Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Office of the Secretary Of Defense	Date: May 2021
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide* / BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 Program Element (Number/Name)** PE 0604555D8Z / *Operational Energy Prototyping (OEP)*

COST ($ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
Total Program Element	0.000	0.000	0.000	23.200	-	23.200	-	-	-	-	-	-
035: *Operational Energy Prototyping*	0.000	0.000	0.000	23.200	-	23.200	-	-	-	-	-	-

Note

New start in FY 2022.

A. Mission Description and Budget Item Justification

Operational Energy Prototyping (OEP) will identify and demonstrate the most promising, innovative, and cost-effective technologies and methods that address joint high-priority operational energy requirements. OEP funding efforts will identify and mitigate energy-related risks and increase warfighting capabilities and resilience. OEP will invest in prototype and demonstrations in three focus areas:

• Powering the Force: Support the deployment of mobile and distributed operations with resilient and agile energy logistics in contested environments. Reduce the risks, vulnerability, and climate impacts of DoD's dependence on fuel.

• Electrifying the Battlespace: Enable the electrification of weapons, platforms, unmanned systems, and soldiers to field new weapon, sensing, active defense, and other technologies. Meet the growing demands of power across the battlespace.

• Commanding Energy: Capture and understand energy profiles to transform the Joint Force from a reactive to a predictive energy management and control. Achieve real-time energy awareness and command and control at all levels. OEP serves as the program by which operational energy technology advances made under the Operational Energy Capability Innovation (OECI) can transition to military service acquisition programs. Transition plans for each prototype will be established to ensure that components have time to plan, program, and budget for technology transition to programs of record.

B. Program Change Summary ($ in Millions)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Previous President's Budget	0.000	0.000	0.000	-	0.000
Current President's Budget	0.000	0.000	23.200	-	23.200
Total Adjustments	0.000	0.000	23.200	-	23.200
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Climate Change Science & Technology Add	0.000	0.000	23.200	-	23.200

Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Office of the Secretary Of Defense	Date: May 2021
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide I* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 Program Element (Number/Name)** PE 0604555D8Z *I Operational Energy Prototyping (OEP)*

Change Summary Explanation

OEP is a new program element in FY 2022. The Secretary of Defense, per Section 324(c)(1) of the 2021 National Defense Authorization Act, is required to "carry out a program for the demonstration of technologies related to operational energy prototyping, including demonstration of operational energy technology" through the Assistant Secretary of Defense for Energy, Installations, and Environment. Establishing OEP meets this Congressional requirement.

Exhibit R-2A, RDT&E Project Justification: PB 2022 Office of the Secretary Of Defense			Date: May 2021
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604555D8Z / *Operational Energy Prototyping (OEP)*	Project (Number/Name) 035 / *Operational Energy Prototyping*	

COST ($ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
035: *Operational Energy Prototyping*	0.000	0.000	0.000	23.200	-	23.200	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

New start in FY 2022.

A. Mission Description and Budget Item Justification

Operational Energy Prototyping (OEP) will identify and demonstrate the most promising, innovative, and cost-effective technologies and methods that address joint high-priority operational energy requirements. OEP funding efforts will identify and mitigate energy-related risks and increase warfighting capabilities and resilience. OEP will invest in prototype and demonstrations in three focus areas:

• Powering the Force: Support the deployment of mobile and distributed operations with resilient and agile energy logistics in contested environments. Reduce the risks, vulnerability, and climate impacts of DoD's dependence on fuel.

• Electrifying the Battlespace: Enable the electrification of weapons, platforms, unmanned systems, and soldiers to field new weapon, sensing, active defense, and other technologies. Meet the growing demands of power across the battlespace.

• Commanding Energy: Capture and understand energy profiles to transform the Joint Force from a reactive to a predictive energy management and control. Achieve real-time energy awareness and command and control at all levels.

OEP serves as the program by which operational energy technology advances made under the Operational Energy Capability Innovation program (OECI) can transition to military service acquisition programs. Transition plans for each prototype will be established to ensure that components have time to plan, program, and budget for technology transition to programs of record.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2020	FY 2021	FY 2022
Title: Operational Energy Prototyping (OEP)	0.000	0.000	23.200
Description: Operational Energy Prototyping (OEP) will identify and demonstrate the most promising, innovative, and cost-effective technologies and methods that address joint high-priority operational energy requirements. OEP will invest in prototyping and demonstrations in four focus areas: (1) support prototype development of new operational energy technologies, (2) carry out formal demonstrations at installations or in conjunction with exercises conducted by the Joint Staff, a combatant command, or a military department, (3) collect cost and performance data to overcome barriers against employing an innovative technology because of concerns regarding technical or programmatic risk, and (4) provide the tools and analysis that quantifies the mission impact of these new technologies. Transition plans for each prototype will be established to ensure that components have time to plan, program, and budget for technology transition to programs of record.			
FY 2021 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2022 Office of the Secretary Of Defense		Date: May 2021
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0604555D8Z / *Operational Energy Prototyping (OEP)*	**Project (Number/Name)** 035 / *Operational Energy Prototyping*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2020	FY 2021	FY 2022
Stand up OEP as a new program in FY 2022 per congressional direction Section 324(c)(1) of the 2021 National Defense Authorization Act. ***FY 2022 Plans:*** These projects will focus on operational energy capability improvement outcomes ready for prototyping with clear transition pathways at completion. OEP is for surge projects that are eligible for one-year of funding at an estimated cost of not more than $4 million per project. There are over 35 OECIF projects culminating in FY 2021 that are eligible to compete for OEP funding in FY 2022. OEP eligible projects must have a transition partner in FY 2023 or FY 2024. OEP provides bridge funding upon successful advanced technology demonstrations, keeping momentum for projects that have warfighter transition support. ***FY 2021 to FY 2022 Increase/Decrease Statement:*** OEP is a new program element in FY 2022. The Secretary of Defense, per Section 324(c)(1) of the 2021 National Defense Authorization Act, is required to “carry out a program for the demonstration of technologies related to operational energy prototyping, including demonstration of operational energy technology” through the Assistant Secretary of Defense for Energy, Installations, and Environment. Establishing OEP meets this Congressional requirement.			
Accomplishments/Planned Programs Subtotals	0.000	0.000	23.200

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

N/A

D. Acquisition Strategy

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Office of the Secretary Of Defense		Date: May 2021
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0604555D8Z / *Operational Energy Prototyping (OEP)*	**Project (Number/Name)** 035 / *Operational Energy Prototyping*

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2020 Cost	FY 2020 Award Date	FY 2021 Cost	FY 2021 Award Date	FY 2022 Base Cost	FY 2022 Base Award Date	FY 2022 OCO Cost	FY 2022 OCO Award Date	FY 2022 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Support Contract	C/IDDQ	TBD : TBD	0.000	0.000		0.000		1.200		-		1.200	Continuing	Continuing	N/A
		Subtotal	0.000	0.000		0.000		1.200		-		1.200	Continuing	Continuing	N/A

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2020 Cost	FY 2020 Award Date	FY 2021 Cost	FY 2021 Award Date	FY 2022 Base Cost	FY 2022 Base Award Date	FY 2022 OCO Cost	FY 2022 OCO Award Date	FY 2022 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Operational Energy Prototyping	TBD	Various : Various	0.000	0.000		0.000		22.000		-		22.000	Continuing	Continuing	N/A
		Subtotal	0.000	0.000		0.000		22.000		-		22.000	Continuing	Continuing	N/A

	Prior Years	FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	0.000		0.000		23.200		-		23.200	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2022 Office of the Secretary Of Defense		Date: May 2021
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0604555D8Z / *Operational Energy Prototyping (OEP)*	**Project (Number/Name)** 035 / *Operational Energy Prototyping*

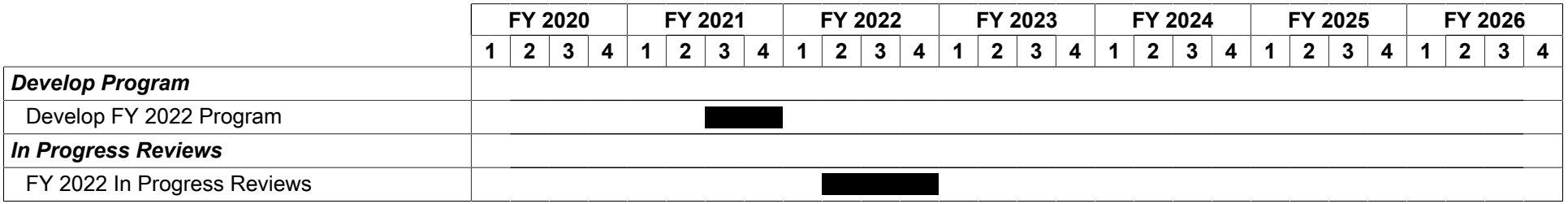

Exhibit R-4A, RDT&E Schedule Details: PB 2022 Office of the Secretary Of Defense		Date: May 2021
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0604555D8Z / *Operational Energy Prototyping (OEP)*	**Project (Number/Name)** 035 / *Operational Energy Prototyping*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Develop Program				
Develop FY 2022 Program	3	2021	4	2021
In Progress Reviews				
FY 2022 In Progress Reviews	2	2022	4	2022