

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2020 Office of the Secretary Of Defense										Date: February 2019		
Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 5: System Development & Demonstration (SDD)</i>					R-1 Program Element (Number/Name) PE 0604165D8Z I <i>Prompt Global Strike Capability Development</i>							
COST (\$ in Millions)	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	Cost To Complete	Total Cost
Total Program Element	1,234.376	360.860	465.852	107.000	-	107.000	0.000	0.000	0.000	0.000	Continuing	Continuing
166: <i>Alternate Re-Entry System/ Warhead Engineering</i>	1,234.376	360.860	465.852	107.000	-	107.000	0.000	0.000	0.000	0.000	Continuing	Continuing

Note

In FY 2020, majority of Conventional Prompt Strike funding transfers to the U.S. Navy (PE 0604659N).

A. Mission Description and Budget Item Justification

This Program Element (PE) was established to develop and demonstrate technologies and applications that advance conventional prompt global strike (CPGS) warfighting capabilities. The program uses a national team with participation from the Services, Agencies, national research laboratories, and further involvement of competitive industry. Program emphasis is on demonstrating component and subsystem technology maturity with risk reduction initiatives highlighted by flight tests. The program funds the design, development, and experimentation of boosters, payload delivery vehicles (PDVs), non-nuclear warheads, thermal protection systems, guidance systems, test range modernization, and mission planning and enabling capabilities. To support these development activities, the program procures modeling and simulation capabilities, ground testing, command and control interfaces, test range support, and launch system infrastructure. Additionally, expert resources address strategic policy and treaty issues. Program timing will be driven by the outcome of flight and ground test events as well as DoD budgets.

The hypersonic Prompt Global Strike Capability Development Program Element supports the National Defense Strategy's focus on technological advancements that enhance deterrence and increase strategic flexibility, freedom of action, and Joint Force lethality.

B. Program Change Summary (\$ in Millions)	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Previous President's Budget	201.749	263.414	0.000	-	0.000
Current President's Budget	360.860	465.852	107.000	-	107.000
Total Adjustments	159.111	202.438	107.000	-	107.000
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	203.500			
• Congressional Directed Transfers	-	-			
• Reprogrammings	159.500	-			
• SBIR/STTR Transfer	-	-			
• FFRDC Reduction	-0.389	-1.062		-	-
• Adjustment reflecting DoD priorities	-	-	107.000	-	107.000

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2020 Office of the Secretary Of Defense Date: February 2019

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 5: System Development & Demonstration (SDD)</i>	R-1 Program Element (Number/Name) PE 0604165D8Z I <i>Prompt Global Strike Capability Development</i>
--	--

Change Summary Explanation

FY 2018: \$159.500 million was reprogrammed to support CPS acceleration activities, including efforts to achieve a land-based capability, production transition to industry, industrial capacity improvements, and test & evaluation infrastructure improvements.

FY 2019: \$203.500 million Congressional add applied to continue program acceleration activities and support quiet hypersonics research.

FY 2020: \$31.000 million applied to complete U.S. industrial capacity improvements to produce components for CPS Common Hypersonic Glide Bodies (C-HGBs); \$76.000 million supports classified munitions program - further information available upon request.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2020 Office of the Secretary Of Defense										Date: February 2019		
Appropriation/Budget Activity 0400 / 5					R-1 Program Element (Number/Name) PE 0604165D8Z / <i>Prompt Global Strike Capability Development</i>				Project (Number/Name) 166 / <i>Alternate Re-Entry System/Warhead Engineering</i>			
COST (\$ in Millions)	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	Cost To Complete	Total Cost
166: <i>Alternate Re-Entry System/Warhead Engineering</i>	1,234.376	360.860	465.852	107.000	-	107.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

In FY 2020, the majority of Conventional Prompt Strike funding transfers to the U.S. Navy (PE 0604659N).

A. Mission Description and Budget Item Justification

This Program Element (PE) was established to develop and demonstrate technologies and applications that advance conventional prompt global strike (CPGS) warfighting capabilities. The program uses a national team with participation from the Services, Agencies, national research laboratories, and further involvement of industry. Program emphasis is on demonstrating component and subsystem technology maturity with risk reduction initiatives highlighted by flight tests. The program funds the design, development, and experimentation of boosters, payload delivery vehicles (PDVs), non-nuclear warheads, thermal protection systems, guidance systems, test range modernization, and mission planning and enabling capabilities. To support these development activities, the program procures modeling and simulation capabilities, ground testing, command and control interfaces, test range support, and launch system infrastructure. Additionally, expert resources address strategic policy and treaty issues. Program timing will be driven by the outcome of flight and ground test events as well as DoD budgets.

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

	FY 2018	FY 2019	FY 2020
Title: Alternative Re-Entry System/Warhead Engineering and Delivery Vehicle Options/Development	360.860	417.852	31.000
<p>Description: This sub-project will test and evaluate alternative booster and delivery vehicle options and will assess the feasibility of producing an affordable solution to fill the CPGS capability gap. It will mature technologies that could lead to advanced systems with the following characteristics: effects on targets in a very short-period of time from execution order; non-ballistic flight over the majority of the flight path; positive control from launch to impact; adequate cross-range/maneuverability to avoid over flight issues; and controlled stage drop over Broad Ocean Area. The technologies developed will have cross-Service and cross-concept applicability and will be developed through close coordination among DoD components. This activity will support both ground and flight tests and provide all national data to inform a potential acquisition program.</p> <p>FY 2019 Plans:</p> <ul style="list-style-type: none"> - Continue the manufacturing and testing of Hypersonic Glide Body and Booster to be used in FE-2 - Begin manufacturing and testing of Hypersonic Glide Body to be used in FE-3 - Continue intermediate range objective technology booster development for FE-3 with competitive industry; to include hardware procurement and fabrication - Support development of future flight test systems for CPGS concepts as required 			

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2020 Office of the Secretary Of Defense		Date: February 2019		
Appropriation/Budget Activity 0400 / 5	R-1 Program Element (Number/Name) PE 0604165D8Z / <i>Prompt Global Strike Capability Development</i>	Project (Number/Name) 166 / <i>Alternate Re-Entry System/Warhead Engineering</i>		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2018	FY 2019	FY 2020
<ul style="list-style-type: none"> - Continue studies for future system development to examine cost, lethality, aerodynamic and thermal characteristics, command and control, operational aspects, and technology integrated product teams - Update the Technology Development Strategy and system engineering documentation based on updated CPGS engineering and test data, trade studies, and on-going risk reduction/technology development efforts - Conduct trade studies to evaluate system alternatives, affordability, end-to-end system concepts that will study a weaponized integrated system complete with system architecture, and industrial manufacturing readiness - Continue aerodynamic and weapon risk reduction and technology maturation efforts through ground and wind tunnel tests to improve modeling and simulation capabilities and technology readiness, assessing readiness to conducted integrated penetrator component technology tests - Continue Systems Engineering support to CPGS program and acquisition. Apply support to Integrated Product Teams to facilitate judgments of feasibility and risks of all CPGS concepts. Continue to support outreach and strategic messaging to entire CPGS community and COCOMs - Continue to support test range infrastructure for long term use - Continue studies for future system development to examine cost, lethality, aerodynamic and thermal characteristics, command and control, operational aspects, and technology integrated product teams <p>FY 2020 Plans: Complete U.S. industrial capacity improvements to produce components for CPS Common Hypersonic Glide Bodies (C-HGBs). Using FY 2019 funding Conventional Prompt Strike will:</p> <ul style="list-style-type: none"> - Continue U.S. industrial capacity improvements to produce components for CPS C-HGBs - Continue to support C-HGB manufacturing, demonstration, test, and production efforts - Support development of future flight test systems for CPGS concepts as required - Continue studies for future system development to examine cost, lethality, aerodynamic and thermal characteristics, command and control, operational aspects, and technology integrated product teams - Update Technology Development Strategy and system engineering documentation based on updated CPGS engineering and test data, trade studies, and on-going risk reduction/technology development efforts - Continue Systems Engineering support to CPGS program and acquisition <p>FY 2019 to FY 2020 Increase/Decrease Statement: FY 2020 Conventional Prompt Strike will decrease and majority of Conventional Prompt Strike Program funding will transfer to the U.S. Navy.</p>				
Title: Munitions Program		0.000	48.000	76.000
Description: This is a classified munitions programs. Additional information available upon request.				

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2020 Office of the Secretary Of Defense		Date: February 2019		
Appropriation/Budget Activity 0400 / 5	R-1 Program Element (Number/Name) PE 0604165D8Z / <i>Prompt Global Strike Capability Development</i>	Project (Number/Name) 166 / <i>Alternate Re-Entry System/Warhead Engineering</i>		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2018	FY 2019	FY 2020
FY 2019 Plans: Details are classified.				
FY 2020 Plans: Complete classified munitions program. Additional information available upon request.				
FY 2019 to FY 2020 Increase/Decrease Statement: Funding profile increases in FY 2020. Details available at higher classification.				
Accomplishments/Planned Programs Subtotals		360.860	465.852	107.000
C. Other Program Funding Summary (\$ in Millions) N/A				
Remarks				
D. Acquisition Strategy N/A				
E. Performance Metrics N/A				

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2020 Office of the Secretary Of Defense **Date:** February 2019

Appropriation/Budget Activity 0400 / 5	R-1 Program Element (Number/Name) PE 0604165D8Z / <i>Prompt Global Strike Capability Development</i>	Project (Number/Name) 166 / <i>Alternate Re-Entry System/Warhead Engineering</i>
--	--	--

Test and Evaluation (\$ in Millions)				FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 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			
Alternative Reentry System/Warhead Engineering and Delivery Vehicle Options/Development	Allot	Army Space and Missile Defense Center/Navy Strategic Systems Program : Huntsville AL/Washington DC	1,234.376	360.860		465.852		107.000		-		107.000	Continuing	Continuing	-
Subtotal			1,234.376	360.860		465.852		107.000		-		107.000	Continuing	Continuing	N/A

Remarks
NA

	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	Cost To Complete	Total Cost	Target Value of Contract		
Project Cost Totals	1,234.376	360.860		465.852		107.000	-	107.000	Continuing	Continuing	N/A

Remarks
NA

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2020 Office of the Secretary Of Defense		Date: February 2019
Appropriation/Budget Activity 0400 / 5	R-1 Program Element (Number/Name) PE 0604165D8Z / <i>Prompt Global Strike Capability Development</i>	Project (Number/Name) 166 / <i>Alternate Re-Entry System/Warhead Engineering</i>

P166 CPGS Flight Experiment 1 (order 10)

	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
Planning/Design																								
Fabrication/Integration																								
Test Execution																								
Post Test Analysis & Reporting																								

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2020 Office of the Secretary Of Defense		Date: February 2019
Appropriation/Budget Activity 0400 / 5	R-1 Program Element (Number/Name) PE 0604165D8Z / <i>Prompt Global Strike Capability Development</i>	Project (Number/Name) 166 / <i>Alternate Re-Entry System/Warhead Engineering</i>

P166 CPGS Flight Experiment 2 (order 20)

	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
Planning/Design																								
Fabrication/Integr.																								
Test Execution																								
Post Test Analysis & Reporting																								

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2020 Office of the Secretary Of Defense		Date: February 2019
Appropriation/Budget Activity 0400 / 5	R-1 Program Element (Number/Name) PE 0604165D8Z / <i>Prompt Global Strike Capability Development</i>	Project (Number/Name) 166 / <i>Alternate Re-Entry System/Warhead Engineering</i>

P166 Alternate Re-Entry System/Warhead Engineering

Trade Studies, Ground Testing and Systems Engineering	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
	[Redacted Data]																							

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2020 Office of the Secretary Of Defense		Date: February 2019
Appropriation/Budget Activity 0400 / 5	R-1 Program Element (Number/Name) PE 0604165D8Z / <i>Prompt Global Strike Capability Development</i>	Project (Number/Name) 166 / <i>Alternate Re-Entry System/Warhead Engineering</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Navy Flight Experiment 1	1	2017	4	2017
Navy Flight Experiment 2	4	2017	4	2020