

**UNCLASSIFIED**

PE NUMBER: 0305116F  
 PE TITLE: AERIAL TARGETS

<b>Exhibit R-2, RDT&amp;E Budget Item Justification</b>	DATE <b>February 2008</b>
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<b>BUDGET ACTIVITY</b> <b>07 Operational System Development</b>	<b>PE NUMBER AND TITLE</b> <b>0305116F AERIAL TARGETS</b>
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Cost (\$ in Millions)	FY 2007 Actual	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total
Total Program Element (PE) Cost	4.041	7.329	34.777	51.753	45.893	44.512	21.460	Continuing	TBD
5136 Target Systems Development	4.041	7.329	34.777	51.753	45.893	44.512	21.460	Continuing	TBD

**(U) A. Mission Description and Budget Item Justification**

Full-scale and subscale targets assure warfighters that weapon systems will perform effectively against real-world enemy fighters and cruise missiles. Aerial targets help adherence to public law Title 10, Section 2366, which requires major systems and munitions programs to conduct survivability and lethality testing before full-rate production. The Aerial Targets program provides drones to satisfy "Live Fire/Lethality" developmental/operational test requirements. Target drones are used to validate operational missile/weapon system effectiveness and fighter operational flight program (OFP) updates. Target drones are also essential for developmental/operational testing for all air-to-air and ground-to-air missiles, and for the F-22A, F-35, F-16, F-15, etc., aircraft. The objective is to provide realistic targets for missile testing to enable the development of air defense systems capable of defeating changing airborne threats. This funding improves/updates aerial target systems to ensure aerial targets represent enemy threat airborne systems. This program element also funds development of full-scale/subscale aerial targets and target control systems. Specialized target payload subsystems are developed for requirements such as: missile scoring, electronic attack and infrared (IR) countermeasures, radar and IR signature augmentation, and chaff and flare dispensing systems. In FY09, the Air Force Subscale Aerial Target (AFSAT) program will continue to evaluate and develop product improvements to improve reliability, reduce cost and provide needed enhancements to the performance, payload capability, and payload capacity to support growth initiatives that will continue throughout the Future Years Defense Program (FYDP). FY09 funding will support the continuation of risk reduction activities and continue the development effort for the QF-16 full scale aerial target leading to a planned production effort in approximately FY14.

This program is in budget activity 7 - RDT&E Operational System Development because it provides aerial targets, target payloads, and target control systems in support of operational and RDT&E testing.

**(U) B. Program Change Summary (\$ in Millions)**

	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) Previous President's Budget	5.183	7.376	26.603
(U) Current PBR/President's Budget	4.041	7.329	34.777
(U) Total Adjustments	-1.142	-0.047	
(U) Congressional Program Reductions			
Congressional Rescissions		-0.047	
Congressional Increases			
Reprogrammings	-1.036		
SBIR/STTR Transfer	-0.106		
(U) <u>Significant Program Changes:</u>			
FY09 8.584M change for QF-16 .			

## Exhibit R-2a, RDT&amp;E Project Justification

DATE

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BUDGET ACTIVITY				PE NUMBER AND TITLE			PROJECT NUMBER AND TITLE		
07 Operational System Development				0305116F AERIAL TARGETS			5136 Target Systems Development		
Cost (\$ in Millions)	FY 2007 Actual	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total
5136 Target Systems Development	4.041	7.329	34.777	51.753	45.893	44.512	21.460	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0		

(U) **A. Mission Description and Budget Item Justification**

Full-scale and subscale targets assure warfighters that weapon systems will perform effectively against real-world enemy fighters and cruise missiles. Aerial targets help adherence to public law Title 10, Section 2366, which requires major systems and munitions programs to conduct survivability and lethality testing before full-rate production. The Aerial Targets program provides drones to satisfy "Live Fire/Lethality" developmental/operational test requirements. Target drones are used to validate operational missile/weapon system effectiveness and fighter operational flight program (OFP) updates. Target drones are also essential for developmental/operational testing for all air-to-air and ground-to-air missiles, and for the F-22A, F-35, F-16, F-15, etc., aircraft. The objective is to provide realistic targets for missile testing to enable the development of air defense systems capable of defeating changing airborne threats. This funding improves/updates aerial target systems to ensure aerial targets represent enemy threat airborne systems. This program element also funds development of full-scale/subscale aerial targets and target control systems. Specialized target payload subsystems are developed for requirements such as: missile scoring, electronic attack and infrared (IR) countermeasures, radar and IR signature augmentation, and chaff and flare dispensing systems. In FY09, the Air Force Subscale Aerial Target (AFSAT) program will continue to evaluate and develop product improvements to improve reliability, reduce cost and provide needed enhancements to the performance, payload capability, and payload capacity to support growth initiatives that will continue throughout the Future Years Defense Program (FYDP). FY09 funding will support the continuation of risk reduction activities and continue the development effort for the QF-16 full scale aerial target leading to a planned production effort in approximately FY14.

This program is in budget activity 7 - RDT&E Operational System Development because it provides aerial targets, target payloads, and target control systems in support of operational and RDT&E testing.

(U) **B. Accomplishments/Planned Program (\$ in Millions)**

	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) Continue Aerial Targets basic operating support.	0.377	1.000	1.000
(U) Continue system acquisition and engineering support to include studies, upgrades for the target control system, the weapon scoring system, payload systems and other aerial targets support systems.	0.096	0.100	0.100
(U) Initiate planning activities and trade studies to support follow-on full scale Aerial Target.	2.877		
(U) Continue QF-16 development program.		2.000	29.055
(U) Continue product improvement program for the Air Force Subscale Aerial Target (AFSAT) program to include payload and propulsion improvements, radar augmentation, alternate launch methods and other objective requirements/enhancements.	0.691	4.229	4.622
(U) Total Cost	4.041	7.329	34.777

## Exhibit R-2a, RDT&amp;E Project Justification

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07 Operational System Development

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(U) **C. Other Program Funding Summary (\$ in Millions)**

	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>Cost to</u>	<u>Total Cost</u>
	<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Complete</u>	
(U) PE35116F: Appn: Aircraft Procurement, AF(APAF), Program Title: Aerial Targets	73.512	77.079	70.576	73.034	76.279	38.480	92.952	Continuing	TBD
(U) Initial Spares	0.383	0.476	0.518	0.532	0.538	0.549	0.559	Continuing	TBD
(U) Munitions	3.819	0.000	4.106	4.206	4.262	4.346	4.432	Continuing	TBD
(U) Electronic Attack Pods	4.994	5.537	5.148	5.380	5.552	5.661	5.772	Continuing	TBD

(U) **D. Acquisition Strategy**

The acquisition strategy is competitive, with cost plus, fixed price and time and materials contracts.

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**Exhibit R-3, RDT&E Project Cost Analysis**

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BUDGET ACTIVITY				PE NUMBER AND TITLE					PROJECT NUMBER AND TITLE				
<b>07 Operational System Development</b>				<b>0305116F AERIAL TARGETS</b>					<b>5136 Target Systems Development</b>				
(U) Cost Categories (Tailor to WBS, or System/Item Requirements) (\$ in Millions)	<u>Contract Method &amp; Type</u>	<u>Performing Activity &amp; Location</u>	<u>Total Prior to FY 2007 Cost</u>	<u>FY 2007 Cost</u>	<u>FY 2007 Award Date</u>	<u>FY 2008 Cost</u>	<u>FY 2008 Award Date</u>	<u>FY 2009 Cost</u>	<u>FY 2009 Award Date</u>	<u>Cost to Complete</u>	<u>Total Cost</u>	<u>Target Value of Contract</u>	
(U) <u>Product Development</u> AFSAT P3I Efforts	FFP, T&M, CPIF	Composite Engineering Inc., Sacramento CA		0.691	Feb-07	4.229	Jan-08	4.622	Jan-09		9.542		
QF-16 Risk Reduction and Trade Studies	FFP, T&M, CPXX	TBD		2.066							2.066		
QF-16 Development						2.000		29.055			31.055		
Subtotal Product Development			0.000	2.757		6.229		33.677		0.000	42.663	0.000	
Remarks:	Pre-planned product improvements for the AFSAT Subscale Aerial Target and New Full Scale Aerial Target (QF-16) Development												
(U) <u>Support</u> Mission Support	Various	Various		0.377		1.000		1.000			2.377		
Subtotal Support			0.000	0.377		1.000		1.000		0.000	2.377	0.000	
Remarks:													
(U) <u>Test &amp; Evaluation</u> Continue system acquisition and engineering support to include studies, upgrades for the target control system, the weapon scoring system, payload systems and other aerial targets support systems				0.096		0.100		0.100			0.296		
Subtotal Test & Evaluation			0.000	0.096		0.100		0.100		0.000	0.296	0.000	
Remarks:													
(U) <u>Management</u> System Acq and Engineering Support	Various	Various		0.811							0.811		
Subtotal Management			0.000	0.811		0.000		0.000		0.000	0.811	0.000	
Remarks:													
(U) Total Cost			0.000	4.041		7.329		34.777		0.000	46.147	0.000	

Exhibit R-4, RDT&E Schedule Profile

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# AFSAT Contract Efforts



	FY 07	FY08	FY09	FY10	FY11	FY12	FY13
AFSAT Future Efforts to evaluate and develop product improvements to provide enhancements, improve reliability and reduce costs.	←—————→						
<b>FY07-09 Planned Efforts</b>							
Recovery Systems Improvements	←—————→						
Design Reliability Improvements	←—————→						
Launch Improvements	←————→						
Radar Augmentation		←————→					
Alternate Launch Methods		←————→					

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Exhibit R-4, RDT&E Schedule Profile

DATE

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BUDGET ACTIVITY  
07 Operational System Development

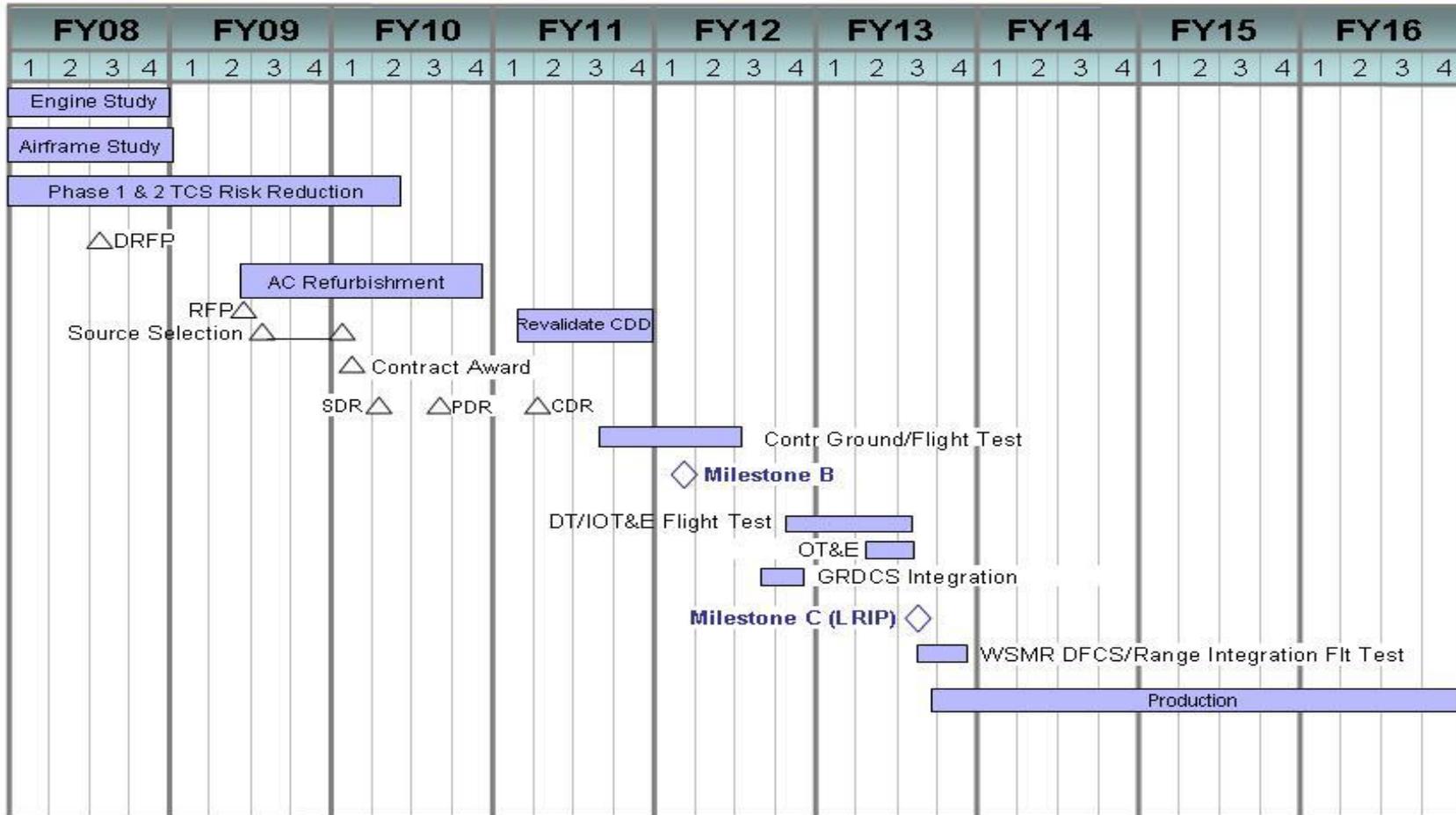
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# Proposed QF-16 Schedule FY08-FY16



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**Exhibit R-4a, RDT&E Schedule Detail**

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(U) <u>Schedule Profile</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) Launch Improvement Study	4Q		
(U) Radar Augmentation		2Q	
(U) Combo IR/RCS Pod			2Q
(U) Alternate Launch Method Study		2Q	
(U) AST Risk Reduction, Trade Studies	2Q		
(U) AST Development Effort			3Q