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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force										DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 4: Advanced Component Development & Prototypes (ACD&P)					R-1 ITEM NOMENCLATURE PE 0604327F: Hard and Deeply Buried Target Defeat System (HDBTDS) Program							
COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	-	120.838	16.711	0.103	-	0.103	0.000	0.000	0.000	0.000	Continuing	Continuing
645341: Direct Strike Penetrator Systems	-	120.838	16.711	0.103	-	0.103	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles		7	0	0		0	0	0	0	0		
MDAP/MAIS Code(s): 475												
[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012												
^{##} The FY 2014 OCO Request will be submitted at a later date												
A. Mission Description and Budget Item Justification												
Direct Strike Penetrator Systems project includes the development of a Quick Reaction Capability (QRC) known as Massive Ordnance Penetrator (MOP) and analysis efforts for the follow-on Hard Target Munitions program. The Direct Strike Penetrator System is an advanced precision guided penetrator munition that will provide the Air Force with an improved capability using air-to-surface conventional munitions to attack Hard & Deeply Buried Targets (HDBT)s, such as bunker and tunnel facilities. This system holds HDBTs at risk using fewer weapons and reducing the number of missions necessary to defeat targets, resulting in an increase to overall mission survivability. The Direct Strike Penetrator provides a critical global strike capability not currently met by inventory conventional weapons. It will hold at risk those highest priority assets essential to the enemy's warfighting ability, which are heavily defended and protected. The Direct Strike Penetrator Systems analysis-of-alternative (AoA) activities include, but are not limited to reports to evaluate the performance, operational suitability, and cost of alternative hard target defeat systems.												
This program is in Budget Activity 4, Advanced Component Development and Prototypes (ACD&P) because effort are necessary to evaluate integrated technologies, representative modes or prototype systems in high fidelity and realistic operating environment.												

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B. Program Change Summary (\$ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	
Previous President's Budget	33.248	16.711	0.103	-	0.103	
Current President's Budget	120.838	16.711	0.103	-	0.103	
Total Adjustments	87.590	0.000	0.000	-	0.000	
• Congressional General Reductions	-	0.000				
• Congressional Directed Reductions	-	0.000				
• Congressional Rescissions	0.000	0.000				
• Congressional Adds	-	0.000				
• Congressional Directed Transfers	-	0.000				
• Reprogrammings	88.552	0.000				
• SBIR/STTR Transfer	-0.962	0.000				
• Other Adjustments	0.000	0.000	0.000	-	0.000	
Change Summary Explanation The Air Force requested and Congress approved Above Threshold Reprogramming (ATR) of \$88.552M for the enhancement and testing of the MOP weapon system.						
C. Accomplishments/Planned Programs (\$ in Millions)				FY 2012	FY 2013	FY 2014
Title: Massive Ordinance Penetrator (MOP) Weapon Development				51.599	1.000	0.000
Description: MOP Weapon development/redesign and test and integration on the B-2.						
FY 2012 Accomplishments: Upgrade MOP for Enhanced Threat Response (ETR-1 and ETR-2): Update design to ensure weapon-to-aircraft compatibility and weapon performance in the operating environment. Complete warhead, fuze and aft-end redesign to provide full capability against COCOM designated target set. Provided engineering support and updates to mission software. Modified source technical orders to include MOP. Provided labor and repair parts for MOP weapon trainer.						
Redesign fin control actuators, borrowed from the USA ATACMS design, to adapt the MOP weapon system and improve reliability to avoid problems in higher humidity environmnet in MOP storage facilities. Conduct Reliability and Maintainability Analysis.						
FY 2013 Plans: Engineering support for potential testing of new warhead and fuzing systems designs.						
Title: MOP System Test and Evaluation				44.019	9.917	0.000
Description: MOP system test and evaluation, and qualification testing and weapon certification on B-2A.						

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C. Accomplishments/Planned Programs (\$ in Millions)		FY 2012	FY 2013	FY 2014
FY 2012 Accomplishments: Continued to conduct qualification, ground and flight tests to verify design modifications. Conduct ground tests and 7 flight tests, to include ETR-1 and ETR-2 testing of the MOP weapon system in order to demonstrate weapon effectiveness and suitability. Includes weapon cost and missile range costs, modeling and simulation, weapons effects. Potential re-fly costs and higher risk tolerance captured.				
FY 2013 Plans: Conduct ground and flight tests to verify ETR-1 and ETR-2 design changes.				
Title: MOP Target Construction Description: Construct several hard and deeply buried targets for live weapon testing. FY 2012 Accomplishments: Constructed hardened and deeply buried target facilities for live weapon testing. Installed instrumentation to capture weapons effect data for post-test analysis, modeling, and simulation activities. FY 2013 Plans: Complete construction of final target for live weapon testing.		13.174	1.670	0.000
Title: Program Management Administration (PMA) Description: Support MOP weapon development activities such as design reviews and ground/flight test planning and execution. Support Hard Target Munition (HTM) Analysis of Alternatives (AoA). FY 2012 Accomplishments: Supported weapon development and test activities. Includes FY14 activities, as this it the last year of funding for MOP. Supported HTM AoA. FY 2013 Plans: Support MOP weapon development and test activities. Includes FY14 activities, as this it the last year of funding for MOP. Support HTM AoA. FY 2014 Plans: Support HTM AoA.		2.461	4.124	0.103
Title: Hard Target Munition (HTM) Capability Analysis		9.585	0.000	0.000

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C. Accomplishments/Planned Programs (\$ in Millions)										FY 2012	FY 2013	FY 2014
Description: Analysis of Alternatives (AoA) for hard target weapons.												
FY 2012 Accomplishments: Evaluated alternative hard target weapons to assess the performance, operational effectiveness, operational suitability, and estimated system procurement costs.												
Accomplishments/Planned Programs Subtotals										120.838	16.711	0.103
D. Other Program Funding Summary (\$ in Millions)												
<u>Line Item</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u> <u>Base</u>	<u>FY 2014</u> <u>OCO</u>	<u>FY 2014</u> <u>Total</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>	
• RDTE: BA07: PE 0604240F: <i>B-2 Bomber</i>	0.000	0.000	0.000		0.000	0.000	0.000	0.000	0.000	0.000	80.683	
• APAF: BA05: B01B00: <i>B-2 Squadrons, PE 0101127F</i>	46.000	7.000	0.000		0.000	0.000	0.000	0.000	0.000	0.000	75.651	
• PAAF: BA01: PE 0208030F: <i>WRM-Ammunition (General Purpose Bombs)</i>	3.800	4.158	0.000		0.000	0.000	0.000	0.000	0.000	0.000	61.274	
Remarks												
E. Acquisition Strategy MOP is a Quick reaction capability with a sole source cost plus incentive fee contract to a single contractor.												
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 2014 Air Force												DATE: April 2013			
APPROPRIATION/BUDGET ACTIVITY						R-1 ITEM NOMENCLATURE				PROJECT					
3600: Research, Development, Test & Evaluation, Air Force						PE 0604327F: Hard and Deeply Buried				645341: Direct Strike Penetrator Systems					
BA 4: Advanced Component Development & Prototypes (ACD&P)						Target Defeat System (HDBTDS) Program									
Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
MOP Weapon Development	SS/CPIF	Boeing:St Louis, MO	-	51.599	Feb 2012	1.000	Feb 2013	0.000		-		0.000	0.000	52.599	
Hard Target Munition (HTM) Capabilities Analysis	Various	Whitney, Bradley & Brown; ARA; Booz Allen:Eglin, FL	-	4.311	Apr 2012	0.000		0.000		-		0.000	Continuing	Continuing	
HTM Concept/Technology Study	Various	Several Local Companies:Eglin, FL	-	2.628		0.000		0.000		-		0.000	Continuing	Continuing	
HTM Weapons Effects/ Target Analysis	RO	Defense Threat Reduction Agency:Eglin AFB, FL	-	1.087		0.000		0.000		-		0.000	Continuing	Continuing	
HTM Technical Support	Various	Jacobs Engr.:Eglin, FL	-	1.559		0.000		0.000		-		0.000	Continuing	Continuing	
Subtotal			0.000	61.184		1.000		0.000		0.000		0.000			
Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All 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			0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000
Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
MOP System Test & Evaluation	RO	Not specified.:Eglin AFB, FL	-	15.469	Dec 2011	7.917	Jan 2014	0.000		-		0.000	0.000	23.386	
MOP Flight Test Range Support	Various	White Sands Missile Range:White Sands Missile Range, NM	-	4.850	Mar 2012	2.000	Jan 2014	0.000		-		0.000	0.000	6.850	
Target Construction and Instrumentation (MOP)	Various	Defense Threat Reduction	-	13.174	Feb 2012	0.000		0.000		-		0.000	0.000	13.174	

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APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 4: Advanced Component Development & Prototypes (ACD&P)							R-1 ITEM NOMENCLATURE PE 0604327F: Hard and Deeply Buried Target Defeat System (HDBTDS) Program				PROJECT 645341: Direct Strike Penetrator Systems				

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
		Agency:Albuquerque, NM													
Weapon Effects/Modeling and Simulation (MOP)	Various	Defense Threat Reduction Agency:Albuquerque, NM	-	23.700	May 2012	1.670	Feb 2013	0.000		-		0.000	0.000	25.370	
Subtotal			0.000	57.193		11.587		0.000		0.000		0.000	0.000	68.780	

Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All 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 (PMA) for MOP	Various	AFLCMC/EBD:Eglin AFB, FL	-	1.746	Dec 2011	4.000	Dec 2012	0.000		-		0.000	0.000	5.746	
Program Management Administration (PMA) for Hard Target Munitions	Various	AFLCMC/XR:Eglin AFB, FL	-	0.715		0.124		0.103		-		0.103	Continuing	Continuing	
Subtotal			0.000	2.461		4.124		0.103		0.000		0.103			

			All Prior Years	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			0.000	120.838	16.711	0.103	0.000	0.103			

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force

DATE: April 2013

APPROPRIATION/BUDGET ACTIVITY

3600: Research, Development, Test & Evaluation, Air Force
BA 4: Advanced Component Development & Prototypes (ACD&P)

R-1 ITEM NOMENCLATURE

PE 0604327F: Hard and Deeply Buried
Target Defeat System (HDBTDS) Program

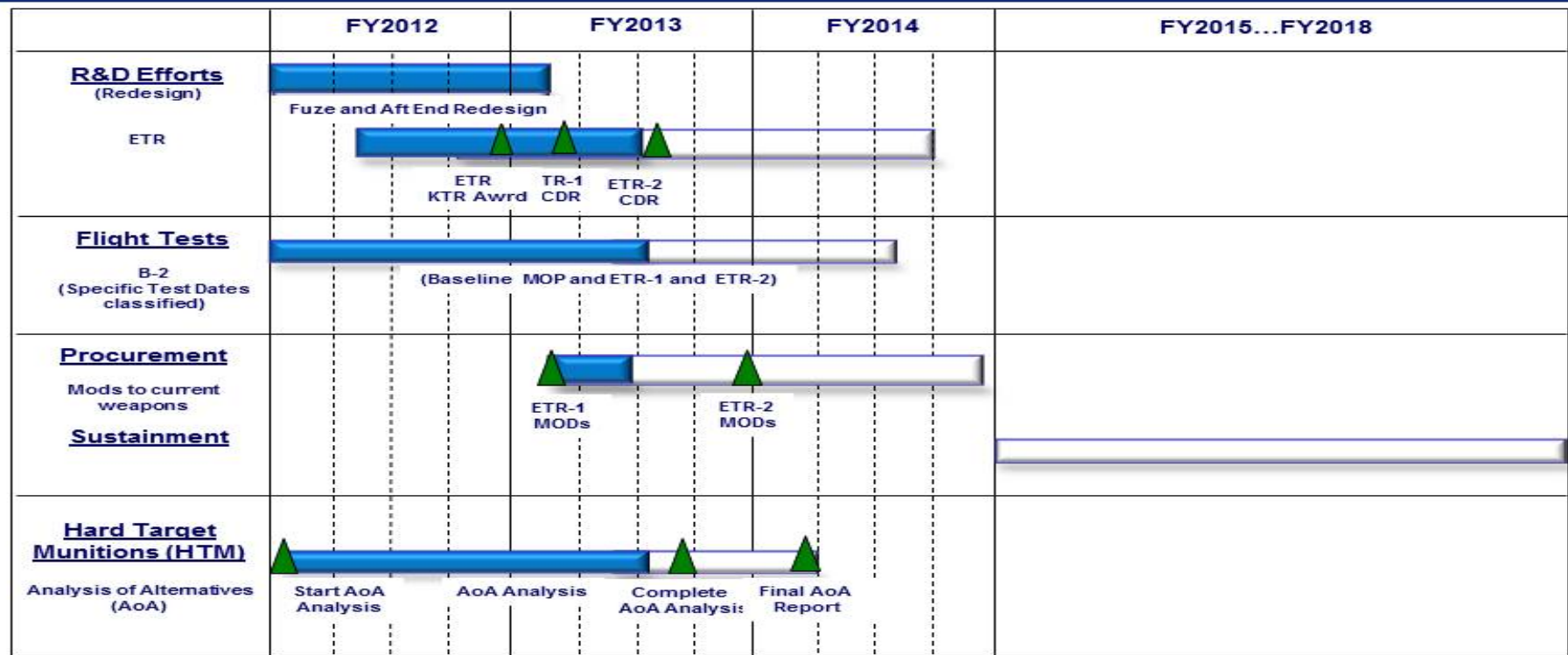
PROJECT

645341: Direct Strike Penetrator Systems



U.S. AIR FORCE

Hard Target Munition (MOP and AoA) Top Level Schedule



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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0604327F: <i>Hard and Deeply Buried Target Defeat System (HDBTDS) Program</i>	PROJECT 645341: <i>Direct Strike Penetrator Systems</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Redesign: Fuze and Aft Ends and Conduct Ground Testing	1	2012	1	2013
Flight Testing of the Baseline MOP Weapon	1	2012	1	2013
MOP Design Modification & Qualification Testing for ETR-1	2	2012	2	2013
MOP Design Modification & Qualification Testing for ETR-2	2	2012	3	2014
MOP ETR-1 Flight Testing	2	2013	3	2013
MOP ETR-2 Flight Testing	4	2013	3	2014
Conduct Hard Target Analysis of Alternatives (AoA)	1	2012	1	2014