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

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0207136F / <i>Manned Destructive Suppression</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	-	14.222	16.695	16.543	0.000	16.543	17.458	17.893	18.260	18.212	0.000	119.283
674595: <i>F-16 HARM Targeting Sys</i>	-	14.222	16.695	16.543	0.000	16.543	17.458	17.893	18.260	18.212	0.000	119.283
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

The Manned Destructive Suppression (MDS) program funds the development and sustainment of the Air Force's Suppression of Enemy Air Defenses (SEAD) and Destruction of Enemy Air Defenses (DEAD) capabilities. The F-16 High-speed Anti-Radiation Missile (HARM) Targeting System (HTS) is currently the only programmed reactive SEAD/DEAD 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 Pre-Planned Product Improvement (P3I) HTS Revision 7 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 the F-35. HTS R7 derived precision targeting data can be provided to all Joint Forces via Link-16. This effort continues upgrades 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.

HTS leverages Digital acquisition tenets of open, agile and digital. This may include providing funds to prime contractors; program office contract support; facility, security and IT upgrades; common component development with other weapon systems to reduce redundant costs.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such programs funds would be in addition to the civilian pay expenses budgeted in program elements 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, 0606398F. In FY22 0.00M was expended for civilian pay expenses in this program element, and in FY23 0.00M is forecasted for civilian pay expenses in this program element.

The FY2024 funding request was reduced by 0.533 million to account for the availability of prior year execution balances.

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 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	15.855	16.695	17.037	0.000	17.037
Current President's Budget	14.222	16.695	16.543	0.000	16.543
Total Adjustments	-1.633	0.000	-0.494	0.000	-0.494
• 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	-0.418	0.000			
• Other Adjustments	-1.215	0.000	-0.494	0.000	-0.494
C. Accomplishments/Planned Programs (\$ in Millions)	FY 2022	FY 2023	FY 2024		
Title: P3I R7 Software Upgrade (SWUP)	12.422	14.595	14.443		
Description: HTS SWUP risk reduction and software development Engineering and Manufacturing Development (EMD) efforts include software updates in support of F-16 Operational Flight Profile (OFF) releases. These releases improve the capability of the pod in an evolving threat environment.					
FY 2023 Plans: Continue SWUP 4 iterative software development, EMD, and preparation for SWUP 4 flight testing. Mission support (i.e., program management for administrative and technical support) will continue.					
FY 2024 Plans: Continue SWUP 4 iterative software development, EMD, and preparation for SWUP 4 flight testing. Mission support (i.e., program management for administrative and technical support) will continue. Continue SWUP Agile.					
FY 2023 to FY 2024 Increase/Decrease Statement: Funding decreased due portfolio realignment. Does not impact execution					
Title: Flight Test	0.900	1.200	1.200		
Description: Conducts test planning, requirements derivation, and post-test data analysis and reporting. Provides test organization support to include test aircraft operations, threat/test range control and associated support, air refueling, and post-mission support. Ground testing, such as anechoic chamber testing, will also be accomplished as necessary.					
FY 2023 Plans:					

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C. Accomplishments/Planned Programs (\$ in Millions)	FY 2022	FY 2023	FY 2024
<p>Government flight test operations will continue for SWUP 4 activities. This funding also includes baselining requirements from actual test data during recent flight testing. Begin testing on produced A9B circuit cards.</p> <p>FY 2024 Plans: Government flight test operations will continue for SWUP 4 activities. This funding also includes baselining requirements from actual test data during recent flight testing.</p> <p>FY 2023 to FY 2024 Increase/Decrease Statement: N/A</p>			
<p>Title: Mission Planning</p> <p>Description: Joint Mission Planning System (JMPS). This effort includes continued development and testing of candidate upgrades and incremental engineering releases in support of HTS SWUP fielding.</p> <p>FY 2023 Plans: Continue mission planning in support of future SWUP 4 efforts and other future SWUP requirements.</p> <p>FY 2024 Plans: Continue mission planning in support of future SWUP 4 efforts and other future SWUP requirements.</p> <p>FY 2023 to FY 2024 Increase/Decrease Statement: N/A</p>	0.900	0.900	0.900
Accomplishments/Planned Programs Subtotals	14.222	16.695	16.543

D. Other Program Funding Summary (\$ in Millions)
N/A

Remarks

E. Acquisition Strategy

The HTS R7 Software Update Program (SWUP) is underway to keep the HTS pod capable in a growing threat environment. The SWUP 3 Engineering & Manufacturing Development (EMD) and SWUP 4 Risk Reduction (RR) contract awarded in April 2019 as a Cost Plus Fixed Fee (CPFF) contract type and is a 36 month effort. The initial SWUP 4 EMD contract awarded in July 2021 for four months with three one year options. SWUP 3 included plans for two releases to the field: Builds A and B. SWUP 4 adopts a more agile approach with three potential releases to the field: Builds A, B, and C.

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<p>Future SWUP RR portion will mature candidates for future software builds by addressing findings from the field, incorporating requested improvements from the warfighter, and implementing other software changes to keep the HTS pod updated and mission capable. A follow on mod to the contract was accomplished in November 2021 for one year. Future SWUP RR efforts to begin in FY24.</p>		

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force												Date: March 2023			
Appropriation/Budget Activity				R-1 Program Element (Number/Name)				Project (Number/Name)							
3600 / 7				PE 0207136F / Manned Destructive Suppression				674595 / F-16 HARM Targeting Sys							
Product Development (\$ in Millions)				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
HTS R7 SWUP/P3I	SS/CPFF	Raytheon Systems Co. : Tucson, AZ	-	10.649	Nov 2021	12.445	Nov 2022	12.193	Nov 2023	-		12.193	Continuing	Continuing	-
JMPS	SS/CPIF	Multiple : Multiple	-	0.900	May 2022	0.900	May 2023	0.900	May 2024	-		0.900	Continuing	Continuing	-
Subtotal			-	11.549		13.345		13.093		-		13.093	Continuing	Continuing	N/A
Test and Evaluation (\$ in Millions)				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
Government Test	PO	412 and 96 TW, NAWCWD : Edwards,Eglin, CLake	-	0.900	Nov 2021	1.200	Nov 2022	1.200	Nov 2023	-		1.200	Continuing	Continuing	-
Subtotal			-	0.900		1.200		1.200		-		1.200	Continuing	Continuing	N/A
Management Services (\$ in Millions)				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
Program Management Administration	C/Various	Multiple : Eglin AFB Robins AFB	-	1.773	Apr 2022	2.150	Feb 2023	2.250	Mar 2024	-		2.250	Continuing	Continuing	-
Subtotal			-	1.773		2.150		2.250		-		2.250	Continuing	Continuing	N/A
Project Cost Totals			-	14.222		16.695		16.543		-		16.543	Continuing	Continuing	N/A
Remarks															

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Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
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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

<i>Manned Destructive Suppression</i>	
SWUP 3 Build B	
SWUP 4 Risk Reduction	
SWUP 4 Bridge	
SWUP 4 Builds A, B, and C	
Future SWUP Risk Reduction	

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Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
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Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Manned Destructive Suppression</i>				
SWUP 3 Build B	1	2022	2	2022
SWUP 4 Risk Reduction	1	2022	2	2022
SWUP 4 Bridge	1	2022	1	2022
SWUP 4 Builds A, B, and C	1	2022	1	2025
Future SWUP Risk Reduction	2	2024	1	2025