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**Exhibit R-2, RDT&E Budget Item Justification:** PB 2024 Army **Date:** March 2023

<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 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
Total Program Element	-	2.791	4.060	3.550	-	3.550	4.154	4.160	4.204	4.251	0.000	27.170
610: <i>Food Adv Development</i>	-	2.791	4.060	3.550	-	3.550	4.154	4.160	4.204	4.251	0.000	27.170

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

This Program Element (PE) supports component development and prototyping for organizational equipment, improved individual clothing and equipment that enhance Soldier battlefield effectiveness, survivability, and sustainment. This PE 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 2022</u>	<u>FY 2023</u>	<u>FY 2024 Base</u>	<u>FY 2024 OCO</u>	<u>FY 2024 Total</u>
Previous President's Budget	2.897	4.060	3.625	-	3.625
Current President's Budget	2.791	4.060	3.550	-	3.550
Total Adjustments	-0.106	0.000	-0.075	-	-0.075
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-0.106	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	-0.075	-	-0.075

**Change Summary Explanation**

Decreased funding to support higher Army priorities.

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2024 Army										<b>Date:</b> March 2023		
<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>			
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024 Base</b>	<b>FY 2024 OCO</b>	<b>FY 2024 Total</b>	<b>FY 2025</b>	<b>FY 2026</b>	<b>FY 2027</b>	<b>FY 2028</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
610: <i>Food Adv Development</i>	-	2.791	4.060	3.550	-	3.550	4.154	4.160	4.204	4.251	0.000	27.170
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 combat ration components/platforms and field feeding equipment designed to improve warfighter performance and reduce the logistics burden of subsistence support. Efforts funded in this Project support all four Services, the Special Operations Command, and the Defense Logistics Agency. The Army serves as the Executive Agent for this Department of Defense (DoD) program, with oversight and coordination provided by the DoD Combat Feeding Research and Engineering Board as required by DoD Directive (DoDD) 3235.02E. Centralized execution of the DoD Combat Feeding Research and Engineering Program (CFREP) with Joint Service review and approval eliminates unnecessary duplication of efforts across the Services and maximizes use of common materiel solutions. Prototypes validated within this effort transition to 0604713A/Project 548 for System Development and Demonstration.

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

	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>
<b>Title:</b> Joint Service Combat Ration Advanced Development	1.507	2.176	2.661
<b>Description:</b> This effort matures and integrates combat ration technologies and prototypes that enable warfighter maneuver, readiness and effectiveness during highly mobile, dispersed operations. Technologies are transitioned from RDTE Budget Activity 3 projects to provide individual and group combat rations and components with improved capabilities including improved warfighter physical and cognitive performance through optimized nutrition and a reduced logistics burden through weight and cube reduction.			
<b>FY 2023 Plans:</b> Validate and integrate S&T ration packaging material innovations to enhance ration heating efficiency during heating and sterilization processing methods; validate and integrate calorically dense, low weight and volume products into existing ration platforms to increase operational effectiveness; Conduct T&E of technologies for integration into the next generation of CCAR. Conduct T&E of packaging prototypes and nutritionally optimized products to enable safe feeding capabilities in hazardous environments. Transition validated prototypes to APE 0604713A/Project 548 for operational testing and evaluation (OT&E).			
<b>FY 2024 Plans:</b> Will perform advanced component development of calorically dense meal replacement bars, for insertion into the Meal Ready-to-Eat (MRE) and Close Combat Assault Ration (CCAR) platforms, in support of operations where resupply is limited; will perform small scale producibility studies and quality assurance testing of emerging manufacturing processes; Will perform evaluations of packaging configurations in support of reduced field feeding logistics, and supporting waste reduction efforts in operational			

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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> 610 / <i>Food Adv Development</i>		
<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>		<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>
settings; will maintain menu modernization enhancements across operational ration platform, to support the current demographic shifts, meeting emerging Warfighter preferences, improving Warfighter acceptance, and increasing nutritional intake. <b>FY 2023 to FY 2024 Increase/Decrease Statement:</b> Increase to support changes to validate and integrate ration packaging material innovations into Joint Services combat rations.				
<b>Title:</b> Joint Service Field Feeding Equipment and Menu Development <b>Description:</b> This effort matures and integrates field feeding equipment technologies and prototypes in support of the Navy, Air Force, and Marine Corps that reduce the logistics burden, improve efficiency, and decrease operation and support costs as directed by the DoD CFREB. This effort also conducts test and evaluation (T&E) on Navy Standard Core Menu components and preparation techniques to enhance efficiency through standardization across the fleet and reduce labor requirements. <b>FY 2023 Plans:</b> Conduct T&E of USAF Basic Expeditionary Airfield Resources (BEAR) field kitchens to evaluate water and power requirements; conduct T&E of wing wall kits and refrigeration prototypes for Expeditionary Field Kitchens (EFKs) for use by deployed units in austere environments; conduct T&E of multi-capability food service equipment prototypes for USAF Joint Air-Containerized Kitchen Systems (JACKS) to reduce power and maintenance resources/costs; continue to conduct T&E of bakery products and preparation techniques to enhance menu acceptance and reduce labor requirements; and transition prototypes to APE 0604713A/Project 548 for OT&E. <b>FY 2024 Plans:</b> Will conduct developmental T&E for insertion of refrigeration system prototypes in support of USAF Basic Expeditionary Airfield Resources (BEAR) energy conservation goals, will transition prototypes to Program Element 0604713A/Project 548 - Combat Feeding, Clothing and Equipment, for Operational Test & Evaluation (OT&E).; Will facilitate transition of Contingency Menus developed under the Navy Standard Core Menu (NSCM) to the Navy and support galley-based Limited User Evaluations. <b>FY 2023 to FY 2024 Increase/Decrease Statement:</b> Decrease due to planned lifecycle transition of efforts to APE 0604713A/Project 548 for OT&E.		1.284	1.854	0.889
<b>Title:</b> SBIR/STTR Transfer <b>Description:</b> Funding transferred in accordance with Title 15 USC §638. <b>FY 2023 Plans:</b> Funding transferred in accordance with Title 15 USC §638. <b>FY 2023 to FY 2024 Increase/Decrease Statement:</b>		-	0.030	-

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2024 Army		<b>Date:</b> March 2023
<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>

<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>
Funding transferred in accordance with Title 15 USC §638.			
<b>Accomplishments/Planned Programs Subtotals</b>	2.791	4.060	3.550

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

<b>Line Item</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024 Base</b>	<b>FY 2024 OCO</b>	<b>FY 2024 Total</b>	<b>FY 2025</b>	<b>FY 2026</b>	<b>FY 2027</b>	<b>FY 2028</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
• 548: <i>Mil Subsistence Sys</i>	1.598	1.566	2.223	-	2.223	1.620	1.622	1.639	1.658	0.000	11.926

**Remarks**

**D. Acquisition Strategy**

Validated prototypes will transition to System Development and Demonstration for operational test and evaluation.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Army												Date: March 2023				
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 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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	Allot	CCDC Soldier Center, Natick, MA : Natick, MA	8.098	0.333	Oct 2021	0.466	Oct 2022	0.495	Oct 2023	-		0.495	Continuing	Continuing	Continuing	
<b>Subtotal</b>			8.098	0.333		0.466		0.495		-		0.495	Continuing	Continuing	N/A	
<b>Product Development (\$ in Millions)</b>				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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 Rations and Combat Feeding Equipment	Various	Various : Various	44.264	2.167	Oct 2021	3.186	Oct 2022	2.442	Oct 2023	-		2.442	Continuing	Continuing	Continuing	
<b>Subtotal</b>			44.264	2.167		3.186		2.442		-		2.442	Continuing	Continuing	N/A	
<b>Test and Evaluation (\$ in Millions)</b>				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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 Rations and Combat Feeding Equipment	Allot	CCDC Soldier Center, Natick, MA : Natick, MA	1.571	0.291	Oct 2021	0.408	Oct 2022	0.613	Oct 2023	-		0.613	Continuing	Continuing	Continuing	
<b>Subtotal</b>			1.571	0.291		0.408		0.613		-		0.613	Continuing	Continuing	N/A	
<b>Project Cost Totals</b>			53.933	2.791		4.060		3.550		-		3.550	Continuing	Continuing	N/A	
<b>Remarks</b>																

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<b>Exhibit R-4, RDT&amp;E Schedule Profile: PB 2024 Army</b>			<b>Date:</b> March 2023
<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>	

Event Name	FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028			
	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 individual and group ration enhancements and tr...	[Blue bar]																											
Conduct in-house T&E of OPRATS with improved lipid quali...	[Blue bar]				[Grey bar]																							
Conduct in-house T&E of EGR and transition to SDD for OT&E	[Blue bar]				[Grey bar]																							
Conduct I-H T&E of non-destructive sampling technologie...	[Blue bar]				[Grey bar]																							
Conduct in-house T&E of optimized CCAR and transition to...	[Grey bar]				[Grey bar]				[Blue bar]				[Blue bar]															
Provide USN w/CPI, evaluations and menu development to s...	[Blue bar]																											
Conduct in-house T&E of energy conservation technologies...	[Grey bar]				[Blue bar]				[Blue bar]																			
Conduct in-house T&E of EFK upgrades for USMC	[Blue bar]				[Grey bar]				[Blue bar]																			
Conduct T&E of food service equipment systems for USAF JACKS	[Grey bar]				[Blue bar]				[Blue bar]																			
Conduct DT&E of field feeding equipment for Navy Bakery ...	[Grey bar]				[Blue bar]				[Blue bar]																			
Conduct in-house T&E of Modular Operational Ration Enhan...	[Grey bar]				[Grey bar]								[Blue bar]				[Blue bar]											

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2024 Army		<b>Date:</b> March 2023
<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 individual and group ration enhancements and transition to SDD for OT&E	1	2017	4	2028
Conduct in-house T&E of OPRATS with improved lipid quality & transition to TDPs	1	2022	4	2022
Conduct in-house T&E of EGR and transition to SDD for OT&E	1	2020	4	2022
Conduct I-H T&E of non-destructive sampling technologies for food contamination	1	2021	4	2022
Conduct in-house T&E of optimized CCAR and transition to SDD for OT&E	1	2024	4	2026
Provide USN w/CPI, evaluations and menu development to support NSCM upgrades	1	2017	4	2028
ID and evaluate advanced galley/scullery equipment for the USN	1	2017	4	2021
Conduct T&E of Galley/Scullery equipment and transition to SDD for OT&E	1	2017	4	2021
Conduct in-house T&E of JIMKE intuitive equipment and transition to SDD for OT&E	2	2019	4	2020
Conduct T&E on rapidly deployable refrigeration prototype	1	2020	4	2020
Conduct in-house T&E of mobile feeding galley and transition to SDD for OT&E	1	2019	1	2020
Award contract to fabricate IRefS prototype and conduct in-house T&E	1	2019	4	2020
Conduct in-house T&E of energy conservation technologies for BEAR Kitchens	1	2023	4	2024
Conduct in-house T&E of EFK upgrades for USMC	1	2022	4	2024
Conduct in-house T&E of expeditionary kitchen systems for shore-based Navy units	1	2020	4	2021
Conduct T&E of food service equipment systems for USAF JACKS	1	2023	4	2023
Conduct DT&E of field feeding equipment for Navy Bakery Upgrades, Transition for OT&E	1	2023	4	2023
Conduct in-house T&E of Modular Operational Ration Enhancement, Transition for OT&E	1	2025	4	2027