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Exhibit R-2, RDT&E Budget Item Justification: FY 2018 Air Force										Date: May 2017		
Appropriation/Budget Activity 3600: Research, Development, Test & Evaluation, Air Force I BA 4: Advanced Component Development & Prototypes (ACD&P)					R-1 Program Element (Number/Name) PE 1206761F I Protected Tactical Service (PTS)							
COST (\$ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
Total Program Element	-	0.000	0.000	24.201	0.000	24.201	176.070	140.064	7.001	69.174	Continuing	Continuing
643728: Protected Tactical SATCOM	-	0.000	0.000	24.201	0.000	24.201	176.070	140.064	7.001	69.174	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

This program, BA 04 PE 1206761F, project 643728, Acquisition Strategy Development, is a new start.
This program, BA 04 PE 1206761F, project 643728, Technical Baseline and Architectural Engineering, is a new start.

A. Mission Description and Budget Item Justification

Protected Tactical SATCOM (PTS) will provide worldwide, beyond line of sight, Anti-Jam (AJ), Low Probability of Intercept communications to tactical warfighters in both benign and contested environments. The centerpiece of the PTS system is a new, more resilient Protected Tactical Waveform (PTW), designed to mitigate the effects of advanced jamming in Anti-Access/Area Denial environments.

The DoD will be implementing PTW to ensure delivery of protected tactical SATCOM to the joint and coalition warfighters in contested, degraded environments. The Protected Tactical Service Field Demonstration (PTSFD) is paving the way for the operationalization of PTW by developing production-representative PTW modems that can be used by the Services to upgrade their currently fielded terminals. In conjunction, the Protected Tactical Enterprise Service (PTES) program is developing a mission management, key management and hub system to enable PTW via transponded Wideband Global SATCOM (WGS) satellites, with future extension to commercial SATCOM. PTS will leverage the mission management and key management systems developed under the PTES program. PTS, with its on-board payload processing and antenna design, will bring advanced anti-jam capability and increased capacity. The system will also employ interfaces consistent with the Space Enterprise Visions evolving Space Warfighter Construct (SWC) and Enterprise Ground Services; thereby enhancing mission assurance, resiliency, and interoperability.

PTS is intended to address the protected tactical MILSATCOM capability gaps identified in the Joint Space Communications Layer Initial Capabilities Document (JSCL ICD), the Protected Satellite Communications Services (PSCS) Analysis of Alternatives (AoA), and in the PSCS AoA Follow-on for Resiliency (PAFR). To meet the warfighter requirements for protected tactical MILSATCOM and the capability gaps identified in these studies, RDT&E funding is required for architectural development, acquisition strategy development, system requirements and system trades analysis, technology maturation, risk reduction activities, system concept development, prototyping and engineering, manufacturing, developing, testing and evaluating of PTS systems and segments.

This program is in Budget Activity 4, Advanced Component Development and Prototypes (ACD&P) because efforts are necessary to evaluate integrated technologies, representative modes or prototype systems in as high fidelity and realistic operating environment.

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3600: Research, Development, Test & Evaluation, Air Force I BA 4: Advanced Component Development & Prototypes (ACD&P)		PE 1206761F I Protected Tactical Service (PTS)				
B. Program Change Summary (\$ in Millions)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	
Previous President's Budget	0.000	0.000	0.000	0.000	0.000	
Current President's Budget	0.000	0.000	24.201	0.000	24.201	
Total Adjustments	0.000	0.000	24.201	0.000	24.201	
• Congressional General Reductions	0.000	0.000				
• Congressional Directed Reductions	0.000	0.000				
• Congressional Rescissions	0.000	0.000				
• Congressional Adds	0.000	0.000				
• Congressional Directed Transfers	0.000	0.000				
• Reprogrammings	0.000	0.000				
• SBIR/STTR Transfer	0.000	0.000				
• Other Adjustments	0.000	0.000	24.201	0.000	24.201	
Change Summary Explanation						
+\$24.201M, for PTS new start.						
C. Accomplishments/Planned Programs (\$ in Millions)				FY 2016	FY 2017	FY 2018
Title: Acquisition Strategy Development				0.000	0.000	14.828
Description: The PSCS AoA, PAFR study, and Space Enterprise Vision study further defined the need for a more resilient, protected tactical space architecture with increased capacity. In accordance with these system concept and architecture studies, the PTS program is developing its acquisition strategy to include hostable payloads.						
FY 2016 Accomplishments:						
N/A						
FY 2017 Plans:						
N/A						
FY 2018 Plans:						
Mature competitive acquisition strategy. Develop documentation necessary to comply with statutory and regulatory requirements to achieve DoD 5000.02 milestones. Plan to finish acquisition strategy and complete DoD acquisition approval. Release Risk Reduction Request for Proposal (RFP). Plan to conduct source selection for one or more contractors for risk reduction and prototyping of the PTS system. Begin program office and other related support activities that may include, but are not limited to studies, technical analysis, etc.						
Title: Technical Baseline and Architectural Engineering				0.000	0.000	9.373

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C. Accomplishments/Planned Programs (\$ in Millions)										FY 2016	FY 2017	FY 2018
Description: Develop the PTS technical baseline and architectural engineering required for the PTS space and ground segments.												
FY 2016 Accomplishments: N/A												
FY 2017 Plans: N/A												
FY 2018 Plans: Develop technical baseline and system requirements. Conduct system architecture and trade analyses, conduct risk reduction activities.												
Accomplishments/Planned Programs Subtotals										0.000	0.000	24.201
D. Other Program Funding Summary (\$ in Millions)												
Line Item	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost	
• RDT&E: BA04: PE 1206855F: PSCS Aggregated	0.000	0.000	16.000	0.000	16.000	214.885	348.648	549.424	930.623	Continuing	Continuing	
Remarks												
E. Acquisition Strategy The PTS team is developing a flexible acquisition strategy informed by market research to identify industry capabilities and acquisition concepts. This strategy will have an early emphasis on payload development and hosting opportunities and will incorporate lessons learned from MILSTAR, AEHF, PTES and commercial SATCOM practices.												
F. Performance Metrics Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.												

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Exhibit R-3, RDT&E Project Cost Analysis: FY 2018 Air Force												Date: May 2017			
Appropriation/Budget Activity 3600 / 4						R-1 Program Element (Number/Name) PE 1206761F / Protected Tactical Service (PTS)				Project (Number/Name) 643728 / Protected Tactical SATCOM					
Product Development (\$ in Millions)				FY 2016		FY 2017		FY 2018 Base		FY 2018 OCO		FY 2018 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
Protected Tactical SATCOM TMRR	TBD	Not specified. : TBD	-	0.000		0.000		8.235	Jan 2018	0.000		8.235	Continuing	Continuing	-
Technical Mission Analysis	MIPR	Aerospace : El Segundo, CA	-	0.000		0.000		4.891	Jan 2018	0.000		4.891	Continuing	Continuing	-
Enterprise SE&I	C/CPAF	LinQuest : Los Angeles, CA	-	0.000		0.000		6.624	Jan 2018	0.000		6.624	Continuing	Continuing	-
Subtotal			-	0.000		0.000		19.750		0.000		19.750	-	-	-
Support (\$ in Millions)				FY 2016		FY 2017		FY 2018 Base		FY 2018 OCO		FY 2018 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
Subtotal			-	-		-		-		-		-	-	-	-
Test and Evaluation (\$ in Millions)				FY 2016		FY 2017		FY 2018 Base		FY 2018 OCO		FY 2018 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
Subtotal			-	-		-		-		-		-	-	-	-
Management Services (\$ in Millions)				FY 2016		FY 2017		FY 2018 Base		FY 2018 OCO		FY 2018 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
FFRDC	Various	Various : TBD	-	0.000		0.000		2.465	Jan 2018	0.000		2.465	Continuing	Continuing	-
Other Support	Various	Various : TBD	-	0.000		0.000		0.050	Jan 2018	0.000		0.050	Continuing	Continuing	-
A&AS	Various	Various : TBD	-	0.000		0.000		1.936	Jan 2018	0.000		1.936	Continuing	Continuing	-
Subtotal			-	0.000		0.000		4.451		0.000		4.451	-	-	-

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			Prior Years	FY 2016		FY 2017		FY 2018 Base		FY 2018 OCO		FY 2018 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			-	0.000		0.000		24.201		0.000		24.201	-	-	-

Remarks

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Exhibit R-4, RDT&E Schedule Profile: FY 2018 Air Force			Date: May 2017		
Appropriation/Budget Activity 3600 / 4		R-1 Program Element (Number/Name) PE 1206761F / <i>Protected Tactical Service (PTS)</i>			Project (Number/Name) 643728 / <i>Protected Tactical SATCOM</i>

	FY 2016				FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022			
	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
Hostable Payload Materiel Development Decision (MDD)																												
Initiate System Definition																												
Release Risk Reduction Request for Proposal																												
Technology Maturation and Risk Reduction (TMRR) Source Selection																												
TMRR Contract Award																												
TMRR Phase																												
Pathfinder Preliminary Design Review (PDR)																												
Pathfinder Critical Design Review (CDR)																												
Milestone B Decision																												

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Exhibit R-4A, RDT&E Schedule Details: FY 2018 Air Force			Date: May 2017
Appropriation/Budget Activity 3600 / 4	R-1 Program Element (Number/Name) PE 1206761F / <i>Protected Tactical Service (PTS)</i>	Project (Number/Name) 643728 / <i>Protected Tactical SATCOM</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Hostable Payload Materiel Development Decision (MDD)	1	2018	1	2018
Initiate System Definition	1	2018	3	2018
Release Risk Reduction Request for Proposal	2	2018	2	2018
Technology Maturation and Risk Reduction (TMRR) Source Selection	3	2018	4	2018
TMRR Contract Award	4	2018	4	2018
TMRR Phase	4	2018	4	2021
Pathfinder Preliminary Design Review (PDR)	4	2019	4	2019
Pathfinder Critical Design Review (CDR)	3	2020	3	2020
Milestone B Decision	3	2021	3	2021