

**UNCLASSIFIED**

PE NUMBER: 0605024F

PE TITLE: Anti-Tamper Technology Executive Agent

<b>Exhibit R-2, RDT&amp;E Budget Item Justification</b>	<b>DATE</b> <b>February 2004</b>
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<b>BUDGET ACTIVITY</b> <b>07 Operational System Development</b>	<b>PE NUMBER AND TITLE</b> <b>0605024F Anti-Tamper Technology Executive Agent</b>
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Cost (\$ in Millions)	FY 2003 Actual	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total
Total Program Element (PE) Cost	8.474	8.780	7.858	7.785	7.776	7.753	7.727	0.000	0.000
5066 Anti-Tamper Technology Executive Agent	8.474	8.780	7.858	7.785	7.776	7.753	7.727	0.000	0.000

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

The Air Force is the DoD Executive Agent for implementing Anti-Tamper (AT) policy, developing AT technology, establishing and maintaining a data bank/library, providing proper security mechanisms, and conducting effective validation . The purpose of developing AT measures is to protect critical technologies in U.S. weapon systems that may be sold to foreign governments or that could possibly fall into enemy hands. AT technology will permit the U.S. to preserve its critical weapons systems lead while also satisfying customer needs. Furthermore, AT will add longevity to critical technologies by deterring efforts to reverse engineer, or develop weapon countermeasures against a system or system component.

As Executive Agent, the Air Force will coordinate the technology development among the Services, DoD Agencies and laboratories, and with industry. The Anti-Tamper technology development will occur in the following areas: advanced sensor hardware, generic electronic hardware, signature control, access detection & denial, software, and effectiveness. In the advanced sensor hardware area, antenna arrays, focal plane arrays, & T/R modules are areas of importance for AT technology development. AT technology for other advanced sensor hardware will also be developed as required. In the general electronic hardware area, AT technology development will be evaluated first for memory circuits and processors, followed by other electronic hardware. In the signature control area, AT technology development will be evaluated for radar absorbing materials and other low observable techniques. AT technology development for other signature control areas will be evaluated on a case-by-case basis. Measures of Effectiveness (MOEs) and the verification and validation of Anti-Tamper are also areas required further development. The program management activities will coordinate the technology development and establish the Anti-Tamper data bank/library.

Anti-Tamper validation is a significant responsibility assigned to the Air Force from OSD. All DoD acquisition programs, Foreign Military Sales, and Direct Commercial Sales with critical technology/critical information are required to have an Anti-Tamper plan with appropriate validation. The resources required to review Anti-Tamper plans and conduct Anti-Tamper validation began to ramp-up in late FY03. Currently, there are approximately eight recognized Anti-Tamper experts throughout DoD. Based on Anti-Tamper validation requirement projections, this number needs to expand to approximately 40 DoD experts by FY07.

Exhibit R-2, RDT&E Budget Item Justification

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

	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>
(U) Previous President's Budget	8.000	7.855	7.879
(U) Current PBR/President's Budget	8.474	8.780	7.858
(U) Total Adjustments	0.474	0.925	
(U) Congressional Program Reductions			
Congressional Rescissions	-0.102	-0.075	
Congressional Increases	1.000	1.000	
Reprogrammings	-0.184		
SBIR/STTR Transfer	-0.240		
(U) <u>Significant Program Changes:</u>			
None			

**Exhibit R-2a, RDT&E Project Justification**

DATE  
**February 2004**

BUDGET ACTIVITY <b>07 Operational System Development</b>				PE NUMBER AND TITLE <b>0605024F Anti-Tamper Technology Executive Agent</b>			PROJECT NUMBER AND TITLE <b>5066 Anti-Tamper Technology Executive Agent</b>		
Cost (\$ in Millions)	FY 2003 Actual	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total
5066 Anti-Tamper Technology Executive Agent	8.474	8.780	7.858	7.785	7.776	7.753	7.727	0.000	0.000
Quantity of RDT&E Articles	0	0	0	0	0	0	0		

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

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

	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>
(U) Accomplishments/Planned Program	0.000	0.000	0.000
(U) Anti-Tamper Technology Development	6.820	5.482	4.060
(U) Anti-Tamper Verification & Validation	1.040	1.555	2.055
(U) Database & Website	0.000	0.667	0.667
(U) Program Management Activity	0.614	1.076	1.076
(U) Total Cost	8.474	8.780	7.858

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

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Executive Agent**

PROJECT NUMBER AND TITLE

**5066 Anti-Tamper Technology  
Executive Agent****(U) C. Other Program Funding Summary (\$ in Millions)****(U) D. Acquisition Strategy**

Program Research and Development Announcements (PRDAs) will be used for the Anti-Tamper technology development. A sole source contract will be used for some of the technical support.

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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>0605024F Anti-Tamper Technology Executive Agent</b>				<b>5066 Anti-Tamper Technology Executive Agent</b>				
(U) Cost Categories	<u>Contract Method &amp; Type</u>	<u>Performing Activity &amp; Location</u>	<u>Total</u> <u>Prior to FY</u> <u>2003</u> <u>Cost</u>	<u>FY</u> <u>2003</u> <u>Cost</u>	<u>FY</u> <u>2003</u> <u>Award</u> <u>Date</u>	<u>FY</u> <u>2004</u> <u>Cost</u>	<u>FY</u> <u>2004</u> <u>Award</u> <u>Date</u>	<u>FY</u> <u>2005</u> <u>Cost</u>	<u>FY</u> <u>2005</u> <u>Award</u> <u>Date</u>	<u>Cost to</u> <u>Complete</u>	<u>Total</u> <u>Cost</u>	<u>Target</u> <u>Value of</u> <u>Contract</u>
(U) <u>Anti-Tamper Technology Development</u>												
AFRL/XPJ	PRDA			5.615						0.000	5.615	
AFRL/AT-SPI	PRDA					4.982		3.560		Continuing	TBD	
Sandia National Lab	Sole Source			1.205		0.500		0.500		Continuing	TBD	
Subtotal Anti-Tamper Technology Development			0.000	6.820		5.482		4.060		Continuing	TBD	0.000
Remarks:												
(U) <u>Anti-Tamper Verification &amp; Validation</u>												
Air Force AT Field Agent (413 FLTS/OLHN)	MIPR			0.100		0.300		0.500		Continuing	TBD	
Navy AT Field Agent (PMR-51)	MIPR			0.200		0.400		0.500		Continuing	TBD	
Army AT Field Agent (Aviation & Missile Cmd/Redstone)	MIPR			0.350		0.400		0.500		Continuing	TBD	
DoD Executive Agent Field Agent (AFRL/AT-SPI)	MIPR			0.200		0.305		0.305		Continuing	TBD	
Sandia National Lab	Sole Source			0.190		0.150		0.250		Continuing	TBD	
Subtotal Anti-Tamper Verification & Validation			0.000	1.040		1.555		2.055		Continuing	TBD	0.000
Remarks:												
(U) <u>Database and Website</u>												
AFRL/AT-SPI	MIPR			0.000		0.667		0.667		Continuing	TBD	
Subtotal Database and Website			0.000	0.000		0.667		0.667		Continuing	TBD	0.000
Remarks:												
(U) <u>Management</u>												
AFRL/XPJ	MIPR			0.614						0.000	0.614	
AFRL/AT-SPI	MIPR			0.000		1.076		1.076		Continuing	TBD	
Subtotal Management			0.000	0.614		1.076		1.076		Continuing	TBD	0.000
Remarks:												
(U) Total Cost			0.000	8.474		8.780		7.858		Continuing	TBD	0.000

Exhibit R-4, RDT&E Schedule Profile

DATE

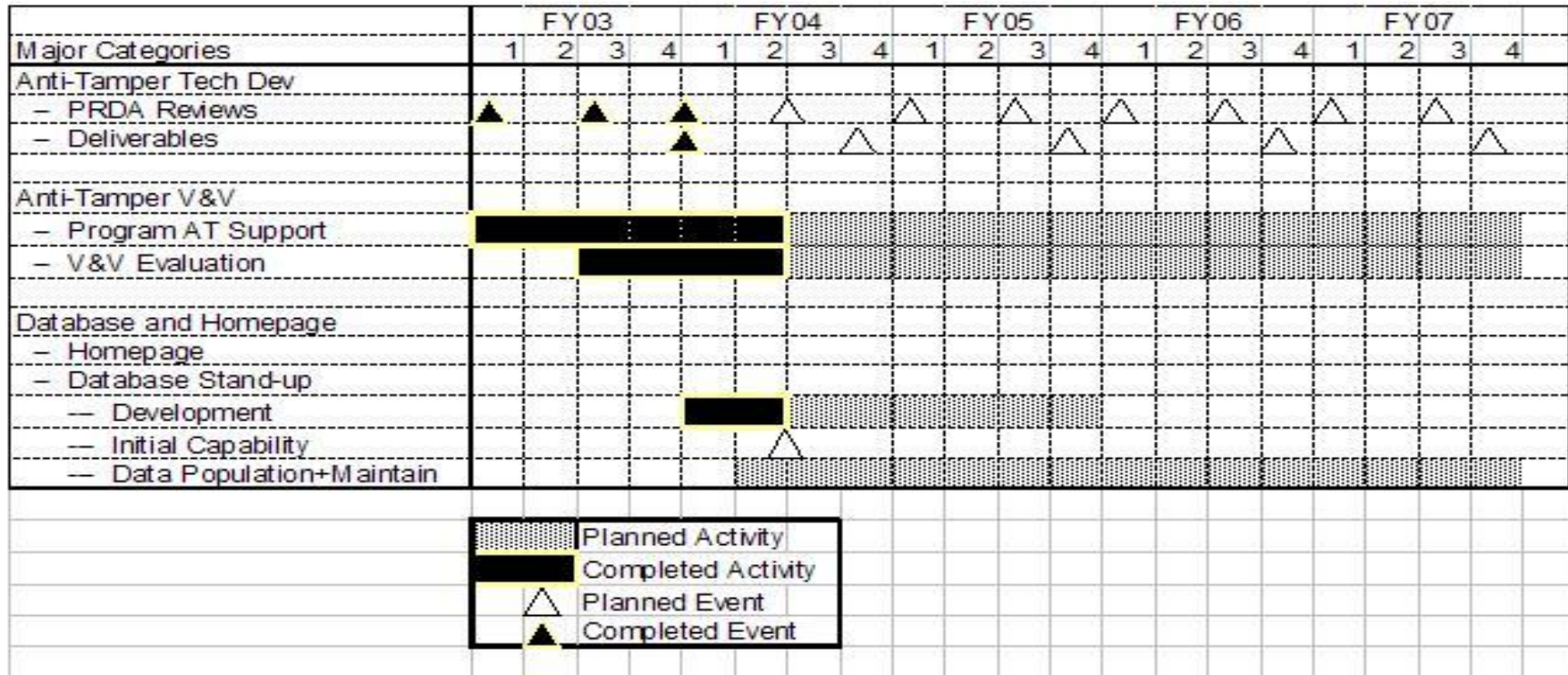
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PE060524F – Anti-Tamper (14 Jan 04)



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

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(U) Schedule Profile

FY 2003

FY 2004

FY 2005

(U) Anti-Tamper Technology Development

(U) -- PRDA Reviews

1-3Q

1-3Q

1-3Q

(U) -- PRDA Deliverables

4Q

4Q

4Q

(U) Anti-Tamper Verification & Validation

1-4Q

1-4Q

1-4Q

(U) Database and Website

1-4Q

1-4Q