logistics-Over-The-Shore (LOTS), In-theatre Port Control, and Intercoastal/Riverine Logistics missions. Efforts in FY99 are centered on the completion of Containerized Maintenance Facility (CMF) development (this item replaces current Floating Machine Shops) and pre-production activity on the Logistics Support Vessel acquisition. Componentry Container/Shelter Configuration and Packaging Configurations for the CMF required additional development. Strategy was to complete remaining developmental activity, then immediately commence acquisition, assembly and packaging in the same fiscal year. Activity along these lines is ongoing. The program also provided for minor development work on the Logistics Support Vessel (LSV) prior to the FY 00 procurement. For FY 00, the project supports engineering development for the Joint Modular Lighterage System (JMLS) with the Navy, and the Army's Rapidly Installed Breakwater (RIB) Project; both of which are aimed at allowing defense forces to continue to offload critical equipment and supplies under challenging sea state conditions. Funds support pre-production activity on the LSV Extended Service Program (ESP)/Upgrade including CAIV analysis. Efforts complete the RIB development and center on the Port Communications and Control Center (PCCC). The PCCC program will provide for the safe and effective management of Army and Joint Port Operations during deployment of forces; both under Logistics Over The Shore (LOTS) conditions and operations in existing port facilities. Future year effort completes development efforts on the Landing Craft Utility (LCU) ESP, the Combat Logistics Vessel (CLV), Operating &amp; Support Cost Reduction Hardware, and the New Large Tug.</p> <p><b>FY 1999 Accomplishments:</b></p> <ul style="list-style-type: none"> <li>• 1081 Completed design specifications and documentation required prior to Milestone III (full-scale production) approval for the Containerized Maintenance Facility (CMF).</li> <li>• 883 Completed performance specifications, purchase description, and other documentation for Logistics Support Vessel (LSV).</li> </ul> <p>Total 1964</p> <p><b>FY 2000 Planned Program:</b></p> <ul style="list-style-type: none"> <li>• 1731 Complete development of Joint Modular Lighterage System (JMLS) (Sea State 3 Capable) with Navy.</li> <li>• 500 Develop performance specifications, purchase description and other pre-production documents for the LSV ESP/Upgrade.</li> <li>• 1924 Complete final development and testing for Rapidly Installed Breakwater (RIB) Project.</li> <li>• 111 Small Business Innovation Research/Small Business Technology Transfer (SBIR/STTR) Programs</li> </ul> <p>Total 4266</p>											
Project D461			Page 29 of 32 Pages				Exhibit R-2A (PE 0604804A)				

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<b>ARMY RDT&amp;E BUDGET ITEM JUSTIFICATION (R-2A Exhibit)</b>	DATE <b>February 2000</b>
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<b>BUDGET ACTIVITY</b> <b>5 - Engineering and Manufacturing Development</b>	<b>PE NUMBER AND TITLE</b> <b>0604804A Logistics &amp; Engineer Equipment - Engineering Development</b>	<b>PROJECT</b> <b>D461</b>
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**FY 2001 Planned Program:**

- 615 Complete programmatic documentation for production effort for RIB Project.
  - 832 Complete final development and testing for Port Communications and Control Center (PCCC).
- Total 1447

<b>B. Other Program Funding Summary</b>	<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, 0603804A, D526, Marine Oriented Logistics, Advanced Development	10577	4368	2302	2004	1791	3827	3913	Cont	Cont
OPA 3, R97500, Causeway, Systems	16856	16669	17227	12601	12751	14034	13912	Cont.	Cont.
OPA 3, M11200, Logistic Support Vessel (LSV)	0	18844	0	21198	28994	0	0	Cont.	Cont.

**C. Acquisition Strategy:** Develop and transition to competitive procurement all items in this project.

<b>D. Schedule Profile</b>	<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>
Containerized Maintenance Facility Award	2Q*						
Logistics Support Vessel (LSV) Award	2Q*						
Joint Modular Lighterage System (JMLS) Award		1Q-2Q					
Rapidly Installed Breakwater (RIB) Awards		1Q-2Q	1Q-2Q				
LSV ESP/Upgrade Awards		1Q-3Q					
Port Communications & Control Center (PCCC) Contract Award			2Q-4Q				
LCU Parameters and Performance Characteristics				2Q-4Q			
Combat Logistics Vehicle Concept Development					2Q-4Q		
Operations & Support Cost Reduction Study						2Q-4Q	
EPP Utility Craft Assessment							2Q-4Q
New Large Tug							2Q-4Q

\* Milestone Completed

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<b>ARMY RDT&amp;E COST ANALYSIS (R-3)</b>	DATE <b>February 2000</b>
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<b>BUDGET ACTIVITY</b> <b>5 - Engineering and Manufacturing Development</b>	<b>PE NUMBER AND TITLE</b> <b>0604804A Logistics &amp; Engineer Equipment - Engineering Development</b>	<b>PROJECT</b> <b>D461</b>
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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. LSV	MIPR	Modern Technologies Inc, Warren, MI		350	Feb-May					Cont	350	
b. LSV	MIPR	Navy (NSWC), Suffolk, VA		300	Jan-May					Cont	300	
c. CMF	MIPR	TACOM ARDEC, Rock Island Arsenal		316	Mar					Cont	316	
d. CMF	FC-FP	SAIC, Warren, MI		531	Apr					Cont	531	
e. RIB	FC-FP	Modern Technologies Inc, Warren, MI				477	Jan	311	Feb		788	
f. JMLS	MIPR	Navy (PM JMLS), Hueneme, CA				1181	Dec			Cont	1181	
g. RIB	MIPR	Corps of Engineers (WES), Vicksburg, MI				1504	Dec	213	Dec	Cont	1717	
h. LSV ESP/Upgrade	MIPR	Navy (NSWC), Suffolk, VA				333	Dec				333	
i. PCCC	MIPR	Industrial Operations Command, Rock Island Arsenal						277	Dec		277	
j. PCCC	FC-FP	Conley & Associates, St. Louis, MO						401	Feb	Cont	401	
<b>Subtotal Product Development:</b>				1497		3495		1202			6194	

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. CMF	MIPR	TACOM IMMC, Warren, MI		10	Jan					Cont	10	
b. LSV	MIPR	TACOM IMMC, Warren, MI		26	Jan						26	
c. LSV	MIPR	Rock Island Arsenal, IL		5	Jul						5	
d. JMLS	MIPR	TACOM IMMC, Warren, MI				23	Dec				23	
e. RIB	MIPR	TACOM IMMC, Warren, MI				25	Dec	7	Dec		32	
f. LSV ESP/Upgrade	MIPR	TACOM IMMC, Warren, MI				25	Dec				25	
g. PCCC	MIPR	TACOM IMMC, Warren, MI						23	Dec		23	
h. OSD withhold				10							10	
<b>Subtotal Support Costs:</b>				51		73		30			154	

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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**  
**0604804A Logistics & Engineer Equipment -  
Engineering Development**

**PROJECT**  
**D461**

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. CMF	MIPR	TECOM , ATC		271	Sep					Cont	271	
b. LSV	MIPR	TECOM , ATC		20	May-Sep						20	
c. JMLS	MIPR	TECOM , ATC				40	Apr				40	
d. RIB	MIPR	TECOM , ATC				60	Apr	29	Apr		89	
e. LSV ESP/Upgrade	MIPR	TECOM , ATC				10	Feb				10	
f. PCCC	MIPR	TECOM , ATC						42	Apr		42	
Subtotal Test and Evaluation:				291		110		71			472	

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. CMF	MIPR	Watercraft Systems Management Office, TACOM, Warren, MI			Jan-May					Cont		
b. LSV	MIPR	Watercraft Systems Management Office, TACOM, Warren, MI		125	Jan-Jul						125	
c. JMLS	MIPR	TARDEC, Warren, MI				176	Oct				176	
d. RIB	MIPR	TARDEC, Warren, MI				186	Oct	52	Oct		238	
e. LSV ESP/Upgrade	MIPR	Watercraft Systems Management Office, TACOM, Warren, MI				115	Oct				115	
f. PCCC	MIPR	Watercraft Systems Management Office, TACOM, Warren, MI						92	Oct		92	
g. SBIR/STTR						111					111	
Subtotal Management Services:				125		588		144			857	

Project Total Cost:				1964		4266		1447			7677	
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