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Exhibit R-2, RDT&E Budget Item Justification: PB 2017 Air Force										Date: February 2016		
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>							
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
Total Program Element	-	14.413	14.860	14.773	0.000	14.773	15.062	15.347	15.631	15.909	Continuing	Continuing
674595: <i>F-16 HARM Targeting Sys</i>	-	14.413	14.860	14.773	0.000	14.773	15.062	15.347	15.631	15.909	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.

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.

B. Program Change Summary (\$ in Millions)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Previous President's Budget	14.831	14.860	14.921	0.000	14.921
Current President's Budget	14.413	14.860	14.773	0.000	14.773
Total Adjustments	-0.418	0.000	-0.148	0.000	-0.148
• 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	0.000	0.000	-0.148	0.000	-0.148

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<u>Change Summary Explanation</u> No significant program changes.						
<u>C. Accomplishments/Planned Programs (\$ in Millions)</u>						
		FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Title: P3I R7 Software Upgrade (SWUP)		10.433	11.660	12.823	0.000	12.823
Description: P3I R7 Software Upgrade (SWUP)						
FY 2015 Accomplishments: HTS R7.8 SWUP continued software development and commenced baseline flight testing, test data analysis, software fixes, and release of updated software for iterative flight testing. Studies continued on risk reduction efforts for future P3I phase(s). Mission support (i.e., program management for administrative and technical support) continued. The major thrusts of this year were R7.8 SWUP baseline flight testing and preparation for formal development flight testing.						
FY 2016 Plans: Continue HTS R7.8 SWUP software development and formal development flight testing, test data analysis, software fixes, and release of updated software for iterative flight testing. Risk reduction will include a minor software update (maintenance release) in support of F-16 OFP 7.2+ and studies will continue risk reduction efforts for future P3I phase(s). Mission support (i.e., program management for administrative and technical support) will continue. The major thrusts for FY16 are R7.8 SWUP for formal development flight testing and the start of risk reduction activities for subsequent SWUP upgrades.						
FY 2017 Base Plans: Continue HTS R7.8 SWUP software development and complete flight testing, test data analysis, software fixes, and software FCA. Risk reduction will include minor software updates (maintenance releases) in support of F-16 OFP 7.2+ and studies continue on risk reduction efforts for future P3I phase(s). Mission support (i.e., program management for administrative and technical support) will continue. The major thrusts for FY17 are R7.8 SWUP for formal development flight testing and continued risk reduction activities for subsequent SWUP upgrades.						
FY 2017 OCO Plans: N/A						
Title: Flight Test		1.950	2.300	1.050	0.000	1.050
Description: Flight Test						
FY 2015 Accomplishments:						

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C. Accomplishments/Planned Programs (\$ in Millions)										
<p>Government flight test operations completed planning phase and entered into baseline flight testing of R7.8 SWUP software capabilities. This funding also included test data analysis support and baselining requirements from actual test data results during flight testing. Ground testing such as anechoic chamber testing was conducted, as needed. The test organization conducted each mission to include F-16 test aircraft operations, threat/test ranges and associated support, air re-fueling, and range control support. Post-mission support for each mission occurred.</p> <p>FY 2016 Plans: Government flight test operations will continue in formal development flight testing of R7.8 SWUP software capabilities. This funding also includes test data analysis support and baselining requirements from actual test data results during flight testing. Conduct ground testing such as anechoic chamber testing, as needed. The test organization will conduct each mission to include F-16 test aircraft operations, threat/test ranges and associated support, air re-fueling, and range control support. Post-mission support for each mission is planned.</p> <p>FY 2017 Base Plans: Government flight test operations will continue in formal development flight testing of R7.8 SWUP software capabilities. This funding also includes test data analysis support and baselining requirements from actual test data results during flight testing. Conduct ground testing such as anechoic chamber testing, as needed. The test organization will conduct each mission to include F-16 test aircraft operations, threat/test ranges and associated support, air re-fueling, and range control support. Post-mission support for each mission is planned.</p> <p>FY 2017 OCO Plans: N/A</p>						FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
<p>Title: Mission Planning</p> <p>Description: Joint Mission Planning System (JMPS) (Formerly Air Force Mission Support System (AFMSS))</p> <p>FY 2015 Accomplishments: Continued mission planning in conjunction with HTS R7.8 software upgrade. This effort included continued development and testing of candidate upgrades and incremental engineering releases in support of fielding as well as JMPS mandated updates.</p> <p>FY 2016 Plans:</p>						2.030	0.900	0.900	0.000	0.900

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C. Accomplishments/Planned Programs (\$ in Millions)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Continue mission planning in conjunction with HTS R7.8 software upgrade and future P3I upgrades. This effort includes continued development and testing of candidate upgrades and incremental engineering releases in support of fielding. FY 2017 Base Plans: Continue mission planning in conjunction with HTS R7.8 software upgrade and future P3I upgrades. This effort includes continued development and testing of candidate upgrades and incremental engineering releases in support of fielding. FY 2017 OCO Plans: N/A					
Accomplishments/Planned Programs Subtotals	14.413	14.860	14.773	0.000	14.773

D. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017 Base</u>	<u>FY 2017 OCO</u>	<u>FY 2017 Total</u>	<u>FY 2018</u>	<u>FY 2019</u>	<u>FY 2020</u>	<u>FY 2021</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• No other investment funding: <i>N/A</i>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-	-

Remarks

E. Acquisition Strategy

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.

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: PB 2017 Air Force **Date:** February 2016

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>
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Product Development (\$ in Millions)				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 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			
HTS R7 SWUP/P3I	SS/CPIF	Raytheon Systems Co. : Tucson, AZ	-	9.536	May 2015	10.731	May 2016	12.064	Jul 2017	0.000		12.064	Continuing	Continuing	-
JMPS (Formerly AFMSS)	MIPR	Multiple : Multiple	-	2.030	Jan 2015	0.900	Jan 2016	0.900	Jan 2017	0.000		0.900	Continuing	Continuing	-
Subtotal			-	11.566		11.631		12.964		0.000		12.964	-	-	-

Remarks
HTS R7.8 SWUP risk reduction completed in May 2013. HTS R7.8 development began in May 2013 and is projected to continue until 2017.

Support (\$ in Millions)				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 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			
Subtotal			-	-		-		-		-		-	-	-	-

Test and Evaluation (\$ in Millions)				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 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			
Government Test	PO	412 TW : Edwards AFB, CA	-	1.950	Jan 2015	2.300	Jan 2016	1.050	Jan 2017	0.000		1.050	Continuing	Continuing	-
Subtotal			-	1.950		2.300		1.050		0.000		1.050	-	-	-

Management Services (\$ in Millions)				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 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			
Program Management Administration	C/Various	Multiple : Eglin AFB, FL	-	0.897	Jan 2015	0.929	Oct 2015	0.759	May 2017	0.000		0.759	Continuing	Continuing	-
Subtotal			-	0.897		0.929		0.759		0.000		0.759	-	-	-

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	Prior Years	FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	14.413		14.860		14.773		0.000		14.773	-	-	-

Remarks

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Exhibit R-4A, RDT&E Schedule Details: PB 2017 Air Force		Date: February 2016
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	Start		End	
	Quarter	Year	Quarter	Year
R7.8 SWUP Contract	1	2015	2	2017
R7.8 SWUP Flight test (CT&E/DT&E)	2	2015	1	2017
R7.8 Software Release	3	2017	3	2017
R7.9 SWUP (R7.8X MNX Update) Risk Reduction	2	2016	3	2018
R7.8X MNX1 Update Release	3	2017	3	2017
R7.9 SWUP Contract	2	2018	3	2021
R7.9 SWUP (CT&E/DT&E)	4	2017	1	2021
R7.9 Software Release	4	2021	4	2021
R7.8X MNX2 Update Release	4	2018	4	2018