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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Army										Date: February 2015		
Appropriation/Budget Activity 2040: Research, Development, Test & Evaluation, Army / BA 4: Advanced Component Development & Prototypes (ACD&P)					R-1 Program Element (Number/Name) PE 0603804A / Logistics and Engineer Equipment - Adv Dev							
COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
Total Program Element	-	11.623	13.380	21.233	-	21.233	23.019	21.103	22.448	22.542	Continuing	Continuing
526: Marine Orien Log Eq Ad	-	2.748	2.602	2.546	-	2.546	4.221	4.389	3.478	3.501	Continuing	Continuing
G11: Adv Elec Energy Con Ad	-	2.416	4.011	8.857	-	8.857	6.441	4.084	8.258	8.414	Continuing	Continuing
G14: Materials Handling Equipment - Ad	-	0.626	-	0.143	-	0.143	0.455	0.847	0.744	0.758	Continuing	Continuing
K39: Field Sustainment Support Ad	-	2.088	0.534	1.875	-	1.875	2.856	2.453	2.531	1.886	Continuing	Continuing
K41: Water And Petroleum Distribution - Ad	-	2.187	3.543	3.764	-	3.764	4.392	4.773	4.871	4.963	Continuing	Continuing
VR8: Combat Service Support Systems - Ad	-	1.558	2.690	4.048	-	4.048	4.654	4.557	2.566	3.020	Continuing	Continuing

Note

Change Summary Explanation: Decrease is due to several PROJECTs.

A. Mission Description and Budget Item Justification

This program element supports advanced component development and prototypes of new and improved technologies for combat support and combat service support equipment essential to sustaining combat operations. Advancements in watercraft, bridging, electric power generators, potable water, material-handling, environmental control, shelter systems, cargo aerial delivery, field service systems, mortuary affairs equipment and petroleum equipment are necessary to improve safety and increase the tactical mobility, operational capability, lethality and survivability on the digital battlefield and to provide for greater sustainment while reducing the logistics support burden.

Decrease from FY14 PB to FY15 PB reflects decrease of several projects.

For FY14, Joint Light Tactical Vehicle (JLTV) moved to PE: 655812/Project: VU9

For FY16, Maneuver Support Vessel - Light (MSV(L)) moved to PE: 604804 Project: EJ9

UNCLASSIFIED

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Appropriation/Budget Activity		R-1 Program Element (Number/Name)			
2040: Research, Development, Test & Evaluation, Army / BA 4: Advanced Component Development & Prototypes (ACD&P)		PE 0603804A / Logistics and Engineer Equipment - Adv Dev			
B. Program Change Summary (\$ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	11.549	13.386	31.903	-	31.903
Current President's Budget	11.623	13.380	21.233	-	21.233
Total Adjustments	0.074	-0.006	-10.670	-	-10.670
• Congressional General Reductions	-0.007	-0.006			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	0.465	-			
• SBIR/STTR Transfer	-0.384	-			
• Adjustments to Budget Years	-	-	-10.670	-	-10.670

UNCLASSIFIED

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Appropriation/Budget Activity 2040 / 4					R-1 Program Element (Number/Name) PE 0603804A / Logistics and Engineer Equipment - Adv Dev				Project (Number/Name) 526 / Marine Orien Log Eq Ad			
COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
526: Marine Orien Log Eq Ad	-	2.748	2.602	2.546	-	2.546	4.221	4.389	3.478	3.501	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

A portion of FY15 funding supports the Maneuver Support Vessel (Light) MSV(L)), a new start in FY16, whose FY16-FY18 resourcing moved from this PE to APE 0604804, Project EJ9.

A. Mission Description and Budget Item Justification

Support project advanced component development, and prototype of equipment and sub-systems supporting the Army Watercraft mission to provide critical capabilities in support of Unified Land Operations (ULO), by extending the Commander's available maneuver space into and throughout the littorals, inland waterways and near coastal regions. Army watercraft equipment supports the conduct of riverine, Logistics Over The Shore (LOTS), Joint Logistics Over The Shore (JLOTS), inter and intratheater transport, movement and maneuver, mission command and sustainment, as identified in DODD 5100.01 (Functions of the Department of Defense and its Major Components). Army Watercraft exploit the inland waterways and littoral regions as waterborne maneuver and supply routes, conducting operations through littoral entry points (developed, undeveloped, and austere access points) and in non-permissive, and/or denied access scenarios. The Army uses a spectrum of Army Watercraft Systems, from heavy sustainment ocean going landing craft capable of intratheater and ship to shore transport and undeveloped beach or harbor access, to ocean-going and harbor utility tug boats and barge derricks for transport and denied port/salvage operations, and modular causeway systems to support LOTS/JLOTS. The funding supports initiatives to enhance the seaworthiness, safety, survivability, supportability, energy efficiency, environmental, regulatory compliance and reliability of existing systems. Funded efforts will advance critical gaps in these areas for the current fleet, while at the same time researching, developing and testing emergent technologies in a manner to support future acquisitions and future fleet planning, as informed by the Army Watercraft Systems Board of Directors (AWS BOD).

FY16 funding will support the maturation of a Uniform National Discharge Standards (UNDS) project, maturation of an At-Sea Transfer project, refinement of the Army Watercraft Module Berthing (AWMB) and maturation of an Escalation of Force initiative. A statutory requirement, UNDS resulted from Section 325 of the National Defense Authorization Act of 1996, which amended Sections 312 and 502(6) of the Clean Water Act and further amends Title 40 Code of Federal Regulations (CFR). Army vessels operate nationwide in coastal and inland waters. Because they may enter waters of more than one state in their normal operations, these vessels would be subject to different environmental requirements for their discharges, depending upon vessel location. The UNDS program establishes national standards for these vessels".

FY15 funding supports development of program Milestone B for Maneuver Support Vessel Light (MSV(L)), a program to be initiated in FY16 with funding on APE 0604804, project EJ9; continues maturation of a Force Protection project, environmental compliance project, maturation of an energy compliance project, and will initiate an At-Sea Transfer project, and corrections to Army Watercraft Module Berthing (AWMBs) based on user evaluations.

UNCLASSIFIED

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Major accomplishments from FY14 funding were the delivery of four Army Watercraft Module Berthing (AWMBs) for user evaluation on a Landing Craft Utility (LCU) and a Logistics Support Vessel (LSV). Design modification to the four prototypes will be awarded in FY15 and work will continue through FY16. Integration and testing of Common Remotely Operated Weapon Station (CROWS II) on a LSV, and initiation of an Energy Compliance project.						
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Landing Craft Mechanized (LCM8)/Maneuver Support Vessel-Light(MSV-L) Description: Landing Craft Mechanized 8 FY 2014 Accomplishments: Watercraft - Landing Craft Mechanized (LCM8) Development		0.175	-	-	-	-
Title: Maneuver Support Vessels (MSV) Capabilities Production Document (CPD) Capabilities and Feasability Development Description: VSB - Vessel to Shore Bridging Development FY 2014 Accomplishments: Maneuver Support Vessels (MSV) Capabilities Production Document (CPD) support.		0.055	-	-	-	-
Title: Army Watercraft Module Berthing (AWMB) Development Description: AWS - Army Watercraft Module, Berthing (AWMB) FY 2014 Accomplishments: People Pod development FY 2015 Plans: People Pod FY 2016 Base Plans: People Pod		0.500	0.200	0.500	-	0.500
Title: Force Protection; lethal and non-lethal Escalation of Force (EoF) Development Description: AWS - Force Protection FY 2014 Accomplishments: Force Protection Development FY 2015 Plans:		0.600	0.400	0.500	-	0.500

UNCLASSIFIED

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B. Accomplishments/Planned Programs (\$ in Millions)		FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
New Title: Force Protection; lethal and non-lethal Escalation of Force (EoF) Development Old Title: Watercraft - Force Protection Development. FY 2016 Base Plans: New Title: Force Protection; lethal and non-lethal Escalation of Force (EoF) Development						
Title: C4ISR Improvements Description: AWS - C4ISR FY 2014 Accomplishments: C4ISR FY 2015 Plans: New Title: C4ISR Improvements Old Title: Watercraft - C4ISR Development		0.250	0.206	-	-	-
Title: Army Watercraft Program Support Description: Salary Support FY 2014 Accomplishments: Support FY 2015 Plans: Salary Support		0.050	0.062	-	-	-
Title: Watercraft Market Surveys and Business Analysis Description: Funding is provided for the following effort FY 2014 Accomplishments: Watercraft Market Surveys and Business Analysis		0.050	-	-	-	-
Title: Riverine Craft Development Description: Riverine Craft Development FY 2014 Accomplishments:		0.050	-	-	-	-

UNCLASSIFIED

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B. Accomplishments/Planned Programs (\$ in Millions)		FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Riverine Craft Development						
Title: Tug and Barge Development Description: Tug and Barge Development FY 2014 Accomplishments: Medium Tug and Barge Development		0.375	-	-	-	-
Title: Terminal Operations and Ship to Shore Development Description: Terminal Operations and Ship to Shore Development FY 2014 Accomplishments: Terminal Operations and Ship to Shore Development		0.075	-	-	-	-
Title: Port/Harbor Utility Development Description: Port/Harbor Utility Development FY 2014 Accomplishments: Old Title: Wartercraft - Port/Harbor Utility Development New Title: Port/Harbor Utility Development		0.100	-	-	-	-
Title: Digital Integration Development Description: Digital Integration Development FY 2014 Accomplishments: Digital Integration Development FY 2015 Plans: Will help with the maintenance of the Digital Intergration. Old Title: Watercraft - Digital Integration Development New Title: Digital Integration Development		0.100	0.250	-	-	-
Title: At Sea Transfer Development Description: At Sea Transfer Development		-	0.400	0.330	-	0.330

UNCLASSIFIED

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B. Accomplishments/Planned Programs (\$ in Millions)		FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
FY 2015 Plans: New Title: At Sea Transfer Development Old Title: Watercraft - At Sea Transfer Development FY 2016 Base Plans: At Sea Transfer Development						
Title: Energy Compliance Description: Energy Efficiency FY 2014 Accomplishments: New title: Energy Compliance. Old Title: Watercraft - Energy Efficiency Development FY 2015 Plans: New title: Energy Compliance. Old Title: Watercraft - Energy Efficiency Development FY 2016 Base Plans: Energy Compliance.		0.368	0.348	0.300	-	0.300
Title: Environmental Compliance Description: Environmental Compliance Development FY 2015 Plans: New Title: Environmental Compliance Technologies IAW evolving regulatory requirements. Old Title: Energy Efficiency and Environmental Compliance. FY 2016 Base Plans: Environmental Compliance. Technologies IAW evolving regulatory requirements.		-	0.736	0.916	-	0.916
Accomplishments/Planned Programs Subtotals		2.748	2.602	2.546	-	2.546

UNCLASSIFIED

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Appropriation/Budget Activity 2040 / 4				R-1 Program Element (Number/Name) PE 0603804A / Logistics and Engineer Equipment - Adv Dev				Project (Number/Name) 526 / Marine Orien Log Eq Ad				
C. Other Program Funding Summary (\$ in Millions)												
Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost	
• MA4500 Modification on In-Service: MA4500 Modification on In-Service Equipment (OPA3)	4.425	41.740	9.305	-	9.305	11.376	10.619	12.325	12.560	Continuing	Continuing	
• 0604804A Log and Eng Equip EJ9: 0604804A Logistics and Engineer Equipment EJ9	-	-	10.066	-	10.066	18.586	14.522	-	-	-	43.174	
• M11101000 Army Watercraft Esp: M11101000 Army Watercraft Esp	-	3.509	39.772	-	39.772	3.215	40.665	40.825	41.601	Continuing	Continuing	
Remarks												
D. Acquisition Strategy												
N/A												
E. Performance Metrics												
N/A												

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army												Date: February 2015			
Appropriation/Budget Activity 2040 / 4						R-1 Program Element (Number/Name) PE 0603804A / <i>Logistics and Engineer Equipment - Adv Dev</i>						Project (Number/Name) 526 / <i>Marine Orien Log Eq Ad</i>			
Management Services (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Small Business Incentive Research (SBIR); Technology Transfer Research	TBD	Various : Various	0.072	-		-		-		-		-	-	0.072	0.083
Subtotal			0.072	-		-		-		-		-	-	0.072	0.083
Product Development (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Landing Craft Mechanized (LCM8) Maneuver Support	C/ FFPLOE	Various : Various	0.591	0.175	Dec 2013	-		-		-		-	Continuing	Continuing	Continuing
Maneuver Support Vessels (MSV) Capabilites Production Document (CPD)Development	C/ FFPLOE	Various : Various	0.732	0.055	Dec 2013	-		-		-		-	Continuing	Continuing	Continuing
Army Watercraft Module, Berthing (AWMB) Development	C/ FFPLOE	PM Force Sustainment Systems : Natick, MA	0.741	0.500	Apr 2014	0.200	Jul 2015	0.500	Jul 2016	-		0.500	Continuing	Continuing	Continuing
Force Protection, Escalation of Force (EoF) Development	C/ FFPLOE	NSWCDD : Crane, IN	0.741	0.600	Jul 2014	0.400	Dec 2014	0.500	Dec 2015	-		0.500	Continuing	Continuing	Continuing
C4ISR Improvements	C/ FFPLOE	SPAWAR : Charleston, SC	0.426	0.250	May 2013	0.206	Aug 2015	-		-		-	-	0.882	Continuing
Market Surveys/Business Analysis	C/FP	TBD : TBD	0.150	0.050	Dec 2013	-		-		-		-	Continuing	Continuing	Continuing
Riverine Craft Development	C/ FFPLOE	Various : Various	0.000	0.050	Jun 2014	-		-		-		-	Continuing	Continuing	Continuing
Tug and Barge Development	C/ FFPLOE	ARO - Battelle : Columbus. OH	0.150	0.375	Apr 2014	-		-		-		-	Continuing	Continuing	Continuing
Terminal Operations & Ship to Shore Development	C/ FFPLOE	Various : Various	0.040	0.075	Dec 2013	-		-		-		-	Continuing	Continuing	Continuing

UNCLASSIFIED

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Appropriation/Budget Activity 2040 / 4						R-1 Program Element (Number/Name) PE 0603804A / Logistics and Engineer Equipment - Adv Dev						Project (Number/Name) 526 / Marine Orien Log Eq Ad			
Product Development (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Port/Harbor Utility Development	C/ FFPLOE	Various : Various	0.150	0.100	Dec 2013	-		-		-		-	Continuing	Continuing	Continuing
Digital Integration Development	C/ FFPLOE	SPAWAR : Charleston, SC	0.150	0.100	Dec 2013	0.250	Mar 2015	-		-		-	-	0.500	Continuing
At Sea Transfer Development (Warping Tug)	C/ FFPLOE	Various : Various	0.100	-		0.400	Mar 2015	0.330	Jan 2016	-		0.330	Continuing	Continuing	-
Energy Efficiency	C/ FFPLOE	Various : Various	0.150	0.368	Mar 2014	0.348	Jan 2015	0.300	Jan 2016	-		0.300	Continuing	Continuing	Continuing
Environmental Compliance (UNDS)	C/ FFPLOE	Various : Various	0.348	-		0.736	Apr 2015	0.916	Feb 2016	-		0.916	-	2.000	-
Subtotal			4.469	2.698		2.540		2.546		-		2.546	-	-	-
Support (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Army Watercraft Program Support	MIPR	Various : Various	0.000	0.050	Nov 2014	0.062	Oct 2015	-		-		-	Continuing	Continuing	-
Subtotal			0.000	0.050		0.062		-		-		-	-	-	-
			Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			4.541	2.748		2.602		2.546		-		2.546	-	-	-
Remarks															

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Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army																				Date: February 2015								
Appropriation/Budget Activity 2040 / 4										R-1 Program Element (Number/Name) PE 0603804A / Logistics and Engineer Equipment - Adv Dev								Project (Number/Name) 526 / Marine Orien Log Eq Ad										
Event Name	FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019				FY 2020			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Landing Craft Mechanized (LCM 8) Development																												
Maneuver Support Vessels (MSV) Cap Prod Doc (CPD) and competitive																												
Army Watercraft Module Berthing (AWMB) Development																												
Force Protection; Lethal and Non-Lethal Escalation of Force (EoF) Deve																												
C4ISR Improvements																												
Army Watercraft Program Support																												
Watercraft Market Surveys and Business Analysis																												
Riverine Craft Development																												
Terminal Operations (Ship to Shore) Development																												
Digital Integration Development																												
At Sea Transfer Development																												
Energy Efficiency																												
Enviromental Compliance																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 4	R-1 Program Element (Number/Name) PE 0603804A / <i>Logistics and Engineer Equipment - Adv Dev</i>	Project (Number/Name) 526 / <i>Marine Orien Log Eq Ad</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Landing Craft Mechanized (LCM 8) Development	1	2010	4	2015
Maneuver Support Vessels (MSV) Cap Prod Doc (CPD) and competitive prototyping	1	2010	4	2015
Army Watercraft Module Berthing (AWMB) Development	1	2010	4	2017
Force Protection; Lethal and Non-Lethal Escalation of Force (EoF) Development	1	2010	4	2018
C4ISR Improvements	1	2010	4	2015
Army Watercraft Program Support	1	2013	4	2015
Watercraft Market Surveys and Business Analysis	1	2010	4	2015
Riverine Craft Development	1	2013	4	2015
Terminal Operations (Ship to Shore) Development	1	2013	4	2015
Digital Integration Development	1	2013	4	2015
At Sea Transfer Development	1	2013	4	2020
Energy Efficiency	1	2013	4	2020
Enviromental Compliance	1	2013	4	2020

UNCLASSIFIED

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COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
G11: Adv Elec Energy Con Ad	-	2.416	4.011	8.857	-	8.857	6.441	4.084	8.258	8.414	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		
Note Not Applicable for this item.												
A. Mission Description and Budget Item Justification The Tactical Electric Power (TEP) program was established by the Department of Defense to develop modernized, standard families of mobile electric power sources and power distribution systems for all Services throughout the Department of Defense. Project Manager Expeditionary Energy & Sustainment Systems (PM E2S2) derives concept and technology developments that will improve the performance, mobility, readiness and survivability of the next generation of tactical power sources in support of all Services. It supports initiatives that are essential to the development and fielding of modernized TEP sources from Watts to Megawatts level that comply with environmental statues and provide noise and signature-suppressed, energy-efficient, lightweight, deployable and reliable equipment. FY15 & FY16 funding will support test and evaluation of technologies for Small Tactical Electric Power (STEP), Mobile Electric Hybrid Power Sources (MEHPS), and Intelligent Power Management and Distribution Systems (IPMDS). Also funding will support a holistic Modeling and Simulation approach to the evaluation of Operational Energy (OE)-related impacts, systems, and improvements; with the vision of reducing Army energy dependency and demand, increasing systems and contingency bases energy efficiency, seeking alternative energy sources and supporting a culture of energy responsibility while sustaining or enhancing operational capabilities. Out years will support investigation of general advancements in engine, power equipment and power distribution equipment that are applicable to current equipment and emerging requirements. Programs include costs for developing concept hardware and executing system evaluations at the Network Integration Evaluation (NIE) events at Ft. Bliss.												
B. Accomplishments/Planned Programs (\$ in Millions)								FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Contract Activity								1.500	0.800	4.857	-	4.857
Description: Continue development of technology supporting the STEP program, IPMDS, and MEHPS.												
FY 2014 Accomplishments: Develop various technologies related to TEP and power distribution/management across the DoD power spectrum. Specific efforts will include STEP components, MEHPS components, and IPMDS.												
FY 2015 Plans:												

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B. Accomplishments/Planned Programs (\$ in Millions)		FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Develop various technologies related to TEP and power distribution/management across the DoD power spectrum. Specific efforts will include STEP components, MEHPS components and IPMDS. Develop tools, systems and capability to provide holistic analysis of Operational Energy impacts, systems and improvements. FY 2016 Base Plans: Develop various technologies related to TEP and power distribution/management across the DoD power spectrum. Specific efforts will include STEP components, MEHPS components and IPMDS. Develop tools, systems and capability to provide holistic M&S analysis of Operational Energy impacts, systems and improvements.						
Title: Government System Test and Evaluation Description: Continue development of technology supporting the STEP program, IPMDS, and MEHPS. Evaluate systems at Network Integration Evaluation (NIE). FY 2014 Accomplishments: Continue evaluation and testing of various technologies related to tactical electric power and power distribution and management across the DoD power spectrum. Efforts will be aimed at resolving technology gaps to meet Army User requirements. Efforts will support the TEP Capability Production Document (CPD). Specific efforts will be limited to small generator system testing due to limited funding. Program supports new equipment and concept demonstrations at NIE 14.2. FY 2015 Plans: Continue evaluation and testing of various technologies related to tactical electric power and power distribution and management across the DoD power spectrum. Efforts will be aimed at resolving technology gaps to meet Army User requirements. Efforts will support the TEP CPD. Specific efforts will include performance testing of small generator sets, hybrid/alternative energy power sources, and intelligent power distribution/management systems. Program also supports Rapid Equipping Force deployments of MEHPS concepts in support of Village Stability Operation. Program supports new equipment and concept demonstrations at NIE 15.1. FY 2016 Base Plans: Continue evaluation and testing of various technologies related to tactical electric power and power distribution and management across the DoD power spectrum. Efforts will be aimed at resolving technology gaps to meet Army User requirements. Efforts will support the TEP CPD. Specific efforts will include performance testing of small generator sets, hybrid/alternative energy power sources, and intelligent power distribution/management		0.350	0.300	1.500	-	1.500

UNCLASSIFIED

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B. Accomplishments/Planned Programs (\$ in Millions)		FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
systems. Program also supports Type Classification efforts for improved Command Post infrastructure. Program supports new equipment and concept demonstrations at NIE 16.1.						
Title: Other Contracts and Gov't agencies Description: Continue development of technology supporting the STEP program, IPMDS, and MEHPS. FY 2014 Accomplishments: Evaluation and testing of various technologies related to Tactical Electric Power and power distribution/management across the DoD power spectrum. Specific efforts will be limited to the development of STEP given limited funding and support of NIE 14.2 FY 2015 Plans: Evaluation and testing of various technologies related to Tactical Electric Power and power distribution/management across the DoD power spectrum. Specific efforts will include development of STEP, and evaluation of MEHPS and intelligent power systems, as well as support of NIE 15.x. Develop tools, systems and capability to provide holistic analysis of Operational Energy impacts, systems and improvements. FY 2016 Base Plans: Continue evaluation and testing of various technologies related to tactical electric power and power distribution and management across the DoD power spectrum. Efforts will be aimed at resolving technology gaps to meet Army User requirements. Efforts will support the TEP CPD. Specific efforts will include performance testing of small generator sets, hybrid/alternative energy power sources, and intelligent power distribution/management systems. Program also supports Type Classification efforts for improved Command Post infrastructure. Program supports new equipment and concept demonstrations at NIE 16.1.		0.400	1.691	1.000	-	1.000
Title: Government Program Management Description: Continue development of technology supporting the STEP program, IPMDS and MEHPS. FY 2014 Accomplishments: Oversight and management of various technology projects related to Tactical Electric Power and power distribution/management across the DoD power spectrum. Efforts will be aimed at resolving technology gaps to meet Army User requirements. Efforts will support the STEP program and the TEP CPD. Specific efforts will be limited to small power sources given limited funding. FY 2015 Plans:		0.166	1.220	1.500	-	1.500

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Army										Date: February 2015	
Appropriation/Budget Activity 2040 / 4				R-1 Program Element (Number/Name) PE 0603804A / <i>Logistics and Engineer Equipment - Adv Dev</i>				Project (Number/Name) G11 / <i>Adv Elec Energy Con Ad</i>			
B. Accomplishments/Planned Programs (\$ in Millions)											
				FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total			
Oversight and management of various technology projects related to Tactical Electric Power and power distribution/management across the DoD power spectrum. Efforts will be aimed at resolving technology gaps to meet Army User requirements. Efforts will support the STEP program and the TEP CPD. Specific efforts will include development of small sets, MEHPS and intelligent power systems. Oversight, analysis and management of Operational Energy-related impacts, systems and improvements to reduce Army's energy dependence and improve operational capabilities. <i>FY 2016 Base Plans:</i> Oversight and management of various technology projects related to Tactical Electric Power and power distribution/management across the DoD power spectrum. Efforts will be aimed at resolving technology gaps to meet Army User requirements. Efforts will support the STEP program and the TEP CPD. Specific efforts will include development of small sets, MEHPS and intelligent power systems. Oversight, analysis and management of Operational Energy-related impacts, systems and improvements to reduce Army's energy dependence and improve operational capabilities. Effort will also be focused on supporting Type Classification of improved Command Post Infrastructure.											
Accomplishments/Planned Programs Subtotals				2.416	4.011	8.857	-	8.857			
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• 654804.194: <i>Logistics and Engineer Equipment - Eng Dev 194</i>	4.858	5.872	9.862	-	9.862	6.450	4.185	4.877	7.124	Continuing	Continuing
• MA9800: <i>OPA 3, Generators and Associated Eq. MA9800</i>	40.129	115.190	166.356	-	166.356	136.610	139.196	146.266	135.813	Continuing	Continuing
Remarks											
D. Acquisition Strategy											
Complete advanced development pre-milestone B technology assessments and analysis, and transition of tactical electric power and power distribution products to Engineering and Manufacturing Development (EMD) phase (Milestone B) and subsequent transition to production (Milestone C). Support concept development and demonstration efforts.											
E. Performance Metrics											
N/A											

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army												Date: February 2015			
Appropriation/Budget Activity 2040 / 4						R-1 Program Element (Number/Name) PE 0603804A / Logistics and Engineer Equipment - Adv Dev				Project (Number/Name) G11 / Adv Elec Energy Con Ad					
Management Services (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Small Tactical Electric Power (STEP) Components	MIPR	PM-E2S2 : Fort Belvoir, VA	0.316	0.117	Feb 2014	0.100	Dec 2014	0.200	Dec 2015	-		0.200	Continuing	Continuing	Continuing
Mobile Electric Hybrid Power Sources (MEHPS) Components	MIPR	PM E2S2 : Ft. Belvoir, VA	0.213	0.049	Feb 2014	0.070	Dec 2014	0.100	Dec 2015	-		0.100	Continuing	Continuing	Continuing
Intelligent Power Management and Distribution Systems	MIPR	PM E2S2 : Ft. Belvoir, VA	0.185	-		0.050	Dec 2014	1.000	Dec 2015	-		1.000	Continuing	Continuing	Continuing
Operational Energy	MIPR	PM E2S2 : Fort Belvoir, VA	0.000	-		1.000	Dec 2014	0.200	Dec 2015	-		0.200	Continuing	Continuing	Continuing
Subtotal			0.714	0.166		1.220		1.500		-		1.500	-	-	-
Product Development (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Small Tactical Electric Power (STEP) Components	Various	CERDEC : Fort Belvoir, VA	1.681	1.000	Apr 2014	0.100	Feb 2015	0.500	Apr 2016	-		0.500	Continuing	Continuing	Continuing
Mobile Electric Hybrid Power Sources (MEHPS) Components	Various	Multiple Vendors : TBD	1.315	0.250	Apr 2014	0.100	Apr 2015	0.500	Apr 2016	-		0.500	Continuing	Continuing	Continuing
Intelligent Power Management and Distribution Systems	Various	CERDEC : Fort Belvoir, VA	0.659	0.250	Apr 2014	0.100	Feb 2015	2.057	Apr 2016	-		2.057	Continuing	Continuing	Continuing
Operational Energy	TBD	TBD (FY15) : TBD (FY15)	0.000	-		0.500	Feb 2015	1.800	Apr 2016	-		1.800	Continuing	Continuing	Continuing
Subtotal			3.655	1.500		0.800		4.857		-		4.857	-	-	-

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army												Date: February 2015			
Appropriation/Budget Activity 2040 / 4						R-1 Program Element (Number/Name) PE 0603804A / <i>Logistics and Engineer Equipment - Adv Dev</i>						Project (Number/Name) G11 / <i>Adv Elec Energy Con Ad</i>			
Support (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Small Tactical Electric Power (STEP) Components	MIPR	CERDEC : Fort Belvoir, VA	0.906	0.400	Feb 2014	0.200	Dec 2014	0.200	Dec 2015	-		0.200	Continuing	Continuing	Continuing
Mobile Electric Hybrid Power Sources (MEHPS) Components	MIPR	CERDEC : Fort Belvoir, VA	0.965	-		0.164	Dec 2014	0.100	Dec 2015	-		0.100	Continuing	Continuing	Continuing
Intelligent Power Management and Distribution Systems	MIPR	CERDEC : Fort Belvoir, VA	0.868	-		0.327	Dec 2014	0.200	Dec 2015	-		0.200	Continuing	Continuing	Continuing
Operational Energy	MIPR	Dept of Energy Sandia National Labs : Washington DC	0.000	-		1.000	Dec 2014	0.500	Dec 2015	-		0.500	Continuing	Continuing	Continuing
Subtotal			2.739	0.400		1.691		1.000		-		1.000	-	-	-
Test and Evaluation (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Small Tactical Electric Power (STEP) Components	MIPR	CERDEC : Fort Belvoir, VA	0.380	0.250	Feb 2014	0.100	Feb 2015	0.100	Feb 2016	-		0.100	Continuing	Continuing	Continuing
Mobile Electric Hybrid Power Sources (MEHPS) Components	MIPR	CERDEC : Fort Belvoir, VA	0.215	0.050	Mar 2014	0.100	Feb 2015	0.300	Feb 2016	-		0.300	Continuing	Continuing	Continuing
Intelligent Power Management and Distribution Systems	MIPR	CERDEC : Fort Belvoir, VA	0.347	0.050	Mar 2014	0.100	Feb 2015	1.100	Feb 2016	-		1.100	Continuing	Continuing	Continuing
Subtotal			0.942	0.350		0.300		1.500		-		1.500	-	-	-

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army											Date: February 2015				
Appropriation/Budget Activity 2040 / 4					R-1 Program Element (Number/Name) PE 0603804A / Logistics and Engineer Equipment - Adv Dev					Project (Number/Name) G11 / Adv Elec Energy Con Ad					
			Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			8.050	2.416		4.011		8.857		-		8.857	-	-	-

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army																				Date: February 2015									
Appropriation/Budget Activity 2040 / 4										R-1 Program Element (Number/Name) PE 0603804A / Logistics and Engineer Equipment - Adv Dev										Project (Number/Name) G11 / Adv Elec Energy Con Ad									
Event Name	FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019				FY 2020				
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	
SMALL TACTICAL ELECTRIC POWER (STEP) PROGRAM																													
Assess Technologies to Meet Gaps-STEP																													
Test Technologies to Meet Gaps-STEP																													
Assess Technology for Spiral Insertions into EMD-STEP																													
(1) Transfer to Engineering and Manufacturing Development-STEP																													
MOBILE ELECTRIC HYBRID POWER SOURCES (MEHPS)																													
Assess Technologies to Meet Gaps--MEHPS																													
Test Technologies to Meet Gaps--MEHPS																													
Develop Ruggedized Prototypes for Field Evaluations																													
Intelligent Power Management and Distribution Systems (IPMDS)																													
Assess Technologies to Meet Gaps-IPMDS																													
Test Technologies to Meet Gaps-IPMDS																													
Test Ruggedized IPDISE concepts with AMMPS Microgrid																													

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Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army																Date: February 2015												
Appropriation/Budget Activity 2040 / 4										R-1 Program Element (Number/Name) PE 0603804A / Logistics and Engineer Equipment - Adv Dev								Project (Number/Name) G11 / Adv Elec Energy Con Ad										
Event Name	FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019				FY 2020			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
(1) Transfer to Engineering and Manufacturing Development-IPDISE																												
ASSESSMENT OF TECHNOLOGIES																												
Assess Technologies to Meet Gaps and Improve Efficiencies																												
OPERATIONAL ENERGY (OE)																												
Evaluation of OE-Related Impacts, Systems and Improvements																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 4	R-1 Program Element (Number/Name) PE 0603804A / <i>Logistics and Engineer Equipment - Adv Dev</i>	Project (Number/Name) G11 / <i>Adv Elec Energy Con Ad</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
SMALL TACTICAL ELECTRIC POWER (STEP) PROGRAM	1	2008	2	2015
Assess Technologies to Meet Gaps-STEP	1	2008	1	2015
Test Technologies to Meet Gaps-STEP	1	2008	2	2015
Assess Technology for Spiral Insertions into EMD-STEP	1	2016	4	2016
Transfer to Engineering and Manufacturing Development-STEP	2	2015	2	2015
MOBILE ELECTRIC HYBRID POWER SOURCES (MEHPS)	1	2010	4	2018
Assess Technologies to Meet Gaps--MEHPS	1	2010	4	2018
Test Technologies to Meet Gaps--MEHPS	1	2010	4	2018
Develop Ruggedized Prototypes for Field Evaluations	1	2019	4	2019
Intelligent Power Management and Distribution Systems (IPMDS)	1	2010	4	2015
Assess Technologies to Meet Gaps-IPMDS	1	2010	4	2015
Test Technologies to Meet Gaps-IPMDS	1	2010	4	2015
Test Ruggedized IPDISE concepts with AMMPS Microgrid	1	2013	4	2017
Transfer to Engineering and Manufacturing Development-IPDISE	2	2016	2	2016
ASSESSMENT OF TECHNOLOGIES	1	2017	4	2020
Assess Technologies to Meet Gaps and Improve Efficiencies	1	2017	4	2020
OPERATIONAL ENERGY (OE)	1	2015	4	2019
Evaluation of OE-Related Impacts, Systems and Improvements	1	2015	4	2019

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Army										Date: February 2015		
Appropriation/Budget Activity 2040 / 4					R-1 Program Element (Number/Name) PE 0603804A / Logistics and Engineer Equipment - Adv Dev				Project (Number/Name) G14 / Materials Handling Equipment - Ad			
COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
G14: Materials Handling Equipment - Ad	-	0.626	-	0.143	-	0.143	0.455	0.847	0.744	0.758	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		
A. Mission Description and Budget Item Justification												
This project supports component development and Material Handling Equipment (MHE) prototyping and stays abreast of emerging and available technologies to be integrated into military MHE to address identified capability gaps and warfighter objectives. This project enables the development of selected technologies and transition to system integration and development or production of MHE products. MHE includes Rough Terrain Forklifts, Rough Terrain Container Handlers (RTCH) and Cranes, as well as ancillary MHE equipment, to support distribution of critical supplies in the theater of operations.												
B. Accomplishments/Planned Programs (\$ in Millions)								FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Field Maintenance and Training Aids for Material Handling Equipment (MHE)								0.378	-	-	-	-
Description: Field Maintenance and Training Aids for Material Handling Equipment (MHE)												
FY 2014 Accomplishments: Develop a solution to eliminate the physical insertion of system faults for maintenance training.												
Title: Baseline Fuel Efficiency of Material Handling Equipment (MHE)								0.248	-	-	-	-
Description: Develop standard duty cycles for fielded system, investigate training/technology for improving efficiency and validate performance of proposed changes.												
FY 2014 Accomplishments: Instrument and Test MHE equipment to baseline fuel consumption during standard operations.												
Title: Driver Assist								-	-	0.143	-	0.143
Description: Research and Demonstrate technologies which would enhance operations such as the inclusion of cameras, collision sensors and lifting aids.												
FY 2016 Base Plans: Develop Driver Assist for Rough Terrain Container Handler (RTCH).												
Accomplishments/Planned Programs Subtotals								0.626	-	0.143	-	0.143

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Army										Date: February 2015	
Appropriation/Budget Activity 2040 / 4				R-1 Program Element (Number/Name) PE 0603804A / <i>Logistics and Engineer Equipment - Adv Dev</i>				Project (Number/Name) G14 / <i>Materials Handling Equipment - Ad</i>			
C. Other Program Funding Summary (\$ in Millions)											
			<u>FY 2016</u>	<u>FY 2016</u>	<u>FY 2016</u>					<u>Cost To</u>	
<u>Line Item</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>Base</u>	<u>OCO</u>	<u>Total</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>FY 2019</u>	<u>FY 2020</u>	<u>Complete</u>	<u>Total Cost</u>
• G41002: <i>5K Light Capacity Rough Terrain (LCRT) Forklift</i>	7.517	14.327	17.496	10.486	27.982	17.843	18.199	18.555	17.916	-	122.339
• M41200: <i>Rough Terrain Container Handler (RTCH)</i>	1.250	-	-	-	-	-	-	-	-	-	1.250
• M41800: <i>All Terrain Lifting Army System</i>	0.860	-	-	-	-	-	-	-	-	-	0.860
Remarks											
D. Acquisition Strategy											
Procure prototype component items for engineering tests and demonstrations with subject matter experts. Conduct trades between cost and improved maintainability and environmental risk reduction. Process engineering change proposals, update technical manuals and training materials, and prepare supporting acquisition documents and data to procure new training aids. Develop additional capabilities for existing systems such as the LCRTF, RTCH, and ATLAS which will allow for improved safety, autonomous or semi autonomous operation. Award contracts with vehicle or Autonomus System Developer/TARDEC Robotics to integrate existing technologies onto the platforms to allow for ease of operation or removal of the operator from vehicle. Testing will be conducted at Aberdeen Proving Grounds, MD.											
E. Performance Metrics											
N/A											

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army													Date: February 2015		
Appropriation/Budget Activity 2040 / 4				R-1 Program Element (Number/Name) PE 0603804A / Logistics and Engineer Equipment - Adv Dev						Project (Number/Name) G14 / Materials Handling Equipment - Ad					
Management Services (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
System Engineering/ Program Management	MIPR	TARDEC : Warren, MI	0.022	-		-		-		-		-	-	0.022	-
Subtotal			0.022	-		-		-		-		-	-	0.022	-
Product Development (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Field Maintenance Aids for MHE	TBD	Kalmar RT Center : Cibolo, TX	0.087	0.378	Feb 2014	-		-		-		-	-	0.465	-
Driver Assist	TBD	TBD : TBD	0.000	-		-		0.143	Mar 2016	-		0.143	-	0.143	-
Subtotal			0.087	0.378		-		0.143		-		0.143	-	0.608	-
Test and Evaluation (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Field Maintenance Aids for MHE	TBD	Kalmar RT Center : Cibolo, TX	0.028	-		-		-		-		-	Continuing	Continuing	-
Baseline Fuel Efficiency of MHE Equipment	TBD	TBD : TBD	0.000	0.248	Jan 2014	-		-		-		-	-	0.248	-
Subtotal			0.028	0.248		-		-		-		-	-	-	-
			Prior Years	FY 2014	FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract	
Project Cost Totals			0.137	0.626	-		0.143	-		0.143	-	-	-	-	
Remarks															

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Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army

Date: February 2015

Appropriation/Budget Activity

2040 / 4

R-1 Program Element (Number/Name)

PE 0603804A / Logistics and Engineer
Equipment - Adv Dev

Project (Number/Name)

G14 / Materials Handling Equipment - Ad

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Exhibit R-4A, RDT&E Schedule Details: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 4	R-1 Program Element (Number/Name) PE 0603804A / <i>Logistics and Engineer Equipment - Adv Dev</i>	Project (Number/Name) G14 / <i>Materials Handling Equipment - Ad</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Develop solution for field maintenance and training aids	2	2014	2	2014
Baseline fuel efficiency of equipment	1	2014	4	2014
Driver Assist	2	2016	4	2021

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Army										Date: February 2015		
Appropriation/Budget Activity 2040 / 4					R-1 Program Element (Number/Name) PE 0603804A / Logistics and Engineer Equipment - Adv Dev				Project (Number/Name) K39 / Field Sustainment Support Ad			
COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
K39: Field Sustainment Support Ad	-	2.088	0.534	1.875	-	1.875	2.856	2.453	2.531	1.886	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project supports development of critical soldier support and sustainment systems for cargo aerial delivery capabilities. These systems will fill identified theater distribution and services capability gaps, improve unit sustainability, and increase combat effectiveness. This project supports Advanced Component Development and Prototyping of Critical Distribution Capabilities which provide improved safety and accuracy while increasing survivability of aircraft, personnel, and equipment. This project develops critical enablers that support the Quartermaster (QM) Force Transformation Strategy and The Army's Modular Capabilities by maintaining readiness through fielding and integrating new equipment. This project also ensures Army Expeditionary Forces are capable of rapid deployment through aerial delivery initiatives and reduces sustainment requirements, related Combat Support/Combat Service Support (CS/CSS) demands in lift, combat zone footprint, and costs for logistical support.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Advanced Low Velocity Airdrop System Light and Heavy (ALVADS-L or ALVADS-H)	2.088	-	-	-	-
Description: ALVADS provides critical airdrop of supplies and equipment to Global Response Force (GRF) airborne Brigade Combat Teams (BCT) and resupply of non-airborne BCT's, Stryker Brigade Combat Teams (SBCT), Special Operations Forces (SOF), and other future forces for strategic, operational, and tactical military operations. This capability is essential in providing the strategic responsiveness, full spectrum versatility, and sustainability demanded by Joint and Service Visions and concepts. GRF, non-airborne BCT, SBCT, SOF, and other future forces require mission-critical equipment delivered by airdrop when air-land is not possible due to anti-access conditions. ALVADS enhances the commander's ability to deliver heavy loads, conduct resupply activities, and provide accurate, timely delivery of needed equipment in all operational environments and in all types of weather while reducing the aircraft vulnerability to threat weaponry. The ALVADS-Light capability includes loads in the weight range from 2,520 to 22,000 lbs being deployed from altitudes as low as 750 Above Ground Level (AGL) (T) and 500 (AGL) (O). The ALVADS-Heavy load range is 22,001 - 42,000 lbs to accommodate heavier cargo loads and possesses a slightly increased minimum deployment altitude requirement of 975 (AGL) (T) and 500 (AGL) (O).					
FY 2014 Accomplishments:					

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Army										Date: February 2015	
Appropriation/Budget Activity 2040 / 4				R-1 Program Element (Number/Name) PE 0603804A / <i>Logistics and Engineer Equipment - Adv Dev</i>				Project (Number/Name) K39 / <i>Field Sustainment Support Ad</i>			
B. Accomplishments/Planned Programs (\$ in Millions)											
				FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total			
Awarded ALVADS developmental contract. Initiated ALVADS Design Validation competitive fly off. Prepared Milestone B package and transitioned into Engineering and Manufacturing Development (EMD).											
Title: Extracted High and Low High Speed Container Delivery System (EHLSCDS) Description: Provides a high speed (230 knot), low altitude (375 ft AGL) capability for up to eight Container Delivery Systems (CDS) to enhance aircraft and aircrew safety while improving accuracy and reducing dispersion for receiving ground units. FY 2015 Plans: Begin EHLSCDS Design Validation (DV) testing. FY 2016 Base Plans: Complete EHLSCDS Design Validation (DV) testing, prepare for Milestone B and transition program into Engineering and Manufacturing Development (EMD).				-	0.534	1.875	-	1.875			
Accomplishments/Planned Programs Subtotals				2.088	0.534	1.875	-	1.875			
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• OPA MA7806: <i>Precision Airdrop MA7806</i>	9.500	4.778	2.890	-	2.890	1.930	2.191	2.197	2.240	Continuing	Continuing
• RDT&E 654804.L39: <i>Field Sustainment Support ED 654804.L39</i>	1.729	1.687	1.849	-	1.849	4.156	3.219	2.308	3.078	Continuing	Continuing
Remarks											
D. Acquisition Strategy Accelerate Joint Precision Aerial Delivery System (JPADS) product improvements to transition to Production.											
E. Performance Metrics N/A											

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army												Date: February 2015			
Appropriation/Budget Activity 2040 / 4						R-1 Program Element (Number/Name) PE 0603804A / Logistics and Engineer Equipment - Adv Dev						Project (Number/Name) K39 / Field Sustainment Support Ad			
Management Services (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Management Support	Various	PM Force Sustainment Sys (FSS), Natick : Natick, MA	5.104	0.628	Apr 2014	0.070		0.575		-		0.575	Continuing	Continuing	Continuing
SBIR+STTR	TBD	Various : Various	0.090	-		-		-		-		-	-	0.090	-
Subtotal			5.194	0.628		0.070		0.575		-		0.575	-	-	-
Product Development (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Extracted High and Low Speed Container Delivery System (EHLSCDS)	Various	Various : Various	1.097	-		0.264		0.500		-		0.500	Continuing	Continuing	Continuing
Soldier Support Equipment	Various	PM Force Sustainment Sys (FSS), Natick : Natick, MA	15.934	-		-		-		-		-	Continuing	Continuing	Continuing
LCADS P3I Effort	Various	Various : Various	1.300	-		-		-		-		-	Continuing	Continuing	Continuing
ALVADS Development	Various	Various : Various	9.600	-		-		-		-		-	Continuing	Continuing	Continuing
JPADS 2K and 10K product improvements	Various	Various : Various	5.900	-		-		-		-		-	Continuing	Continuing	Continuing
RRDAS Development	Various	Various : Various	2.200	-		-		-		-		-	Continuing	Continuing	Continuing
Next Generation Human Remains Transfer Case Development	Various	Various : Various	2.220	-		-		-		-		-	Continuing	Continuing	Continuing
Subtotal			38.251	-		0.264		0.500		-		0.500	-	-	-

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army												Date: February 2015			
Appropriation/Budget Activity 2040 / 4						R-1 Program Element (Number/Name) PE 0603804A / Logistics and Engineer Equipment - Adv Dev						Project (Number/Name) K39 / Field Sustainment Support Ad			
Support (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
ALVADS Development	C/FFP	Various : Various	0.000	0.060	May 2014	-		-		-		-	-	0.060	-
Subtotal			0.000	0.060		-		-		-		-	-	0.060	-
Test and Evaluation (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
ALVADS-Light Testing Design Validation(DV). ALVADS-Heavy S&T Test	Various	YPG, AZ : YPG, AZ	9.031	1.400	May 2014	-		-		-		-	Continuing	Continuing	Continuing
Extracted High and Low Speed Container Delivery System (EHLSCDS)	C/FFP	YPG, AZ : Arizona	0.000	-		0.200		0.800		-		0.800	-	1.000	-
RRDAS Design Validation (DV) Testing	Various	YPG, AZ : YPG, AZ	0.150	-		-		-		-		-	Continuing	Continuing	Continuing
ACPRS	Various	Ft Bragg, NC : NC	0.220	-		-		-		-		-	-	0.220	-
LCADS P3I	Various	DTC, YPG, OTC, FT Bragg : Various	4.307	-		-		-		-		-	Continuing	Continuing	Continuing
Subtotal			13.708	1.400		0.200		0.800		-		0.800	-	-	-
			Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			57.153	2.088		0.534		1.875		-		1.875	-	-	-
Remarks															

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Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army																Date: February 2015												
Appropriation/Budget Activity 2040 / 4										R-1 Program Element (Number/Name) PE 0603804A / Logistics and Engineer Equipment - Adv Dev								Project (Number/Name) K39 / Field Sustainment Support Ad										
Event Name	FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019				FY 2020			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
(1) Prepare for MS B and transition of ALVADS				▲1																								
(2) Prepare MS A EHLSCDS					▲2																							
(3) Conduct Milestone B and transition EHLSCDS											▲3																	
Conduct EHLSCDS validation testing																												
(4) Conduct Milestone A on Autoload Hookup/Rotary A/C											▲4																	
Conduct SADE Autoload Hookup advanced component prototype, design																												
JPADS Block I upgrade component development																												
(5) Prepare Milestone A for RRDAS																				▲5								
Conduct RRDAS advanced component prototype design																												
(6) Prepare for Milestone A for Next Generation Green LCADS																											▲6	
Next Generation LCADS component development																												
(7) Prepare for Milestone A for Rotary A/C Low Cost Cargo Airdrop																											▲7	
Conduct Rotary A/C Low Cost AD component development																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 4	R-1 Program Element (Number/Name) PE 0603804A / <i>Logistics and Engineer Equipment - Adv Dev</i>	Project (Number/Name) K39 / <i>Field Sustainment Support Ad</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Prepare for MS B and transition of ALVADS	4	2014	4	2014
Prepare MS A EHLSCDS	1	2015	1	2015
Conduct Milestone B and transition EHLSCDS	2	2016	2	2016
Conduct EHLSCDS validation testing	2	2015	1	2016
Conduct Milestone A on Autoload Hookup/Rotary A/C	2	2016	2	2016
Conduct SADE Autoload Hookup advanced component prototype, design & fabrication	2	2017	2	2018
JPADS Block I upgrade component development	1	2017	4	2018
Prepare Milestone A for RRDAS	2	2018	2	2018
Conduct RRDAS advanced component prototype design	4	2018	2	2019
Prepare for Milestone A for Next Generation Green LCADS	1	2020	1	2020
Next Generation LCADS component development	2	2020	4	2020
Prepare for Milestone A for Rotary A/C Low Cost Cargo Airdrop	2	2020	2	2020
Conduct Rotary A/C Low Cost AD component development	4	2020	4	2020

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Army										Date: February 2015		
Appropriation/Budget Activity 2040 / 4					R-1 Program Element (Number/Name) PE 0603804A / Logistics and Engineer Equipment - Adv Dev				Project (Number/Name) K41 / Water And Petroleum Distribution - Ad			
COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
K41: Water And Petroleum Distribution - Ad	-	2.187	3.543	3.764	-	3.764	4.392	4.773	4.871	4.963	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project develops and demonstrates the potential of prototype equipment and technologies to satisfy petroleum storage, distribution, and quality surveillance system requirements. The Technology Development programs support the development and enhancement of rapidly deployable Petroleum and Water equipment. The mission includes developing onboard fuel quality analysis systems; achieving greater capabilities in the removal of Nuclear, Biological, Chemical (NBC) and other contaminants from water sources; reducing the logistics footprint; developing water reutilization systems to reduce the requirement for transport of water into the theater; and material systems to decrease the logistics footprint and employment time for the transfer of liquid logistics in joint operations area. This vital equipment enables the Army to achieve its mission by providing the Army with the means to be highly mobile and self-sustaining in very hostile joint operations areas. Future Force operations demand that combat systems be rapidly deployable to the theater, rapidly emplaced upon arrival, and rapidly relocated to support a fast moving non-linear battlefield.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: 3K Tactical Water Purification System (3K TWPS)	0.500	-	0.565	-	0.565
Description: Funding is provided for the following effort					
FY 2014 Accomplishments: Test 3K TWPS breadboard components and use results to start preparation of detailed system design.					
FY 2016 Base Plans: Complete detailed system design and prepare Milestone B program documentation and analysis. Initiate Preliminary Design Review (PDR) to support MS B in 1QFY16.					
Title: Early Entry Fluid Distribution System (E2FDS)	1.362	2.793	3.199	-	3.199
Description: Funding is provided for the following effort					
FY 2014 Accomplishments: Complete the development of six performance specifications for the E2FDS; System Level, Command and Control, Hose Reel Assembly, Hose Assembly, Pumping Assembly and Pump Station Accessories. Develop					

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015			
Appropriation/Budget Activity 2040 / 4	R-1 Program Element (Number/Name) PE 0603804A / Logistics and Engineer Equipment - Adv Dev	Project (Number/Name) K41 / Water And Petroleum Distribution - Ad				
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Milestone B documentation and initiate Engineering and Manufacturing Development (EMD) contract action in parallel with Milestone B documentation. FY 2015 Plans: Achieve Milestone B approval. Release Request for Proposal (RFP) for (EMD) contract. Source Selection Evaluation Board (SSEB) for EMD contract. EMD Contract award. FY 2016 Base Plans: Award prototype development contract. Complete initial design of E2FDS. Initiate Preliminary Design Review of E2FDS prototype. Initiate fabrication of prototypes of E2FDS for testing.						
Title: Fuel System Supply Points (FSSP) Description: Funding is provided for the following effort FY 2014 Accomplishments: Address the capability gap for automated gauging to capture fuel quantities in collapsible tanks in the FSSP. This includes the development of a data device that will transmit and store the data internally for the system and externally to other command networks and systems. Assist the Army and Capability Developer in the Limited Objective Experiment mission conducted in FY14.		0.325	-	-	-	-
Title: Modular Fuel System (MFS) Description: Funding is provided for the following effort FY 2015 Plans: Conduct Operational Testing on the MFS. Test will include the MFS Pump Rack Module (PRM) and the MFS Tank Rack Module (TRM). Funding provides support for Soldiers to conduct Operational Tests of the MFS system.		-	0.750	-	-	-
Accomplishments/Planned Programs Subtotals		2.187	3.543	3.764	-	3.764

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Army										Date: February 2015	
Appropriation/Budget Activity 2040 / 4				R-1 Program Element (Number/Name) PE 0603804A / Logistics and Engineer Equipment - Adv Dev				Project (Number/Name) K41 / Water And Petroleum Distribution - Ad			
C. Other Program Funding Summary (\$ in Millions)											
			<u>FY 2016</u>	<u>FY 2016</u>	<u>FY 2016</u>					<u>Cost To</u>	
<u>Line Item</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>Base</u>	<u>OCO</u>	<u>Total</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>FY 2019</u>	<u>FY 2020</u>	<u>Complete</u>	<u>Total Cost</u>
• PM PAWS Project L41 654804: <i>Logistics and Engineer Equipment</i>	2.508	3.193	4.038	-	4.038	8.669	5.256	4.645	4.645	Continuing	Continuing
- <i>Engineering Development L41</i>											
• Distribution Sys Petroleum & Water: <i>Distribution Systems</i> <i>Petroleum & Water MA6000</i>	42.288	40.692	35.381	-	35.381	37.949	42.169	39.112	40.843	Continuing	Continuing
Remarks											
D. Acquisition Strategy											
Develop engineering prototypes for the 3K Tactical Water Purification System (3K TWPS), Early Entry Fluid Distribution System (E2FDS), and select Non-Development Item (NDI) based on market surveys and proposals from industry. Based on market research, will award either competitive or sole source contracts.											
E. Performance Metrics											
N/A											

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army												Date: February 2015			
Appropriation/Budget Activity 2040 / 4						R-1 Program Element (Number/Name) PE 0603804A / Logistics and Engineer Equipment - Adv Dev				Project (Number/Name) K41 / Water And Petroleum Distribution - Ad					
Product Development (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
3K Tactical Water Purification System (3K TWPS)	Various	TARDEC : Warren, MI	0.680	0.200	Mar 2014	-		0.150	Oct 2015	-		0.150	-	1.030	Continuing
Water Quality Monitoring	Various	TARDEC, : Warren, MI	0.270	-		-		-		-		-	-	0.270	-
Fuel Gauging Improvements	MIPR	NFESC : Port Hueneme, CA	0.818	0.237	Dec 2013	-		-		-		-	-	1.055	Continuing
Early Entry Fluid Distribution System (E2FDS)	C/FFP	TARDEC & PM, PAWS : Warren, MI	0.000	0.972	Jan 2014	2.000		3.199	Mar 2016	-		3.199	Continuing	Continuing	Continuing
3K Tactical Water Purification System (3K TWPS)	MIPR	NFESC : Port Hueneme, CA	0.989	-		-		0.050	Oct 2015	-		0.050	Continuing	Continuing	Continuing
Bulk Fuel Distribution	Various	TBD : TBD	1.404	-		-		-		-		-	-	1.404	-
Expeditionary Water Packaging System (EWPS)	C/FFP	TARDEC : Warren, MI	1.177	-		-		-		-		-	-	1.177	Continuing
Modular Tactical Retail Refueling System (MTRRS)	RO	TARDEC : Warren, MI	0.100	-		-		-		-		-	-	0.100	Continuing
Subtotal			5.438	1.409		2.000		3.399		-		3.399	-	-	-
Support (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Water System Capability Improvements	Various	TARDEC : Warren, MI	1.053	-		-		-		-		-	-	1.053	Continuing
Early Entry Fluid Distribution System (E2FDS)	Various	TARDEC & PM, PAWS : Warren, MI	0.000	0.390	Jan 2014	0.793	Mar 2015	-		-		-	-	1.183	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army												Date: February 2015			
Appropriation/Budget Activity 2040 / 4						R-1 Program Element (Number/Name) PE 0603804A / <i>Logistics and Engineer Equipment - Adv Dev</i>						Project (Number/Name) K41 / <i>Water And Petroleum Distribution - Ad</i>			
Support (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Fuel Gauging Improvements	Various	TARDEC & PM, PAWS : Warren, MI	0.000	0.163	Jan 2014	-		-		-		-	-	0.163	Continuing
3K Tactical Water Purification System (TWPS)	Various	TARDEC : Warren, MI	0.500	0.100	Feb 2014	-		-		-		-	-	0.600	Continuing
Subtotal			1.553	0.653		0.793		-		-		-	-	2.999	-
Test and Evaluation (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Water Systems Capability Improvements	Various	TARDEC : Warren, MI	1.181	-		-		-		-		-	-	1.181	Continuing
Water Quality Monitoring	Various	Aberdeen Proving Ground, MD : APG, MD	0.030	-		-		-		-		-	-	0.030	Continuing
Water Quality Monitoring	Various	TARDEC : Warren, MI	0.300	-		-		-		-		-	-	0.300	Continuing
Modular Fuel System (MFS)	Various	Yuma Proving Ground : Yuma, AZ	0.000	-		0.750		-		-		-	-	0.750	Continuing
3K Tactical Water Purification System (3K TWPS)	RO	TARDEC : Warren, MI	0.822	0.125	Apr 2014	-		0.365	Oct 2015	-		0.365	-	1.312	Continuing
Fuel Pumping Assembly Improvements	Various	TARDEC : Warren, MI	0.700	-		-		-		-		-	-	0.700	Continuing
Subtotal			3.033	0.125		0.750		0.365		-		0.365	-	4.273	-
Project Cost Totals			10.024	2.187		3.543		3.764		-		3.764	-	-	-
Remarks															

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Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army **Date:** February 2015

Appropriation/Budget Activity
2040 / 4

R-1 Program Element (Number/Name)
PE 0603804A / *Logistics and Engineer Equipment - Adv Dev*

Project (Number/Name)
K41 / *Water And Petroleum Distribution - Ad*

Event Name	FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019				FY 2020			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Improvements for Family of Fuel System Supply Points (FSSPs)	Tank Gauging																											
3K Tactical Water Purification System (3K TWPS)																												
Early Entry Fluid Distribution System																												
Modular Fuel System (MFS)																												
Water From Air																												
Petroleum Test Kit (PTK)																												
Waste Water/Water Recycle Systems																												
Man Portable Water Purifier																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 4	R-1 Program Element (Number/Name) PE 0603804A / <i>Logistics and Engineer Equipment - Adv Dev</i>	Project (Number/Name) K41 / <i>Water And Petroleum Distribution - Ad</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Improvements for Family of Fuel System Supply Points (FSSPs)	1	2013	4	2014
3K Tactical Water Purification System (3K TWPS)	4	2013	3	2016
Early Entry Fluid Distribution System	4	2013	4	2018
Modular Fuel System (MFS)	1	2015	4	2015
Water From Air	1	2017	3	2019
Petroleum Test Kit (PTK)	1	2017	4	2018
Waste Water/Water Recycle Systems	1	2019	4	2020
Man Portable Water Purifier	1	2020	4	2020

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Army										Date: February 2015		
Appropriation/Budget Activity 2040 / 4					R-1 Program Element (Number/Name) PE 0603804A / Logistics and Engineer Equipment - Adv Dev				Project (Number/Name) VR8 / Combat Service Support Systems - Ad			
COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
VR8: Combat Service Support Systems - Ad	-	1.558	2.690	4.048	-	4.048	4.654	4.557	2.566	3.020	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project supports development of critical soldier support and sustainment systems including shelter systems (rigid and soft wall), base camp subsystems, field service systems, mortuary affairs equipment, heaters, camouflage systems to counter emerging enemy threat technologies, and other combat service support equipment. These systems will fill identified theater distribution and services capability gaps, improve unit sustainability, improve resource and energy efficiency and increase combat effectiveness. This project supports Advanced Component Development and Prototyping of critical tactical support systems that support mobile Joint Service command and control, medical, and maintenance platforms. This project develops critical enablers that support the Quartermaster (QM) Force Transformation Strategy and The Army's Modular Capabilities by maintaining readiness through fielding and integrating new equipment. This project also ensures Army Expeditionary Forces are capable of rapid deployment and reduces sustainment requirements, related Combat Support/Combat Service Support (CS/CSS) demands in lift, combat zone footprint, and costs for logistical support.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Zero-Footprint Base Camp	0.350	0.701	1.070	-	1.070
Description: Zero-Footprint Base Camp reduces the operational energy and logistics footprint of the expeditionary base camp system, with the goal being a significant reduction in fuel, water, and power requirements to sustain operations in the field. Operating a base camp such as Force Provider requires a significant amount of logistics support and also produces an enormous amount of by products, both of which cost money, human effort (that means a risk in the form of soldiers on the road), and represents a potential vulnerability.					
FY 2014 Accomplishments: Conducted evaluation and demonstration of novel technologies with focus on producing suitable technology demonstration prototypes and reducing technical risk. Prepared for transition of Zero-Footprint Base Camp technologies into Engineering and Manufacturing Development (EMD) in support of the OSD Joint Expeditionary Basing Work Group initiative for Joint base camp systems. Completed evaluation and demonstration on solar shading and insulating technologies.					
FY 2015 Plans:					

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015				
Appropriation/Budget Activity 2040 / 4		R-1 Program Element (Number/Name) PE 0603804A / Logistics and Engineer Equipment - Adv Dev	Project (Number/Name) VR8 / Combat Service Support Systems - Ad				
B. Accomplishments/Planned Programs (\$ in Millions)			FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Conduct evaluation and demonstration of novel technologies with focus on producing suitable technology demonstration prototypes and reducing technical risk. Prepare for transition of Zero-Footprint Base Camp technologies into Engineering and Manufacturing Development (EMD) in support of the OSD Joint Expeditionary Basing Work Group initiative for Joint base camp systems. FY 2016 Base Plans: Conduct evaluation and demonstration of novel resource and operational energy saving technologies with continued focus on producing suitable technology demonstration prototypes and reducing technical risk. Evaluate technologies transitioning from the Sustainability, Logistics Basing Science and Technology Objective Demonstration (SLB-STO-D). Prepare promising Zero-Footprint Base Camp technologies for transition into Engineering and Manufacturing Development (EMD) supporting Force Provider requirements and OSD Joint Expeditionary Basing Work Group initiatives							
Title: Net-Zero Energy Efficiency Solutions Description: Net-Zero Energy Efficiency Solutions reduce the logistics footprint of the expeditionary base camp system, with the goal being a significant reduction in fuel, water, material and power requirements to sustain operations in the field. The effort includes reducing site preparation, maintenance and spare parts requirements. Operating a base camp such as Force Provider requires a significant amount of logistics support and also produces an enormous amount of by products, both of which cost money, human effort (that means a risk in the form of soldiers on the road), and represents a potential vulnerability. FY 2014 Accomplishments: Completed evaluation of integrated technologies that transitioned from the RDECOM 6.3 programs in a realistic operating environment at the Ft Devens Base Camp Integration Laboratory (BCIL). Efforts were focused on proving out subsystem maturity and the potential of these technologies before transitioning into Engineering and Manufacturing Development (EMD) and putting them into operational use within the Army Force Provider base camps as a Pre-Planned Product Improvements (P3I). Focus was on evaluating technologies that will improve upon the environmental and energy efficiency performance of the base camp. Specifically: 1) Integration and evaluation of micro-grid / smart power / renewable energy/ power storage solutions developed under separate DoD and industry programs that can be incorporated into Force Provider modules to complement existing Tactical Quiet Generators (TQGs) and the Advanced Medium-sized Mobile Power Source (AMMPS) for standard Army Force Provider modules; and 2) Integration and evaluation of energy efficient Expeditionary Rigid Wall			0.885	0.964	1.231	-	1.231

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015			
Appropriation/Budget Activity 2040 / 4		R-1 Program Element (Number/Name) PE 0603804A / Logistics and Engineer Equipment - Adv Dev	Project (Number/Name) VR8 / Combat Service Support Systems - Ad			
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Shelters with integrated Environmental Control Units / Heaters that will compliment improved shelter efficiencies and significantly reduce the fuel demand on base camp operations.						
FY 2015 Plans: Conduct evaluation of integrated technologies that are transitioning from the RDECOM 6.3 programs in a realistic operating environment at the Ft Devens Base Camp Integration Laboratory (BCIL). Efforts are focused on proving out subsystem maturity and the potential of these technologies before transitioning into Engineering and Manufacturing Development (EMD) and putting them into operational use within the Army Force Provider base camps as a Pre-Planned Product Improvements (P3I). Focus will be on evaluating technologies that will improve upon the environmental and energy efficiency performance of the base camp. Specifically the Integration and evaluation of energy efficient Expeditionary Rigid Wall Shelters with integrated Environmental Control Units / Heaters and energy saving appliances that will compliment improved shelter efficiencies and significantly reduce the fuel and resource demand on base camp operations.						
FY 2016 Base Plans: Conduct evaluation of integrated technologies that are transitioning from the RDECOM 6.3 programs in a realistic operating environment at the Ft Devens Base Camp Integration Laboratory (BCIL). Efforts are focused on proving out subsystem maturity and the potential of these technologies before transitioning into Engineering and Manufacturing Development (EMD) and putting them into operational use within the Army Force Provider base camps as a Pre-Planned Product Improvements (P3I). Focus will be on evaluating technologies that will improve upon the environmental, resource, and energy efficiency performance of the base camp. Specifically the integration and evaluation of renewable energy supplementing systems such as solar water heating and waste heat collection systems, low-energy demand Environmental Control Units / heaters, and energy saving appliances that will compliment improved shelter and subsystem efficiencies significantly reducing the fuel and resource demand on base camp operations.						
Title: Expeditionary Shelter Protection System (ESPS) Description: ESPS is a lightweight, rapidly deployable and reusable ballistic protection system that can be installed in commonly used military shelters in expeditionary and remote base camps and outposts where more robust forms of ballistic protection (i.e. sandbags, concrete barriers) are not readily available or logistically feasible. FY 2014 Accomplishments:		0.323	0.200	-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Army				Date: February 2015		
Appropriation/Budget Activity 2040 / 4		R-1 Program Element (Number/Name) PE 0603804A / Logistics and Engineer Equipment - Adv Dev		Project (Number/Name) VR8 / Combat Service Support Systems - Ad		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Completed evaluation/demonstration of advanced ballistics protection technologies to support transition to EMD for ESPS in support of Force Provider Expeditionary (FPE) add-on capability requirement.						
FY 2015 Plans: Complete Milestone B documentation and obtain acquisition decision to initiate EMD development for ESPS.						
Title: Black Waste Elimination for Small Base Camps (150 personnel) Description: Provides the capability to reduce/eliminate the black water generated by small base camps. The objective capability will reduce our sustainment requirements for backhauling black waste water as well as our risk of contaminating the environment with biological contaminants. This capability will significantly reduce reliance on external support and is a key capability required to move toward zero footprint base camps. FY 2015 Plans: Transition black waste water elimination technologies from RDECOM 6.3 program and develop a demonstration prototype for contingency base applications to prove out component and subsystem maturity. FY 2016 Base Plans: Complete prototype fabrication and conduct evaluation of component performance. Prepare documentation for Milestone B for the Black Waste Elimination System and transition into EMD.		-	0.250	0.500	-	0.500
Title: Solid Waste Disposal for Small Base Camps Description: Provides an integrated waste management (reduction, treatment or disposal process) add-on capability that can safely process 1,000 lbs or more of mixed solid waste in a single day on site. Mixed solid waste produced on a single 150 person site must be properly managed through reduction, reuse, recycling, treatment, or disposal. Most of the waste is nonhazardous solid waste. Provides a substantial improvement over the current practice of burn pits that poses a health risk to Soldiers and/or the backhaul logistics burden. FY 2015 Plans: Complete the evaluation of integrated waste management technologies. Prepare a demonstration prototype for contingency base applications and conduct initial performance evaluation. Prepare documentation for Milestone B for the Small Base Waste Disposal System. FY 2016 Base Plans: Conduct Milestone B and transition technologies into EMD.		-	0.575	0.100	-	0.100
Title: Ultralightweight Camouflage Net System (ULCANS)		-	-	0.250	-	0.250

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Army			Date: February 2015			
Appropriation/Budget Activity 2040 / 4		R-1 Program Element (Number/Name) PE 0603804A / Logistics and Engineer Equipment - Adv Dev		Project (Number/Name) VR8 / Combat Service Support Systems - Ad		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Description: ULCANS is durable, robust, snag resistant state of the art camouflage system that provides increased survivability against multi-spectral visual, infrared and radar threats, thermal signature suppression and significant thermal/solar reduction capability. ULCANS utilizes a snag-free design and is capable of use in all types of weather and climatic conditions except in heavy snow and winds. ULCANS variants are integrated systems that are very lightweight, easily deployable, versatile, user friendly and tailored to the equipment meeting the requirements of operations for combat systems, command and control equipment, logistic support sites, tactical facilities, and fixed facilities. RDT&E funding supports formal development of new ULCANS variants (snow, urban, aviation, 2 sided system) and necessary technology/signature enhancements for current ULCANS variants. FY 2016 Base Plans: Complete evaluation/demonstration of ULCANS technology enhancements in a realistic environment. Prepare Milestone B documentation and initiate contract planning for ULCANS Arctic/Snow variant and technology enhancements of Woodland/Desert variants.						
Title: Expeditionary Waste to Energy System Description: The Expeditionary Waste to Energy System reduces the operational energy and logistics footprint of the expeditionary base camp system, with the goal of providing an integrated waste management and disposal process add-on capability that can safely process up to two tons of mixed solid organic waste in a single day on site with the energy associated with the management process being converted to usable energy in the form of fuel, heat and/or electric power. This capability will provide a safe and suitable means to dispose of waste in remote expeditionary base camps while reducing the fuel and power requirements to sustain operations in the field. This capability provides a substantial improvement over the current practice of burn pits and backhaul with associated vulnerabilities. FY 2016 Base Plans: Procure and integrate prototype waste management and waste-to-energy technologies. Conduct evaluation of integrated waste to energy technologies that are transitioning from the RDECOM 6.3 programs in a realistic operating environment such as the Ft Devens Base Camp Integration Laboratory (BCIL). Efforts are focused on proving out subsystem maturity and the potential of these technologies before transitioning into Engineering and Manufacturing Development (EMD).		-	-	0.897	-	0.897
Accomplishments/Planned Programs Subtotals		1.558	2.690	4.048	-	4.048

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Army										Date: February 2015	
Appropriation/Budget Activity 2040 / 4				R-1 Program Element (Number/Name) PE 0603804A / <i>Logistics and Engineer Equipment - Adv Dev</i>				Project (Number/Name) VR8 / <i>Combat Service Support Systems - Ad</i>			
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• RDT&E 654804.VR7: <i>Combat Service Support Systems - RDTE 654804 VR7</i>	4.405	2.945	2.963	-	2.963	2.963	4.574	4.354	2.598	3.077	27.879
Remarks											
D. Acquisition Strategy											
Accelerate Base Camp efficiency and safety initiatives to incorporate in deployed camps and/or incorporate during reset of equipment.											
E. Performance Metrics											
N/A											

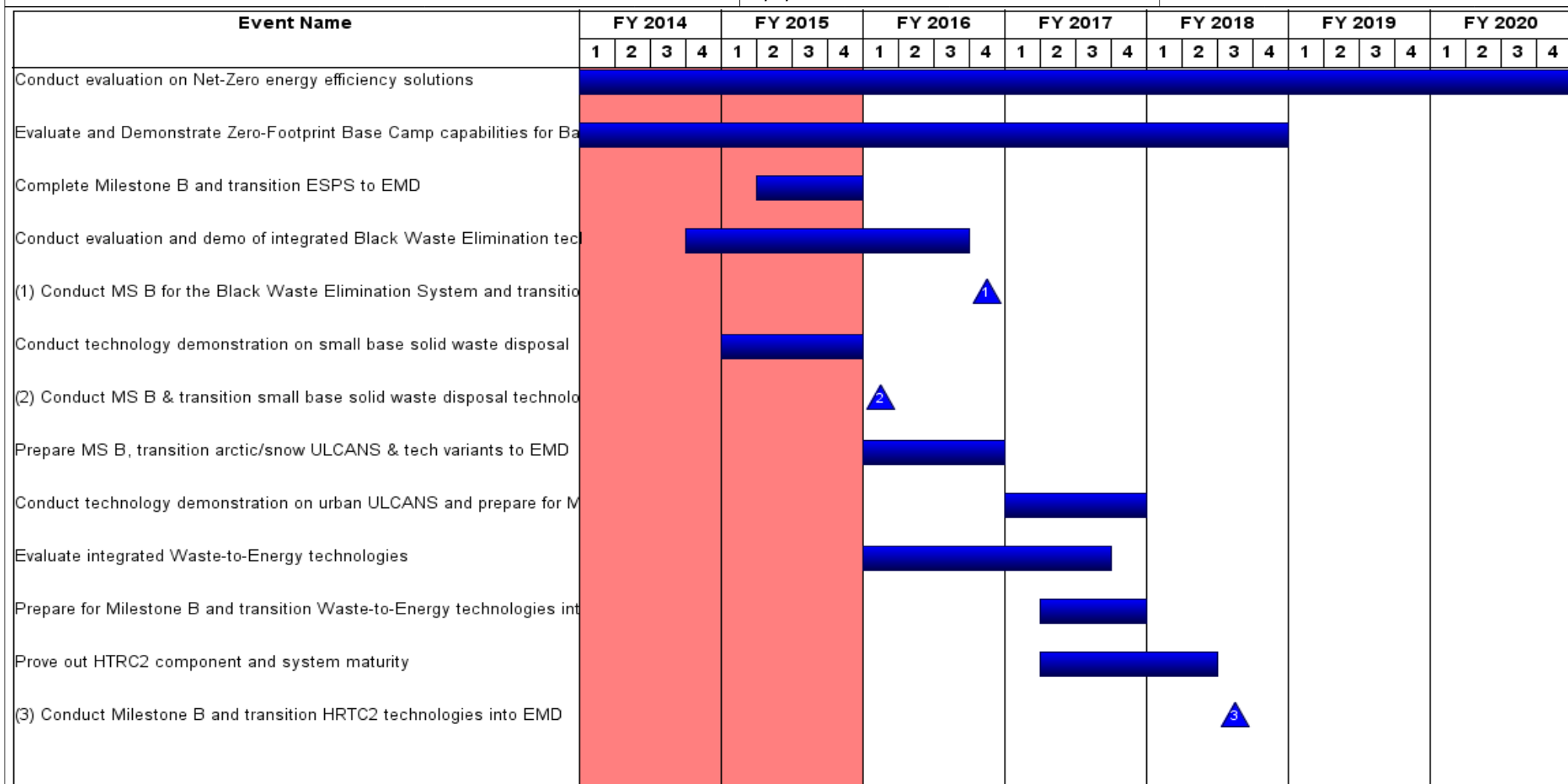
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Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army												Date: February 2015			
Appropriation/Budget Activity 2040 / 4				R-1 Program Element (Number/Name) PE 0603804A / Logistics and Engineer Equipment - Adv Dev				Project (Number/Name) VR8 / Combat Service Support Systems - Ad							
Management Services (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Management Support	Various	PM Force Sustainment Systems : Natick, MA	0.402	0.185	Jan 2014	0.314		0.534		-		0.534	Continuing	Continuing	-
SBIR+STTR	TBD	various : Various	0.062	-		-		-		-		-	-	0.062	-
Subtotal			0.464	0.185		0.314		0.534		-		0.534	-	-	-
Product Development (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Soldier Support Equipment	Various	Various : Various	1.700	0.578	Apr 2014	1.281		1.914		-		1.914	Continuing	Continuing	-
Subtotal			1.700	0.578		1.281		1.914		-		1.914	-	-	-
Test and Evaluation (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Soldier Support Equipment	Various	Various : Various	1.604	0.795	May 2014	1.095		1.600		-		1.600	Continuing	Continuing	-
Subtotal			1.604	0.795		1.095		1.600		-		1.600	-	-	-
			Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			3.768	1.558		2.690		4.048		-		4.048	-	-	-
Remarks															

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Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army **Date:** February 2015

Appropriation/Budget Activity 2040 / 4	R-1 Program Element (Number/Name) PE 0603804A / <i>Logistics and Engineer Equipment - Adv Dev</i>	Project (Number/Name) VR8 / <i>Combat Service Support Systems - Ad</i>
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Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army																Date: February 2015												
Appropriation/Budget Activity 2040 / 4										R-1 Program Element (Number/Name) PE 0603804A / Logistics and Engineer Equipment - Adv Dev								Project (Number/Name) VR8 / Combat Service Support Systems - Ad										
Event Name	FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019				FY 2020			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Demonstrate integrated black waste elimination technologies for large base																												
Prepare for MS B and transition large camp black waste elimination tech																												
Conduct evaluation and demo of integrated expeditionary shelter technol																												
Prepare for MS B & transition Family of Vehicle Mounted RWS technolo																												
Prepare for MS B & transition Family of Expandable/Non-expandable RV																												
Prepare for MS B & transition Family of Collapsible & Panelized RWS te																												
(1) Obtain Milestone B on Advanced Mortuary Affairs Systems																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 4	R-1 Program Element (Number/Name) PE 0603804A / <i>Logistics and Engineer Equipment - Adv Dev</i>	Project (Number/Name) VR8 / <i>Combat Service Support Systems - Ad</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Conduct evaluation on Net-Zero energy efficiency solutions	1	2012	4	2021
Evaluate and Demonstrate Zero-Footprint Base Camp capabilities for Base Camp Sys	1	2014	4	2018
Complete Milestone B and transition ESPS to EMD	2	2015	4	2015
Conduct evaluation and demo of integrated Black Waste Elimination technologies.	4	2014	3	2016
Conduct MS B for the Black Waste Elimination System and transition to EMD.	4	2016	4	2016
Conduct technology demonstration on small base solid waste disposal	1	2015	4	2015
Conduct MS B & transition small base solid waste disposal technology to EMD	1	2016	1	2016
Prepare MS B, transition arctic/snow ULCANS & tech variants to EMD	1	2016	4	2016
Conduct technology demonstration on urban ULCANS and prepare for MS B	1	2017	4	2017
Evaluate integrated Waste-to-Energy technologies	1	2016	3	2017
Prepare for Milestone B and transition Waste-to-Energy technologies into EMD	2	2017	4	2017
Prove out HTRC2 component and system maturity	2	2017	2	2018
Conduct Milestone B and transition HTRC2 technologies into EMD	3	2018	3	2018
Demonstrate integrated black waste elimination technologies for large base camps	2	2018	4	2019
Prepare for MS B and transition large camp black waste elimination tech to EMD	3	2019	4	2019
Conduct evaluation and demo of integrated expeditionary shelter technologies.	1	2016	4	2020
Prepare for MS B & transition Family of Vehicle Mounted RWS technology to EMD	1	2017	2	2017
Prepare for MS B & transition Family of Expandable/Non-expandable RWS to EMD	1	2018	4	2018
Prepare for MS B & transition Family of Collapsible & Panelized RWS tech to EMD	1	2020	4	2020
Obtain Milestone B on Advanced Mortuary Affairs Systems	2	2020	2	2020