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Exhibit R-2, RDT&E Budget Item Justification: PB 2019 Air Force										Date: February 2018		
Appropriation/Budget Activity 3600: Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development					R-1 Program Element (Number/Name) PE 0207136F I Manned Destructive Suppression							
COST (\$ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
Total Program Element	-	12.697	15.106	15.238	0.000	15.238	15.521	15.792	16.119	16.413	Continuing	Continuing
674595: F-16 HARM Targeting Sys	-	12.697	15.106	15.238	0.000	15.238	15.521	15.792	16.119	16.413	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Manned Destructive Suppression (MDS) program element funds the development, procurement, and sustainment of the Air Force's Suppression of Enemy Air Defenses (SEAD) and Destruction of Enemy Air Defenses (DEAD) capabilities. The F-16 HARM Targeting System (HTS) is currently the only programmed reactive SEAD capability and enables targeting the HARM missile in its most lethal 'range known' mode. The program provides F-16 Block 50/52 and Block 40/42 aircraft with the ability to employ the AN/ASQ-213 Pod. With the introduction of HTS Revision 7 (HTS R7) in 2007, the AN/ASQ-213 Pod now has a precision geo-location capability to target Precision Guided Munitions (PGMs) to destroy fixed and mobile enemy air defense elements. Additionally, by relocating the AN/ASQ-213 HTS R7 Pod to the aircraft's left inlet hard point, the F-16 can simultaneously carry the HTS R7 Pod and an Advanced Targeting Pod (ATP). HTS R7 fielding is complete and represents the Air Force's near-term solution for reactive time critical targeting for DEAD until this mission can be transferred to F-35 or a yet to be defined system. HTS R7 derived precision targeting data can be provided to all Joint Forces via Link-16. This effort continues preplanned product improvements (P3I) for the HTS and applies technologies similar to those demonstrated in the Advanced Tactical Targeting Technologies (AT3) program and HTS R7 development.

Funds may be used to address emerging and short-notice Diminishing Manufacturing Sources and Material Shortage (DMSMS) issues.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver MDS system capability. The use of such program funds would be in addition to the civilian pay expenses budgeted in program elements 0605826F, 0605827F, 0605828F, 0605829F, 0605830F, 0605831F, 0604832F, 0605898F.

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

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B. Program Change Summary (\$ in Millions)		FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Previous President's Budget		14.773	15.106	15.353	0.000	15.353
Current President's Budget		12.697	15.106	15.238	0.000	15.238
Total Adjustments		-2.076	0.000	-0.115	0.000	-0.115
• 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		-1.649	0.000			
• SBIR/STTR Transfer		-0.427	0.000			
• Other Adjustments		0.000	0.000	-0.115	0.000	-0.115
Change Summary Explanation No Significant Changes						
C. Accomplishments/Planned Programs (\$ in Millions)				FY 2017	FY 2018	FY 2019
Title: P3I R7 Software Upgrade (SWUP)				10.747	12.756	12.838
Description: P3I R7 Software Upgrade (SWUP)						
FY 2018 Plans: HTS SWUP risk reduction efforts continue to include minor software updates (maintenance releases) in support of F-16 OFP M7.2+ and candidate definition for the next SWUP upgrade. Mission support (i.e., program management for administrative and technical support) will continue. Down-selection of warfighter candidates for the next SWUP effort will occur, and risk reduction activities for subsequent SWUP upgrades will continue.						
FY 2019 Plans: HTS SWUP 3 continues from risk reduction to software development and preparation for flight testing in support of F-16 OFP M8.2+. Mission support (i.e., program management for administrative and technical support) will continue. Risk reduction activities for subsequent SWUP upgrades will continue.						
FY 2018 to FY 2019 Increase/Decrease Statement: Increase of \$197K (1.5%) to address inflation.						
Title: Flight Test				1.050	1.500	1.500
Description: Flight Test						

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C. Accomplishments/Planned Programs (\$ in Millions)		FY 2017	FY 2018	FY 2019
<i>FY 2018 Plans:</i> Government flight test operations continue in planning for the next SWUP. This funding also includes baselining requirements from actual test data during recent flight testing. Ground testing such as anechoic chamber testing will be conducted, as needed. The test organization will conduct each mission to include F-16 test aircraft operations, threat/test ranges and associated support, air refueling, and range control support. Post-mission support for each mission is planned.				
<i>FY 2019 Plans:</i> Government flight test operations continue in planning for SWUP 3. This funding also includes baselining requirements from actual test data during recent flight testing. Ground testing such as anechoic changer testing will be conducted, as needed. The test organization will conduct each mission to include F-16 test aircraft operations, threat/test ranges and associated support, air refueling, and range control support. Post-mission support for each mission is planned.				
<i>FY 2018 to FY 2019 Increase/Decrease Statement:</i> No change.				
<i>Title:</i> Mission Planning <i>Description:</i> Joint Mission Planning System (JMPS) (Formerly Air Force Mission Support System (AFMSS))		0.900	0.850	0.900
<i>FY 2018 Plans:</i> Continue mission planning in support of HTS SWUP and future P3I upgrades. This effort includes continued development and testing of candidate upgrades and incremental engineering releases in support of fielding.				
<i>FY 2019 Plans:</i> Continue mission planning in support of HTS SWUP and future P3I upgrades. This effort includes continued development and testing of candidate upgrades and incremental engineering releases in support of fielding.				
<i>FY 2018 to FY 2019 Increase/Decrease Statement:</i> Increase of \$50K to address labor rates and inflation.				
Accomplishments/Planned Programs Subtotals		12.697	15.106	15.238
D. Other Program Funding Summary (\$ in Millions)				
N/A				
Remarks				

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<u>E. Acquisition Strategy</u> The HTS R7 acquisition improvement strategy includes accomplishment of risk reduction studies and selection of appropriate contracting strategies for P3I and upgrade of HTS inventory.		
<u>F. Performance Metrics</u> 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: PB 2019 Air Force												Date: February 2018			
Appropriation/Budget Activity 3600 / 7						R-1 Program Element (Number/Name) PE 0207136F / Manned Destructive Suppression				Project (Number/Name) 674595 / F-16 HARM Targeting Sys					
Product Development (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 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
HTS R7 SWUP/P3I	SS/CPIF	Raytheon Systems Co. : Tucson, AZ	-	9.988	Jul 2017	11.566	May 2018	11.638	May 2019	-		11.638	Continuing	Continuing	-
JMPS (Formerly AFMSS)	MIPR	Multiple : Multiple, NV	-	0.900	Jan 2017	0.850	Jan 2018	0.900	Mar 2019	-		0.900	Continuing	Continuing	-
Subtotal			-	10.888		12.416		12.538		-		12.538	Continuing	Continuing	N/A
Test and Evaluation (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 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
Government Test	PO	412 TW : Edwards AFB, CA	-	1.050	Jan 2017	1.500	Jan 2018	1.500	Jan 2019	-		1.500	Continuing	Continuing	-
Subtotal			-	1.050		1.500		1.500		-		1.500	Continuing	Continuing	N/A
Management Services (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 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
Program Management Administration	C/Various	Multiple : Eglin AFB, FL	-	0.759	May 2017	1.190	Oct 2017	1.200	Oct 2018	-		1.200	Continuing	Continuing	-
Subtotal			-	0.759		1.190		1.200		-		1.200	Continuing	Continuing	N/A
			Prior Years	FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			-	12.697		15.106		15.238		-		15.238	Continuing	Continuing	N/A
Remarks															

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Exhibit R-4, RDT&E Schedule Profile: PB 2019 Air Force			Date: February 2018		
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	FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023			
	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
<i>Manned Destructive Suppression</i>																												
R7.9 SWUP (R7.8X MNX Updates) Risk Reduction																												
R7.9 SWUP Contract																												
R7.9 SWUP (CT&E/DT&E)																												
R7.9 Software Release																												
R7.8X MNX2 Update Release																												
R7.A SWUP Risk Reduction																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2019 Air Force			Date: February 2018
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207136F / <i>Manned Destructive Suppression</i>	Project (Number/Name) 674595 / <i>F-16 HARM Targeting Sys</i>	

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Manned Destructive Suppression</i>				
R7.9 SWUP (R7.8X MNX Updates) Risk Reduction	1	2017	4	2018
R7.9 SWUP Contract	1	2018	3	2021
R7.9 SWUP (CT&E/DT&E)	1	2019	1	2021
R7.9 Software Release	4	2021	2	2022
R7.8X MNX2 Update Release	4	2018	4	2018
R7.A SWUP Risk Reduction	4	2019	3	2022