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**Exhibit R-2, RDT&E Budget Item Justification: PB 2017 Army** **Date:** February 2016

<b>Appropriation/Budget Activity</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army / BA 4: Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 Program Element (Number/Name)</b> PE 0603747A / <i>Soldier Support and Survivability</i>
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COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
Total Program Element	-	8.633	4.301	10.506	-	10.506	12.840	10.651	10.847	10.459	Continuing	Continuing
610: <i>Food Adv Development</i>	-	3.348	0.021	5.299	-	5.299	6.579	4.830	4.508	4.631	Continuing	Continuing
C08: <i>Rapid Equipping Force</i>	-	5.285	4.000	3.259	-	3.259	5.809	5.821	5.830	5.828	Continuing	Continuing
EL1: <i>Army Field Feeding Programs</i>	-	0.000	0.280	1.948	-	1.948	0.452	0.000	0.509	0.000	0.000	3.189

**A. Mission Description and Budget Item Justification**

This program element supports component development and prototyping for organizational equipment, improved individual clothing and equipment that enhance Soldier battlefield effectiveness, survivability, and sustainment. This program element also supports the component development and prototyping of joint service food and combat feeding equipment designed to reduce logistics burden.

**B. Program Change Summary (\$ in Millions)**

	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017 Base</u>	<u>FY 2017 OCO</u>	<u>FY 2017 Total</u>
Previous President's Budget	8.997	7.758	13.528	-	13.528
Current President's Budget	8.633	4.301	10.506	-	10.506
Total Adjustments	-0.364	-3.457	-3.022	-	-3.022
• Congressional General Reductions	-	-3.457			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.364	-			
• Adjustments to Budget Years	-	-	-3.022	-	-3.022

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<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>FY 2017 Base</b>	<b>FY 2017 OCO</b>	<b>FY 2017 Total</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020</b>	<b>FY 2021</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
610: <i>Food Adv Development</i>	-	3.348	0.021	5.299	-	5.299	6.579	4.830	4.508	4.631	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

**A. Mission Description and Budget Item Justification**

This project provides for the advanced component development and prototyping of joint service food and combat feeding equipment designed to reduce the logistics burden and Operation and Support (O&S) costs of subsistence support to service personnel. Project supports development of rations and rapidly deployable field food service equipment. Project conducts demonstration and validation of improved subsistence and subsistence support items used to enhance soldier effectiveness and quality of life in all four Services, as part of an integrated Department of Defense (DoD) Food Research, Development, Test, Evaluation and Engineering Program. The Program is reviewed and validated twice annually by the DoD Combat Feeding Research and Engineering Board (CFREB) as part of the Joint Service Food Program. This project develops critical enablers that support the Joint Future Force Capabilities and the Joint expeditionary mindset by maintaining readiness through fielding and integrating new equipment. This equipment enhances the field soldier's well-being and provides the soldier with usable equipment, in addition to reducing sustainment requirements, related Combat Support/Combat Service Support (CS/CSS) demands on lift, combat zone footprint, and costs for logistical support.

This PE/Project supports Field Feeding Programs for all the services.

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

	<b>FY 2015</b>	<b>FY 2016</b>	<b>FY 2017 Base</b>	<b>FY 2017 OCO</b>	<b>FY 2017 Total</b>
<b>Title:</b> Fielded Individual Ration Improvement Project (FIRIP)	0.600	-	0.895	-	0.895
<b>Description:</b> Continuous product improvement project for the Meal, Ready to Eat (MRE)					
<b>FY 2015 Accomplishments:</b> Continued to conduct in-house product development of food components and identified suitable commercial off-the-shelf (COTS) / non-developmental item (NDI) candidate items for fielded individual operational rations (e.g. MRE 2018 date of pack) to enhance Warfighter acceptability, increase consumption and improve nutritional intake; conducted pilot scale in-house production to support engineering design, technology insertion, and commercial producibility; developed, integrated and validated state-of-the art science and technology, food processing and primary/secondary packaging innovations into individual ration platforms to increase operational effectiveness; optimized food component processing and packaging to introduce targeted items/capabilities into individual ration platforms for enhanced acceptability, nutrition and performance; transition to 6.5 for testing.					
<b>FY 2017 Base Plans:</b> Will continue to conduct in-house product development of food components and identify suitable COTS/NDI candidate items for fielded individual operational rations (e.g. MRE 2020 date of pack) to enhance Warfighter					

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<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>					
acceptability, increase consumption and improve nutritional intake. Will conduct pilot scale in-house production to support engineering design, technology insertion, and commercial producibility. Will develop, integrate and validate state-of-the art science and technology, food processing and primary/secondary packaging innovations into individual ration platforms to increase operational effectiveness. Will optimize food component processing and packaging to introduce targeted items/capabilities into individual ration platforms for enhanced acceptability, nutrition and performance. Will transition to 6.5 for operational testing.					
<b>Title:</b> Assault/Special Purpose Ration Improvement Project (ASPIP)					
<b>Description:</b> Continuous product improvement of special purpose rations by the insertion of new technologies in nutrition, processing and packaging.					
<b>FY 2015 Accomplishments:</b> Based on user feedback, focus groups, emerging products and technologies and user requirements, identified COTS/NDI components for the Meal, Cold Weather/Long Range Patrol (MCW/LRP), First Strike Ration (FSR) and Modular Operational Ration Enhancement (MORE) to enhance acceptability, variety, consumption and nutritional value of scenario-specific combat rations. Conducted accelerated and long term storage studies on candidate components. Worked with industry partners to facilitate producibility and technology transition.					
<b>FY 2017 Base Plans:</b> Will continue to identify COTS/NDI components for the MCW/LRP, FSR and/or MORE to enhance acceptability, variety, consumption and nutritional value of scenario-specific combat rations based on user feedback, focus groups, emerging products and technologies and user requirements. Will conduct accelerated and long term storage studies on candidate components. Will transition to 6.5 for operational testing.					
<b>Title:</b> Fielded Group Ration Improvement Project (FGRIP)					
<b>Description:</b> Continuous product improvement project to continuously update/improve group ration components, menus, and packaging by integrating state-of-the-art military/commercial packaging and technology base transitions. The family of Unitized Group Rations (UGRs) includes the Unitized Group Ration - Heat & Serve (UGR-H&S), Unitized Group Ration - Express (UGR-E), Unitized Group Ration - A (UGR-A), and Unitized Group Ration - M (UGR-M).					
<b>FY 2015 Accomplishments:</b> Continued efforts to update/improve components, menus and packaging to increase consumption and overall nutritional intake of the family of UGRs for UGR-A (fiscal year (FY) 17 menus), M, E and H&S (2016 date of					
	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
	0.130	-	0.519	-	0.519
	0.208	-	0.831	-	0.831

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

	<b>FY 2015</b>	<b>FY 2016</b>	<b>FY 2017 Base</b>	<b>FY 2017 OCO</b>	<b>FY 2017 Total</b>
<p>pack). Identified COTS/NDIs and developed new food components in-house, conducted in-house testing, down-selected items and developed test menus for Warfighter evaluation. Developed, integrated and validated state-of-the-art science and technology, food processing and primary/secondary packaging innovations into group ration platforms to increase operational effectiveness, functionality and improve logistics. Transitioned to 6.5 for operational testing.</p> <p><b>FY 2017 Base Plans:</b> Will continue efforts to update/improve components, menus and packaging to increase consumption and overall nutritional intake of the family of Unitized Group Rations for UGR-A (FY19 menus), M, E and H&amp;S (2018 date of pack). Will identify COTS/NDIs and/or develop new food components in-house, conduct in-house testing, down-select items and develop test menus for Warfighter evaluation. Will develop, integrate and validate state-of-the-art science and technology, food processing and primary/secondary packaging innovations into group ration platforms to increase operational effectiveness, functionality and improve logistics. Will transition to 6.5 for operational testing.</p>					
<p><b>Title:</b> US Navy Standard Core Menu (NSCM) Continuous Product Improvement Project</p> <p><b>Description:</b> Provide recommendations for upgrading/improving Navy Standard Core Menu components by introducing new preparation techniques to enhance menu acceptance and effectiveness while reducing labor requirements.</p> <p><b>FY 2015 Accomplishments:</b> Continued to identify and validate COTS/NDI candidate enhancement to the NSCM. Provided recommendations for improving menu components by introducing new commercial items and state-of-the-art food preparation and feeding techniques to enhance menu acceptance and reduce labor requirements. Transitioned product summaries and results/recommendations to Naval Supply Systems Command (NAVSUP) for adoption and procurement.</p> <p><b>FY 2017 Base Plans:</b> Will continue to identify and validate COTS/NDI candidate enhancements to the NSCM. Will test and evaluate new products and techniques using Navy Galley equipment. Will provide recommendations for improving menu components by introducing new commercial items and state-of-the-art food preparation and feeding techniques to enhance menu acceptance and reduce labor requirements. Will transition product summaries and results/recommendation to NAVSUP for adoption and procurement.</p>	0.160	-	0.344	-	0.344
<p><b>Title:</b> Barrier Coating for Optimized Package Performance</p>	0.080	-	-	-	-

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<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>					
	<b>FY 2015</b>	<b>FY 2016</b>	<b>FY 2017 Base</b>	<b>FY 2017 OCO</b>	<b>FY 2017 Total</b>
<b>Description:</b> Provides low-cost, non-foil, high performance packaging materials for incorporation into existing and future combat ration packaging systems, such as the UGR-H&S and MRE.					
<b>FY 2015 Accomplishments:</b> Delivered prototype entrée and non-retort MRE pouches along with performance documentation/specifications and cost analysis. Presented coating technologies to milestone decision authority, Joint Service Operational Ration Forum (JSORF) and the ration supply community for use as an alternative non-foil ration packaging material.					
<b>Title:</b> Containerized Ice Making System (CIMS)					
<b>Description:</b> Develop a containerized ice making system to support a 600 person base camp for cooling drinking water in extreme arid conditions and support other ice requirements for those on the base camp and for soldiers going out on missions/patrols.					
<b>FY 2015 Accomplishments:</b> Conducted evaluation of integrated technologies in a realistic operating environment to include: modified commercial items, developmental prototypes and commercial industry technology demonstrators. Mitigated identified weaknesses in transportable ice bagging technologies with development of ruggedized, reliable system.					
	0.518	-	-	-	-
<b>Title:</b> Transition of Advanced Appliances for Field Kitchens					
<b>Description:</b> Provide the Warfighter with Jet Propellant 8 (JP-8) fueled appliances that save fuel, are simple to use, provide a safe kitchen environment, and can easily be moved into buildings when necessary. Warfighters benefit from a safer, healthier, more comfortable kitchen environment, and equipment that facilitates preparation of quality UGR-A ration meals. Existing appliances are only about 15-40% efficient; new burner technologies have demonstrated 75% efficiency, typical of stationary gas-fired equipment.					
<b>FY 2015 Accomplishments:</b> Performed comprehensive evaluation of appliances integrated with newly developed heating technologies. Verified performance and compatibility with multiple platforms and in dismantled operations. Completed evaluation of appliances mounted on dedicated kitchen platform to prove out component and subsystem maturity.					
	0.360	-	-	-	-
<b>Title:</b> Navy Food Service Analysis Tool (NFSAT)					
	0.253	-	-	-	-

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<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>FY 2017 Base</b>	<b>FY 2017 OCO</b>	<b>FY 2017 Total</b>
<p><b>Description:</b> Develop a software analysis tool for Navy Foodservice that performs the following tasks: Automatically calculate all storage space factors and requirements for naval vessels based off the specific NSCM, crew size, Naval Ship's Technical Manual 096, Weights and Stability, Naval Vessel Requirements Food Service Facility Design Manual, Build Specifications 671, 672, and Type Commander established endurance levels.</p> <p><b>FY 2015 Accomplishments:</b> Awarded NFSAT software contract; demonstrated software to Navy Automatic Identification Technology (AIT) Program Management Office; and received approval for Navy use of NFSAT software.</p>					
<p><b>Title:</b> Block Upgrades and Operational Improvements for Expeditionary Field Feeding Equipment.</p> <p><b>Description:</b> Eliminate the sole sourcing of tray ration heater component parts. Reduce overall water consumption through the use of non-immersive cooking technologies and more efficient ware-washing equipment. Increase Kitchen flexibility through appliance upgrades. To reduce the overall fuel consumption of Expeditionary Field Feeding Equipment through enhanced combustion technologies.</p> <p><b>FY 2015 Accomplishments:</b> Enhanced the ability of the United States Marine Corps (USMC) to prepare all operational rations during expeditionary operations. Identified, procured, and evaluated candidate burners for tray ration reset and developed kit and procedures for install in Tray Ration Heater (TRH).</p> <p><b>FY 2017 Base Plans:</b> Will coordinate and conduct demonstration &amp; validation (DV) of prototypes to support modification/replacement of USMC field feeding equipment. Will transition to 6.5.</p>	0.340	-	0.351	-	0.351
<p><b>Title:</b> Joint Inter-service Field Feeding Burner</p> <p><b>Description:</b> Develop a Joint-Service, government owned JP-8 fuel fired burner for field kitchen appliances. Government will control configuration, procurement, and support decisions. Establish parts list using widely supportable supply chain in field operations.</p> <p><b>FY 2015 Accomplishments:</b> Used the burner baseline developed in this program to qualify acceptable appliance designs that interface properly with the burner. Integrated technical data package into appliance configuration control documentation.</p>	0.143	-	-	-	-
<p><b>Title:</b> Multi-Purpose Individual Heating Technology (MIT)</p>	-	-	0.315	-	0.315

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<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>		<b>FY 2015</b>	<b>FY 2016</b>	<b>FY 2017 Base</b>	<b>FY 2017 OCO</b>	<b>FY 2017 Total</b>
<p><b>Description:</b> Develop a disposable, lightweight heating mechanism as a low-cost component of the Meal, Cold Weather/Long Range Patrol (MCW/LRP) to facilitate preparation of operational rations in extreme environments with reduced resource requirements and increased ease of use.</p> <p><b>FY 2017 Base Plans:</b> Will evaluate MIT prototypes transitioned to 6.4. Will conduct in-house test and evaluation (T&amp;E), and transition results to 6.5.</p>						
<p><b>Title:</b> Joint Intuitive Multi-function Kitchen Equipment (JIMKE)</p> <p><b>Description:</b> Reduce logistics burden associated with life cycle management of Navy (USN), Air Force (USAF) and Marine Corps (USMC) foodservice equipment. Integrate diagnostic technologies to predict maintenance, reduce labor associated with troubleshooting equipment in the field, and increase mean time between failures (MTBF).</p> <p><b>FY 2017 Base Plans:</b> Will develop required contract documentation to procure equipment prototypes with multi-functional capabilities for USN, USAF, and USMC. Will award contracts based on specifications for each Service and begin in-house prototype test and evaluation.</p>		-	-	0.533	-	0.533
<p><b>Title:</b> Navy Galley and Scullery Upgrades</p> <p><b>Description:</b> Continuously modernize foodservice operations by adding capabilities to provide optimized feeding, standardizing foodservice equipment assets fleet-wide, improving space utilization, and facilitating the continued use of the NSCM. Design, processes and equipment insertions will be implemented on legacy platforms during overhaul periods and during the new construction process on future vessels.</p> <p><b>FY 2017 Base Plans:</b> Will identify advanced equipment technologies to support existing and new ship class designs to support the Galley and Scullery operations. Will conduct in-house testing of equipment recommended by Navy subject matter experts. Will transition T&amp;E reports to USN.</p>		-	-	0.445	-	0.445
<p><b>Title:</b> Greywater Recycling for the Basic Expeditionary Airfield Resources (BEAR) Kitchen Systems</p> <p><b>Description:</b> Leverage NDI and COTS greywater filtration technologies to reduce operating and support (O&amp;S) costs for the BEAR kitchen system.</p>		-	-	0.337	-	0.337

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<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>FY 2017 Base</b>	<b>FY 2017 OCO</b>	<b>FY 2017 Total</b>
<p><b><i>FY 2017 Base Plans:</i></b> Will review current Army science &amp; technology efforts related to greywater recycling systems and conduct market research of existing commercial systems. Will prepare Statements of Work (SOWs) and other required contract documents. Will award contract to procure a greywater system to support Air Force BEAR kitchen and sanitation operations.</p>					
<p><b><i>Title:</i></b> Modular Integrated Kitchen System (MIKS) <b><i>Description:</i></b> Design a standardized mounting system for all Galley equipment to significantly reduce technical labor skills required to complete deck modifications. MIKS will standardize electrical and water requirements, enhance procurement options, decrease O&amp;S costs, and increase the speed of installing new technologies into the Galley/Scullery areas.</p>	-	-	0.319	-	0.319
<p><b><i>FY 2017 Base Plans:</i></b> Will identify and evaluate potential NDI/COTS solutions. Will prepare SOWs and other required contract documents. Will award contract to build integrated modular rail system to support integration of equipment into galley operations.</p>					
<p><b><i>Title:</i></b> Defense Logistics Agency (DLA) <b><i>Description:</i></b> Support management of the Department of Defense (DoD) Electronic Document Access (EDA) and Wide Area Workflow (WAWF) programs.</p>	0.556	0.021	0.410	-	0.410
<p><b><i>FY 2015 Accomplishments:</i></b> Funded DLA Document Services to support management of the DoD EDA and WAWF programs.</p>					
<p><b><i>FY 2016 Plans:</i></b> Fund DLA Document Services to support management of the DoD EDA and WAWF programs.</p>					
<p><b><i>FY 2017 Base Plans:</i></b> Will fund DLA Document Services to support management of the DoD EDA and WAWF programs.</p>					
<b>Accomplishments/Planned Programs Subtotals</b>	3.348	0.021	5.299	-	5.299

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**C. Other Program Funding Summary (\$ in Millions)**

<u>Line Item</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>			<u>FY 2018</u>	<u>FY 2019</u>	<u>FY 2020</u>	<u>FY 2021</u>	<u>Cost To</u>	
			<u>Base</u>	<u>OCO</u>	<u>Total</u>					<u>Complete</u>	<u>Total Cost</u>
• RDT&E 654713.548: <i>Military Subsistence System 654713.548</i>	2.983	1.430	0.759	-	0.759	0.358	0.472	1.148	1.178	Continuing	Continuing
• RDT&E 654713.EL2: <i>Army Field Feeding Equipment 654713.EL2</i>	-	0.333	1.295	-	1.295	1.867	1.598	0.966	0.994	Continuing	Continuing
• RDT&E 643747.EL1: <i>Army Field Feeding Programs 643747.EL1</i>	-	0.280	1.948	-	1.948	0.452	-	0.509	-	Continuing	Continuing
• OPA M65801: <i>Refrigerated Containers M65801</i>	10.290	9.486	7.459	-	7.459	10.732	13.660	11.165	15.253	Continuing	Continuing

**Remarks**

**D. Acquisition Strategy**

Project development will transition to Engineering & Manufacturing Development and production.

**E. Performance Metrics**

N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Army												Date: February 2016				
Appropriation/Budget Activity				R-1 Program Element (Number/Name)					Project (Number/Name)							
2040 / 4				PE 0603747A / Soldier Support and Survivability					610 / Food Adv Development							
<b>Management Services (\$ in Millions)</b>				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 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	
Combat Feeding Program Management	Various	RDECOM, Natick, MA : Natick, MA	5.428	0.357	Sep 2015	-		0.574	Sep 2017	-		0.574	Continuing	Continuing	Continuing	
SBIR+STTR	TBD	Various : Various	0.117	-		-		-		-		-	0	0.117	0	
DLA Bill Pay	TBD	Various : Various	0.564	0.556	May 2015	0.021	May 2016	0.410	May 2017	-		0.410	0	1.551	0	
<b>Subtotal</b>			6.109	0.913		0.021		0.984		-		0.984	-	-	-	
<b>Product Development (\$ in Millions)</b>				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 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	
Joint Service Food/Combat Feeding Equipment	Various	RDECOM, Natick, MA : Natick, MA	37.381	1.028	Sep 2015	-		2.237	Sep 2017	-		2.237	Continuing	Continuing	Continuing	
Joint Service Food/Combat Feeding Equipment	Various	Various : Various	25.636	1.106	Sep 2015	-		1.726	Sep 2017	-		1.726	Continuing	Continuing	Continuing	
<b>Subtotal</b>			63.017	2.134		-		3.963		-		3.963	-	-	-	
<b>Test and Evaluation (\$ in Millions)</b>				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 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	
Joint Service Food/Combat Feeding Equipment	Various	DTC/AEC : National Capitol Region	10.281	0.301	Mar 2015	-		-		-		-	Continuing	Continuing	Continuing	
Joint Service Food/Combat Feeding Equipment	Various	Various : Various	0.000	-		-		0.352	Sep 2017	-		0.352	0	0.352	0	
<b>Subtotal</b>			10.281	0.301		-		0.352		-		0.352	-	-	-	
<b>Project Cost Totals</b>			79.407	3.348		0.021		5.299		-		5.299	-	-	-	



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**Exhibit R-4, RDT&E Schedule Profile: PB 2017 Army** **Date:** February 2016

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Event Name	FY 2015				FY 2016				FY 2017				FY 2018				FY 2019				FY 2020				FY 2021			
	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
Evaluate MRE, FSR, MCW/LRP and MORE improvements																												
Evaluate MRE, FSR, MCW/LRP and MORE improvement																												
Evaluate UGR Enhancements improvements																												
Evaluate UGR Enhancements improvement																												
Transition advanced development of individual and group ration compone																												
Transition advanced development of individual and group ration compone																												
Provide NAVSUP w/CPI, evaluations and menu development to support																												
Provide NAVSUP w/CPI, evaluations and menu development to support																												
Conduct in-house T&E of MIT heating prototypes																												
USMC Field Kitchen Modernization Effort																												
Transition of Advanced Appliances for Field Kitchens- DV of Prototypes																												
Transition of Advanced Appliances for Field Kitchens- DV of Prototype																												
Receive approval for Navy use of NFSAT software																												

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**Exhibit R-4, RDT&E Schedule Profile: PB 2017 Army** **Date:** February 2016

<b>Appropriation/Budget Activity</b> 2040 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603747A / <i>Soldier Support and Survivability</i>	<b>Project (Number/Name)</b> 610 / <i>Food Adv Development</i>
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Event Name	FY 2015				FY 2016				FY 2017				FY 2018				FY 2019				FY 2020				FY 2021			
	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
Identify candidate burner technology for potential integration into comm																												
Identify, procure, and evaluate candidate burners for tray ration heater re																												
Procure ETRHS sinks																												
(1) Develop Engineering Change Proposal for Diesel/Electric TriCon Refe																												
Build standalone capability for Diesel/Electric powered TRCS																												
Award contract to integrate improved refer unit with MTRCS platform																												
Coordinate packaging specifications with ration assemblers/producers																												
Conduct technology demonstration of Ice Making Systems																												
Develop performance specs based on DV of Ice Making Systems																												
Dem/Val JP8 burners for Enhanced Tray Ration Heater System-USMC																												
DV on Block Upgrade Improvements to support modification of USMC ec																												
Complete development and in-house T&E of MIKS prototypes																												
Identify and procure JIMKE prototypes																												

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**Exhibit R-4, RDT&E Schedule Profile: PB 2017 Army** **Date:** February 2016

<b>Appropriation/Budget Activity</b> 2040 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603747A / <i>Soldier Support and Survivability</i>	<b>Project (Number/Name)</b> 610 / <i>Food Adv Development</i>
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Event Name	FY 2015				FY 2016				FY 2017				FY 2018				FY 2019				FY 2020				FY 2021			
	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
Conduct in-house T&E of JIMKE equipment																												
ID and evaluate advanced Galley/Scullery equipment for transition to US																												
Conduct DV of Galley/Scullery equipment																												
Identify and procure prototype greywater system																												
Conduct in-house/APG T&E of greywater recycling prototypes																												

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2017 Army		<b>Date:</b> February 2016
<b>Appropriation/Budget Activity</b> 2040 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603747A / <i>Soldier Support and Survivability</i>	<b>Project (Number/Name)</b> 610 / <i>Food Adv Development</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Evaluate MRE, FSR, MCW/LRP and MORE improvements	1	2009	4	2015
Evaluate MRE, FSR, MCW/LRP and MORE improvement	1	2017	4	2022
Evaluate UGR Enhancements improvements	1	2009	4	2015
Evaluate UGR Enhancements improvement	1	2017	4	2022
Transition advanced development of individual and group ration components to EMD	1	2009	4	2015
Transition advanced development of individual and group ration component to EMD	1	2017	4	2022
Provide NAVSUP w/CPI, evaluations and menu development to support NSCM upgrades	1	2010	4	2015
Provide NAVSUP w/CPI, evaluations and menu development to support NSCM upgrade	1	2017	4	2022
Conduct in-house T&E of MIT heating prototypes	1	2017	4	2017
USMC Field Kitchen Modernization Effort	1	2014	4	2015
Transition of Advanced Appliances for Field Kitchens- DV of Prototypes	3	2013	4	2015
Transition of Advanced Appliances for Field Kitchens- DV of Prototype	1	2017	3	2017
Receive approval for Navy use of NFSAT software	4	2015	4	2015
Identify candidate burner technology for potential integration into comm	1	2015	2	2015
Identify, procure, and evaluate candidate burners for tray ration heater reset	1	2015	2	2015
Procure ETRHS sinks	3	2015	4	2015
Develop Engineering Change Proposal for Diesel/Electric TriCon Refer System	4	2017	4	2017
Build standalone capability for Diesel/Electric powered TRCS	1	2017	3	2017
Award contract to integrate improved refer unit with MTRCS platform	3	2015	4	2015
Coordinate packaging specifications with ration assemblers/producers	3	2014	2	2015
Conduct technology demonstration of Ice Making Systems	1	2014	4	2015

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**Exhibit R-4A, RDT&E Schedule Details:** PB 2017 Army **Date:** February 2016

<b>Appropriation/Budget Activity</b> 2040 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603747A / <i>Soldier Support and Survivability</i>	<b>Project (Number/Name)</b> 610 / <i>Food Adv Development</i>
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<b>Events</b>	<b>Start</b>		<b>End</b>	
	<b>Quarter</b>	<b>Year</b>	<b>Quarter</b>	<b>Year</b>
Develop performance specs based on DV of Ice Making Systems	1	2015	3	2015
Dem/Val JP8 burners for Enhanced Tray Ration Heater System-USMC	3	2017	2	2018
DV on Block Upgrade Improvements to support modification of USMC equipment	1	2017	4	2017
Complete development and in-house T&E of MIKS prototypes	1	2018	4	2018
Identify and procure JIMKE prototypes	1	2017	2	2018
Conduct in-house T&E of JIMKE equipment	2	2018	4	2019
ID and evaluate advanced Galley/Scullery equipment for transition to USN	1	2017	4	2020
Conduct DV of Galley/Scullery equipment	1	2018	4	2018
Identify and procure prototype greywater system	1	2017	4	2017
Conduct in-house/APG T&E of greywater recycling prototypes	1	2018	2	2018

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2017 Army										<b>Date:</b> February 2016		
<b>Appropriation/Budget Activity</b> 2040 / 4					<b>R-1 Program Element (Number/Name)</b> PE 0603747A / <i>Soldier Support and Survivability</i>				<b>Project (Number/Name)</b> C08 / <i>Rapid Equipping Force</i>			
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>FY 2017 Base</b>	<b>FY 2017 OCO</b>	<b>FY 2017 Total</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020</b>	<b>FY 2021</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
C08: <i>Rapid Equipping Force</i>	-	5.285	4.000	3.259	-	3.259	5.809	5.821	5.830	5.828	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

**Note**

Equipment mix and configuration may change based on changes in operational environment and circumstances.

**A. Mission Description and Budget Item Justification**

This R-Form reflects two (2) separate organizations; The Rapid Equipping Force(REF) and the Asymmetric Warfare Group (AWG).

All funding figures reflect only REF. AWG request is not reflected in funding figures.

The Rapid Equipping Force (REF) supports Combatant Command (COCOM)/Army Service Component Command (ASCC) based on emerging rapid equipment requirements. The REF is an enduring organization (Base funded) per Headquarters, Department of the Army, memo, SUBJECT: Implementation Plan for Stabilization of the Rapid Equipping Force (REF), signed by the Under Secretary of the Army: Joseph W. Westphal, dated 30 January 2014.

The REF harnesses current and emerging technologies to provide rapid solutions to U.S. Army Forces employed globally. The REF combines and integrates functions that cross several Army staff elements and ASCCs to accelerate materiel solutions and technology insertion to U.S. Army Forces employed globally. The REF is the Army's quick reaction capability with the ability to develop, prototype, acquire, integrate and sustain Commercial-Off-The-Shelf (COTS), Government Off-The-Shelf (GOTS) and Non-Developmental Item (NDI) solutions to meet urgent combat requirements for forces employed globally. It develops and inserts selected future force technologies, capabilities, and surrogate materiel solutions into deployed, deploying, select prepared to deploy, and transformational forces for operational evaluation, assessment, and evolutionary development. The REF assesses the provided capabilities to improve future solutions, to inform future Army capability requirements and to potentially transition the capability to an Army acquisition program.

The REF bridges the gap between the traditional acquisition process and immediate equipping needs. The REF pursues tangible solutions that can be equipped rapidly with a goal of 180 days. The REF focuses on finding immediate and effective game-changing capabilities to increase Soldier effectiveness, protection, and lethality in any operational environment. The REF process provides the mechanism to respond rapidly to an adaptive enemy who changes in days and months, not years. The REF coordinates in theater work with the ASCC of the COCOMs to understand their urgent needs, for which the REF acquisition capability may identify, procure, deliver, and sustain solutions to the deployed units. This fiscal flexibility is significant in that it permits the REF to allocate funds against emerging threats and requirements in the year of fiscal execution.

The REF works directly with Operational Commanders at all levels, but focuses on Brigade level and below to find solutions to identified capability gaps. These solutions may result in procurement of new or existing military/commercial materiel equipment, or accelerated development of a future force materiel solution for insertion into the current force now.

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2017 Army		<b>Date:</b> February 2016
<b>Appropriation/Budget Activity</b> 2040 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603747A / <i>Soldier Support and Survivability</i>	<b>Project (Number/Name)</b> C08 / <i>Rapid Equipping Force</i>
<p>The Army Acquisition Executive designated Program Executive Office (PEO) Soldier as the Milestone Decision (MDA) to institutionalize the acquisition authorities in support of the REF and to provide proper acquisition oversight while enhancing visibility of these efforts. The MDA will ensure flexibility and speed focused on the needs of Soldiers serviced by the dedicated REF Program Management Office (PMO). This establishes a formal acquisition - reporting chain that leverages - existing reporting venues, to ensure appropriate ASA (ALT) visibility, oversight, and direction.</p> <p>The REF capabilities cross all Warfighter Function Areas:</p> <ul style="list-style-type: none"> <li>1 – Mission Command</li> <li>2 – Movement and Maneuver</li> <li>3 – Intelligence</li> <li>4 – Fires</li> <li>5 – Sustainment</li> <li>6 – Protection</li> </ul> <p>The REF FY17 RDT&amp;E request \$3.259 million (Base) is for system integration, testing and evaluation to support project requirements.</p> <p>The RDT&amp;E funding also provides the REF the flexibility to invest in near-term, innovative solutions. RDT&amp;E funds are necessary in the vast majority of all REF projects. Most importantly, REF requires RDT&amp;E funds to conduct safety certification (testing) for REF provided non-standard equipment before it is equipped to the unit. This critical requirement exists to ensure that the equipment is safe for Soldiers to use and that any risks are known and documented. The REF also requires RDT&amp;E funds to integrate several different COTS/GOTS/NDI technologies into one capability that solves the tougher and more complex problems. RDT&amp;E funds are used to further develop high (&gt;6) Technology Readiness Level (TRL) systems or advanced technologies in conjunction with industry and Other Governmental Agencies (OGAs). Frequently, these technologies only need small amounts of funding in order to help them achieve a maturity level that is suitable to solve deployed U.S. Army Forces problems. The REF requires RDT&amp;E funds in order to modify existing technologies that were developed for one purpose, but now may be suitable to solve another problem. REF will fund deliberate projects in support of technology solution scouting to meet anticipated needs. These efforts measure and identify current technologies and provide capability assessments to TRADOC and other organizations with the intent of informing future requirements. Example efforts that may require RDTE include the following projects: Nano Unmanned Aerial System (UAS) Assessment; Carbine Optics; Command, Control, Communications, Computers, Combat System, Intelligence, Surveillance, and Reconnaissance (C5ISR); Small Unit Intelligence Surveillance Reconnaissance (ISR); Electronic Warfare; Counter Unmanned Aerial System (UAS); Operational Energy; Mission Command; and Force Protection.</p> <p>Mission Description AWG: The Asymmetric Warfare Group (AWG) provides critical operational advisory support globally and rapid solution development to Army and Joint Force Commanders to enhance Soldier survivability and combat effectiveness, continuously assesses the Operating Environment (OE), to defeat current and emerging threats. As such, AWG is uniquely positioned to quickly provide feedback and observations of asymmetric threats back to TRADOC Centers and Schools allowing for the timely adaptation of training, Programs of Instruction and informing capability requirements of future forces.</p>		

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2017 Army	<b>Date:</b> February 2016
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<b>Appropriation/Budget Activity</b> 2040 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603747A / <i>Soldier Support and Survivability</i>	<b>Project (Number/Name)</b> C08 / <i>Rapid Equipping Force</i>
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With its theater access, AWG continues to serve in its advisory capacity to assist regionally aligned forces (RAF), support ASCC security cooperation missions, as well as inform Army innovation programs. In times of crisis, the AWG will continue to be a critical combat enabler to Army and Joint contingency force deployments responding to a diverse range of theater threats and requirements.

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

	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
<p><b>Title:</b> Rapid Equipping Force</p> <p><b>Description:</b> Funding is provided for the following effort.</p> <p><b>FY 2015 Accomplishments:</b> The demand for REF 10-liner requirements has levels based on the increased tempo of transitioning brigades in Operation Freedom Sentinel (OFS) with nine (9) month deployments; the expansion of brigades' operational environments (OEs) that required smaller units to operate in more isolated areas; and a new force structure and role in OFS. At the end of FY15, the REF had 604 total requirement's - 513 were OCO requirements.</p> <p><b>FY 2016 Plans:</b> The REF mission expands to perform Direct Support (DS) to globally deployed Soldiers, ASCCs of the Combatant Commands, regionally aligned Brigade Combat Teams (BCTs) and includes support to Operation Freedom Sentinel (OFS) in Afghanistan, Operation Inherent Resolve (OIR) in Iraq, and other operations in the CENTCOM and AFRICOM areas of responsibility. During the same period, the REF expects to see an increase in requirements submitted by Army Special Operations Forces (SOF) in other areas of the world, as well as, from brigades employed in more global roles, such as the regionally aligned BCTs, and their logistical support elements. The REF also expects to play a much more deliberate role in providing support to the Army's Global Response Force as they prepare for a wider range of response missions.</p> <p>For FY16 the REF projected 664 requirements (101 Base, 563 OCO). The projection was based on the requirements demand signal and modified using the following planning assumptions:</p> <ol style="list-style-type: none"> <li>1) Based on expanding Army operations worldwide we anticipate significant requirements from deployed Army forces in non-OCO regions.</li> <li>2) There is no change in the OMB OCO criteria and guidance,</li> <li>3) The number of troops deployed to Afghanistan/OFS (~10K) and the types of missions they are performing remains constant through June 2016 then maybe reduced by 50% for the remainder of the year,</li> <li>4) The number of troops deployed to Iraq/OIR (~4K) and the types of missions they are performing remains unchanged,</li> </ol>	5.285	4.000	3.259	-	3.259

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2017 Army		<b>Date:</b> February 2016				
<b>Appropriation/Budget Activity</b> 2040 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603747A / <i>Soldier Support and Survivability</i>	<b>Project (Number/Name)</b> C08 / <i>Rapid Equipping Force</i>				
<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>		<b>FY 2015</b>	<b>FY 2016</b>	<b>FY 2017 Base</b>	<b>FY 2017 OCO</b>	<b>FY 2017 Total</b>
<p>5) And, there is no significant change in the level of operational support to Counter-ISL operations outside of Iraq.</p> <p>A change to any of these assumptions could have significant impact on the number and type of requirements received, and upon the type of funding (OCO or Base) required. For example, any change in OCO guidance could significantly change the ratio of OCO to Base funding required. Likewise, if troops deployed to OIR are given the mission to accompany Iraqi Security Forces during the anticipated counter-offensive REF could expect a significant increase in Warfighting function requirements for mission command, intelligence, movement and maneuver, and force protection. In OFS, a decision to retain current manning levels may similarly effect the number of requirements REF receives in FY16.</p> <p><b>FY 2017 Base Plans:</b></p> <p>The REF partners with ASCCs forces and Army SOF community to perform DS to globally deployed Soldiers and regionally aligned BCTs. The REF anticipates increased uncertainty regarding the future of OIR and other operations in the CENTCOM AOR requiring additional flexibility to develop technological solutions supporting the reduced numbers of Soldiers operating globally in order to fill force protection gaps in the face of a smaller and more lethal terrorism threat. The REF expects to increase our engagement with the ASCCs in order to address capability gaps generated by geographical and environmental constraints and improve our understanding of evolving threats and operating conditions within the respective ASCC areas of operations. The REF also expects to play a much more deliberate role in providing support to the Global Response Force as they prepare for a wider range of response missions. We anticipate increased coordination with various Army technology demonstrations and Joint Capabilities Technology Demonstrations in order to leverage developed residual technologies to rapidly address identified critical capability gaps and gain immediate feedback through limited user evaluations. In accordance with REF's participation in the Office of Secretary of Defense (OSD) led quick reaction capability effort, the Army determined the REF would provide the Army's warm base capability with ~100 requirements in FY17 and beyond.</p> <p>For FY17 the REF projects ~100 requirements in the following REF Warfighter function areas.</p> <ul style="list-style-type: none"> <li>1 – Mission Command (344K)</li> <li>2 – Movement and Maneuver (782K)</li> <li>3 – Intelligence (254K)</li> <li>4 – Fires (34K)</li> </ul>						

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2017 Army		<b>Date:</b> February 2016
<b>Appropriation/Budget Activity</b> 2040 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603747A / <i>Soldier Support and Survivability</i>	<b>Project (Number/Name)</b> C08 / <i>Rapid Equipping Force</i>

<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>FY 2017 Base</b>	<b>FY 2017 OCO</b>	<b>FY 2017 Total</b>
5 – Sustainment (333K) 6 – Protection (512K)					
The REF anticipates ATEC testing and evaluation cost of \$1.000 million. The REF requires RDT&E funds to test technologies in order to ensure suitability and safety before equipping the Soldier – any modified COTS/GOTS/ NDI items has to be tested.					
AWG is uniquely postured to support unified land operations to mitigate future risk to Army forces resulting from non-traditional and hybrid threats. AWG supports solution development and equipping efforts with operational advising/global first hand observation, but does not conduct materiel acquisition without an appropriate acquisition partner; investment funding is required to legally execute the breadth of AWG’s solution development mission. The use of investment fund is kept to a minimum to accomplish proof of concept and threat replication IOT influence the Army’s capacity to adapt to the evolving threat while informing subsequent TRADOC DOTMLPF-P integration. AWG will focus efforts to investigate, evaluate, and quantify various Commercial-Off-The-Shelf /Government-Off-The-Shelf platforms and systems for purposes of research and development, testing, capability and limitation experimenting, and procurement for solutions to emerging capability gaps. These efforts will focus on near term, leveraging existing technology, and addressing identified capability gaps for emerging research shortfalls, PIPs, leap ahead technologies, and fixes to existing shortfalls (reliability, sustainability, and durability).					
The AWG RDTE Base request for FY17 is \$250K. The AWG request is not reflected in funding figures on this R-Form.					
<b>Accomplishments/Planned Programs Subtotals</b>	5.285	4.000	3.259	-	3.259

<b>C. Other Program Funding Summary (\$ in Millions)</b>											
<b>Line Item</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>FY 2017 Base</b>	<b>FY 2017 OCO</b>	<b>FY 2017 Total</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020</b>	<b>FY 2021</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
• M08101: <i>Other Procurement Army, M08101</i>	22.380	26.437	18.003	8.500	26.503	18.459	18.867	19.246	19.631	Continuing	Continuing
• 121018000: <i>Operations and Maintenance, Army, 121018000</i>	125.462	31.167	29.831	15.169	45.000	19.743	19.643	20.036	20.436	Continuing	Continuing

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2017 Army		<b>Date:</b> February 2016
<b>Appropriation/Budget Activity</b> 2040 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603747A / <i>Soldier Support and Survivability</i>	<b>Project (Number/Name)</b> C08 / <i>Rapid Equipping Force</i>

**C. Other Program Funding Summary (\$ in Millions)**

<u>Line Item</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u> <u>Base</u>	<u>FY 2017</u> <u>OCO</u>	<u>FY 2017</u> <u>Total</u>	<u>FY 2018</u>	<u>FY 2019</u>	<u>FY 2020</u>	<u>FY 2021</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
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**Remarks**

**D. Acquisition Strategy**

The REF harnesses current and emerging technologies to provide rapid solutions to the urgently required capabilities of U.S. Army Forces employed globally. The REF focus is on rapidly placing capabilities into Soldiers' hands. This mission is accomplished in one of two ways: rapidly adapting COTS/GOTS/NDI equipment to meet operational needs and developing emerging deployable capability via interaction with research and development organizations and academia. All capabilities are safety tested prior to insertion into operational environments. Training and sustainment are provided for every capability until it is transitioned to an approved acquisition program or terminated through an approved Army process. Operational assessments are conducted to provide feedback in support of Army requirements generation and future capability development. REF capabilities routinely serve as a bridge to specific ONS, JUONS, and JEONS gaps to meet urgent operational requirements.

**E. Performance Metrics**

N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Army												Date: February 2016			
Appropriation/Budget Activity				R-1 Program Element (Number/Name)				Project (Number/Name)							
2040 / 4				PE 0603747A / Soldier Support and Survivability				C08 / Rapid Equipping Force							
Product Development (\$ in Millions)				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 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
Mission Command	C/FFP	Various : Various	0.000	-		-		0.344		-		0.344	0	0.344	0
Movement and Maneuver	C/FFP	Various : Various	0.000	-		-		0.782		-		0.782	0	0.782	0
Intelligence	C/FFP	Various : Various	0.000	-		-		0.254		-		0.254	0	0.254	0
Fires	C/FFP	Various : Various	0.000	-		-		0.034		-		0.034	0	0.034	0
Sustainment	C/FFP	Various : Various	0.000	-		-		0.333		-		0.333	0	0.333	0
Protection	C/FFP	Various : Various	0.000	-		-		0.512		-		0.512	0	0.512	0
Dismounted Improvised Explosive Device (IED) Defeat	C/FFP	Various : Various	2.360	0.381		0.153		-		-		-	Continuing	Continuing	Continuing
Dismounted Operations Support	C/FFP	Various : Various	3.168	0.952		0.698		-		-		-	Continuing	Continuing	Continuing
Intelligence, Surveillance, and Reconnaissance (ISR) Shortfalls in Environmentally Inhospitable OEs	C/FFP	Various : Various	4.715	0.779		0.472		-		-		-	Continuing	Continuing	Continuing
Small Combat Outpost (COP) / Patrol Base (PB) Force Protection and Sustainment	C/FFP	Various : Various	3.738	-		-		-		-		-	Continuing	Continuing	Continuing
Other-REF RIPL Priorities (5-10)	C/FFP	Various : Various	8.778	-		-		-		-		-	Continuing	Continuing	0
Other	C/FFP	Various : Various	0.796	0.682		0.752		-		-		-	0	2.230	0
Base: Various Projects-Protect the Force in Counter Insurgency	C/FFP	Various : Various	11.841	-		-		-		-		-	0	11.841	0
Small Combat Outpost (COP)/Patrol Base (PB) Sustainment	C/FFP	Various : Various	0.648	0.555		0.313		-		-		-	0	1.516	0
Base: Various Projects-Enhance Intelligence Surveillance Recon	C/FFP	Various : Various	9.009	-		-		-		-		-	0	9.009	0

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Army** **Date:** February 2016

<b>Appropriation/Budget Activity</b> 2040 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603747A / <i>Soldier Support and Survivability</i>	<b>Project (Number/Name)</b> C08 / <i>Rapid Equipping Force</i>
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<b>Product Development (\$ in Millions)</b>				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Small Combat Outpost (COP)/Patrol Base (PB) Force Protection	C/FFP	Various : Various	0.870	0.746		0.492		-		-		-	0	2.108	0
Dismounted Blue Force Tracking and Mission Command	C/FFP	Various : Various	0.222	0.190		0.120		-		-		-	0	0.532	0
Base: Various Projects-Logistics/Medical in Counterinsurgency Ops	C/FFP	Various : Various	1.639	-		-		-		-		-	0	1.639	0
Base: Various Projects-Timeliness of Analysis and Information Dissemination	C/FFP	Various : Various	6.961	-		-		-		-		-	0	6.961	0
Congressional Add-Squad Mission Support System (SMSS)	C/FFP	Various : Various	1.600	-		-		-		-		-	0	1.600	0
SSTR/Economic Assumptions/FFRDC and SBIR	C/FFP	Various : Various	1.090	-		-		-		-		-	0	1.090	0
OCO: Rapid Equipping Force	C/FFP	Various : Various	19.190	-		-		-		-		-	0	19.190	0
<b>Subtotal</b>			76.625	4.285		3.000		2.259		-		2.259	-	-	-

<b>Test and Evaluation (\$ in Millions)</b>				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
ATEC (REF Integrated Priority List 1-10)	C/FFP	Various : Various	11.344	-		-		-		-		-	Continuing	Continuing	Continuing
ATEC (Warfighter Function Areas)	C/FFP	Various : Various	0.000	-		-		1.000		-		1.000	0	1.000	0
ATEC (REF Integrated Priority List 1-7)	C/FFP	Various : Various	0.000	1.000		1.000		-		-		-	0	2.000	0



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**Exhibit R-4, RDT&E Schedule Profile: PB 2017 Army** **Date:** February 2016

<b>Appropriation/Budget Activity</b> 2040 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603747A / <i>Soldier Support and Survivability</i>	<b>Project (Number/Name)</b> C08 / <i>Rapid Equipping Force</i>
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Event Name	FY 2015				FY 2016				FY 2017				FY 2018				FY 2019				FY 2020				FY 2021			
	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
n/a																												

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2017 Army		<b>Date:</b> February 2016
<b>Appropriation/Budget Activity</b> 2040 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603747A / <i>Soldier Support and Survivability</i>	<b>Project (Number/Name)</b> C08 / <i>Rapid Equipping Force</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
n/a	1	2017	4	2017

**Note**

N/A

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2017 Army										<b>Date:</b> February 2016		
<b>Appropriation/Budget Activity</b> 2040 / 4					<b>R-1 Program Element (Number/Name)</b> PE 0603747A / <i>Soldier Support and Survivability</i>				<b>Project (Number/Name)</b> EL1 / <i>Army Field Feeding Programs</i>			
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>FY 2017 Base</b>	<b>FY 2017 OCO</b>	<b>FY 2017 Total</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020</b>	<b>FY 2021</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
EL1: <i>Army Field Feeding Programs</i>	-	0.000	0.280	1.948	-	1.948	0.452	0.000	0.509	0.000	0.000	3.189
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

**Note**

2016 shall be the first funded year for the Army Field Feeding Programs Element.

**A. Mission Description and Budget Item Justification**

This project provides for the advanced component development and prototyping of Army food and combat feeding equipment designed to reduce the logistics burden and Operation and Support (O&S) costs of subsistence support to service personnel. Project supports development of rapidly deployable field food service equipment in coordination with ration development efforts. Project conducts demonstration and validation of improved subsistence support items used to enhance soldier effectiveness and quality of life in the Army and the other military Services, as coordinated with the Department of Defense (DoD) Food Research, Development, Test, Evaluation and Engineering Program. This project develops critical enablers that support the Joint Future Force Capabilities and the Joint expeditionary mindset by maintaining readiness through fielding and integrating new equipment. This equipment enhances the field soldier's well-being and provides the soldier with usable equipment, in addition to reducing sustainment requirements, related Combat Support/Combat Service Support (CS/CSS) demands on lift, combat zone footprint, and costs for logistical support.

This PE/Project supports Field Feeding programs for the Army.

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

	<b>FY 2015</b>	<b>FY 2016</b>	<b>FY 2017 Base</b>	<b>FY 2017 OCO</b>	<b>FY 2017 Total</b>
<b>Title:</b> Battlefield Kitchen (BK) technology development effort	-	0.280	1.948	-	1.948
<b>Description:</b> Provide replacement of the obsolete Mobile Kitchen Trailer (MKT) system. The BK shall replace the MKT with a kitchen that provides fuel efficient, thermally controlled, closed combustion appliances within an environmentally controlled workspace. The BK shall provide rations for up to 300 Soldiers within 4 hours of setup. The BK provides refrigeration, running water and a heated serving line using the same off-road prime mover as the MKT as well as transportability by rail, sea, fixed and rotary wing aircraft.					
<b>FY 2016 Plans:</b>					

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2017 Army		<b>Date:</b> February 2016
<b>Appropriation/Budget Activity</b> 2040 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603747A / <i>Soldier Support and Survivability</i>	<b>Project (Number/Name)</b> EL1 / <i>Army Field Feeding Programs</i>

<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>FY 2017 Base</b>	<b>FY 2017 OCO</b>	<b>FY 2017 Total</b>
Complete evaluation of appliances integrated with Jet Propellant 8 (JP-8) fired burners developed in the Science and Technology (S&T) phase as culmination of technology transfer agreement. Complete documentation for development contract that includes options for production.  <b>FY 2017 Base Plans:</b> Complete transition of BK into Engineering and Manufacturing Development (EMD) phase. Complete design and build of BK component and subsystems. Initiate Integrated Logistics Support (ILS) development through the development contract.					
<b>Accomplishments/Planned Programs Subtotals</b>	-	0.280	1.948	-	1.948

<b>C. Other Program Funding Summary (\$ in Millions)</b>											
<u>Line Item</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017 Base</u>	<u>FY 2017 OCO</u>	<u>FY 2017 Total</u>	<u>FY 2018</u>	<u>FY 2019</u>	<u>FY 2020</u>	<u>FY 2021</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• RDT&E 654713.548: <i>Military Subsistence System</i>	2.983	1.430	0.759	-	0.759	0.358	0.472	1.148	1.178	Continuing	Continuing
• RDT&E 654713.EL2: <i>Army Field Feeding Equipment</i>	-	0.333	1.295	-	1.295	1.867	1.598	0.966	0.994	Continuing	Continuing
• RDT&E 643747.610: <i>Food Adv Dev</i>	3.348	0.021	5.299	-	5.299	6.579	4.830	4.508	4.631	Continuing	Continuing
• OPA M65806: <i>Assault Kitchen, Field Feeding</i>	4.889	3.632	5.167	-	5.167	4.660	4.165	4.605	-	Continuing	Continuing

**Remarks**

**D. Acquisition Strategy**

Project development will transition to System Development & Demonstration and into production after thorough testing.

**E. Performance Metrics**

N/A

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Army** **Date:** February 2016

<b>Appropriation/Budget Activity</b> 2040 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603747A / <i>Soldier Support and Survivability</i>	<b>Project (Number/Name)</b> EL1 / <i>Army Field Feeding Programs</i>
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<b>Management Services (\$ in Millions)</b>				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Project Management Support	Various	PM Force Sustainment : Natick, MA	0.000	-		0.150	Jun 2016	0.274	Jan 2017	-		0.274	0	0.424	0
<b>Subtotal</b>			0.000	-		0.150		0.274		-		0.274	0.000	0.424	0.000

<b>Product Development (\$ in Millions)</b>				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Battlefield Kitchen	Various	PM-FSS : Natick, MA	0.000	-		0.130	Jun 2016	1.674	Feb 2017	-		1.674	0	1.804	0
<b>Subtotal</b>			0.000	-		0.130		1.674		-		1.674	0.000	1.804	0.000

<b>Test and Evaluation (\$ in Millions)</b>				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Battlefield Kitchen	Various	DTC/AEC PM-FSS, : Natick Ma	0.000	-		-		-		-		-	Continuing	Continuing	0
<b>Subtotal</b>			0.000	-		-		-		-		-	-	-	0.000

			Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
<b>Project Cost Totals</b>			0.000	-	0.280	1.948	-	1.948	-	-	0.000

**Remarks**

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**Exhibit R-4, RDT&E Schedule Profile: PB 2017 Army** **Date:** February 2016

<b>Appropriation/Budget Activity</b> 2040 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603747A / <i>Soldier Support and Survivability</i>	<b>Project (Number/Name)</b> EL1 / <i>Army Field Feeding Programs</i>
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Event Name	FY 2015				FY 2016				FY 2017				FY 2018				FY 2019				FY 2020				FY 2021							
	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				
Conduct advanced component development and demonstration for th BK																																
(1) Transition Battlefield Kitchen to EMD																																
Award advanced component development contract for DESERT																																
Conduct advanced component development and demonstration for DESE																																
(2) Complete ECP and transition DESERT to EMD																																
Conduct advanced component development & demonstration on advance																																

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<b>Exhibit R-4A, RDT&amp;E Schedule Details: PB 2017 Army</b>		<b>Date:</b> February 2016
<b>Appropriation/Budget Activity</b> 2040 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603747A / <i>Soldier Support and Survivability</i>	<b>Project (Number/Name)</b> EL1 / <i>Army Field Feeding Programs</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Conduct advanced component development and demonstration for th BK	1	2016	1	2018
Transition Battlefield Kitchen to EMD	2	2017	2	2017
Award advanced component development contract for DESERT	1	2018	1	2018
Conduct advanced component development and demonstration for DESERT	2	2018	4	2018
Complete ECP and transition DESERT to EMD	4	2018	4	2018
Conduct advanced component development & demonstration on advanced refrigeration	1	2020	4	2020