

UNCLASSIFIED

PE NUMBER: 0207138F
PE TITLE: F-22 SQUADRONS

Exhibit R-2, RDT&E Budget Item Justification									DATE February 2005																																														
BUDGET ACTIVITY 07 Operational System Development					PE NUMBER AND TITLE 0207138F F-22 SQUADRONS																																																		
Cost (\$ in Millions)	FY 2004 Actual	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	Cost to Complete	Total																																													
Total Program Element (PE) Cost	303.201	362.394	403.517	582.512	612.061	322.864	201.667	202.299	Continuing	TBD																																													
4785 F-22	303.201	362.394	403.517	582.512	612.061	322.864	201.667	202.299	Continuing	TBD																																													
<p>(U) <u>A. Mission Description and Budget Item Justification</u></p> <p>The F/A-22 Raptor represents the USAF's top priority for providing the Joint Force with air dominance, operational access, homeland and cruise missile defense for the next 20+ years. The F/A-22 is a first-of-a-kind multi-mission fighter aircraft that combines stealth, supercruise, advanced maneuverability and integrated avionics to make it the world's most capable combat aircraft. The F/A-22 is currently closing out the Engineering and Manufacturing Development (EMD) phase of acquisition and continuing the spiral-modernization phase. This exhibit includes the spiral modernization enhancements required to enable a more robust air-to-air and air-to-ground target engagement capability in the most demanding threat environments-day or night.</p> <p>This program is in Budget Activity 7, Operational System Development, because the F/A-22 Program is developing the next-generation air dominance fighter for the USAF to counter emerging worldwide threats.</p> <p>(U) <u>B. Program Change Summary (\$ in Millions)</u></p> <table style="width: 100%; margin-top: 10px;"> <thead> <tr> <th></th> <th style="text-align: right;"><u>FY 2004</u></th> <th style="text-align: right;"><u>FY 2005</u></th> <th style="text-align: right;"><u>FY 2006</u></th> <th style="text-align: right;"><u>FY 2007</u></th> </tr> </thead> <tbody> <tr> <td>(U) Previous President's Budget</td> <td style="text-align: right;">313.101</td> <td style="text-align: right;">354.528</td> <td style="text-align: right;">431.396</td> <td style="text-align: right;">639.376</td> </tr> <tr> <td>(U) Current PBR/President's Budget</td> <td style="text-align: right;">303.201</td> <td style="text-align: right;">362.394</td> <td style="text-align: right;">403.517</td> <td style="text-align: right;">582.512</td> </tr> <tr> <td>(U) Total Adjustments</td> <td style="text-align: right;">-9.900</td> <td style="text-align: right;">7.866</td> <td></td> <td></td> </tr> <tr> <td>(U) Congressional Program Reductions</td> <td></td> <td style="text-align: right;">-13.034</td> <td></td> <td></td> </tr> <tr> <td>Congressional Rescissions</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Congressional Increases</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Reprogrammings</td> <td style="text-align: right;">-9.900</td> <td style="text-align: right;">20.900</td> <td></td> <td></td> </tr> <tr> <td>SBIR/STTR Transfer</td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> <p>(U) <u>Significant Program Changes:</u></p> <p>FY06 & FY07 had a multitude of changes from the previous president's budget to include reliability and maintainability maturation program (RAMMP), and realigning funding for test and evaluation and common configuration.</p> <p>In FY05, moved \$20.9M from production to cover long lead activity for replacement test aircraft from Lot 6, reprogramming action pending Congressional approval.</p> <p>Funding for one FY06 aircraft has been realigned to the RDT&E appropriation since the FY05 PB because this aircraft will be used as a dedicated test asset. Funding has been reprogrammed from 3010 production funds (PE27219F) to 3600 RDT&E Modernization (PE 27138F) to incrementally fund FY05 through FY08.</p>												<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	(U) Previous President's Budget	313.101	354.528	431.396	639.376	(U) Current PBR/President's Budget	303.201	362.394	403.517	582.512	(U) Total Adjustments	-9.900	7.866			(U) Congressional Program Reductions		-13.034			Congressional Rescissions					Congressional Increases					Reprogrammings	-9.900	20.900			SBIR/STTR Transfer				
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Exhibit R-2a, RDT&E Project Justification

DATE

February 2005

BUDGET ACTIVITY					PE NUMBER AND TITLE			PROJECT NUMBER AND TITLE		
07 Operational System Development					0207138F F-22 SQUADRONS			4785 F-22		
Cost (\$ in Millions)	FY 2004 Actual	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	Cost to Complete	Total
4785 F-22	303.201	362.394	403.517	582.512	612.061	322.864	201.667	202.299	Continuing	TBD
Quantity of RDT&E Articles	0	0	1	0	0	0	0	0		

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

The F/A-22 Raptor represents the USAF's top priority for providing the Joint Force with air dominance, operational access, homeland and cruise missile defense for the next 20+ years. The F/A-22 is a first-of-a-kind multi-mission fighter aircraft that combines stealth, supercruise, advanced maneuverability and integrated avionics to make it the world's most capable combat aircraft. The F/A-22 is currently closing out the Engineering and Manufacturing Development (EMD) phase of acquisition and continuing the spiral-modernization phase. This exhibit includes the spiral modernization enhancements required to enable a more robust air-to-air and air-to-ground target engagement capability in the most demanding threat environments-day or night.

This program is in Budget Activity 7, Operational System Development, because the F/A-22 Program is developing the next-generation air dominance fighter for the USAF to counter emerging worldwide threats.

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

	FY 2004	FY 2005	FY 2006	FY 2007
(U) Continue requirements definition and spiral development activities for planned hardware and software capability upgrades. (NSP)	244.496	227.479	198.235	423.543
--Continue Spiral 2 to develop Global Strike Conops basic capabilities.				
--Continue Spiral 3 to develop Global Strike Conops enhanced capabilities.				
(U) Continue Air Vehicle Instrumentation support (Seek Eagle Instrumentation).	9.354	10.746	12.000	12.000
(U) Continue Post-EMD System Engineering/Program Management Contract Support	43.030	36.560	36.786	21.503
(U) Continue Air Vehicle Instrumentation support (Training and Test Instrumentation)		3.100	11.000	8.000
(U) Continue Flight test and flight test support at Edwards AFB.		55.700	55.429	51.415
(U) Continue Mission support of the SPO; travel, computer costs, misc contracts, etc.	6.321	7.909	10.567	10.751
(U) Initiate F/A-22 Reliability and Maintainability Maturation Program (RAMMP)			14.000	29.000
(U) Replacement Test Aircraft (RTA)		20.900	65.500	26.300
(U) Total Cost	303.201	362.394	403.517	582.512

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

	FY 2004 Actual	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	Cost to Complete	Total Cost
(U) AF RDT&E (PE 64239F)	615.467	208.143	76.203							24,084.05
(U) PRTV II (6)										1
(U) F/A-22 Squadrons										1,580.580
(U) Procurement (3010) (PE	39.532	95.654	79.547	258.601	295.928	281.894	168.202	392.018	Continuing	TBD

Project 4785

R-1 Shopping List - Item No. 133-3 of 133-7

Exhibit R-2a (PE 0207138F)

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Exhibit R-2a, RDT&E Project Justification

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February 2005

BUDGET ACTIVITY

07 Operational System Development

PE NUMBER AND TITLE

0207138F F-22 SQUADRONS

PROJECT NUMBER AND TITLE

4785 F-22

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

0207138F)										
F/A-22 Squadrons										
(U) Procurement (3080) (PE 027138F)	0.481	0.443	1.491	2.740	1.734	0.000	0.721	1.478	Continuing	TBD
(U) Military Construction (PE 0604239F)	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000	65.000
(U) Military Construction (PE 0207219F)	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000	96.018
(U) Military Construction (PE 0207138F)	31.164	28.698	47.040	85.450	98.391	0.000	0.000	0.000	0.000	290.749
(U) Aircraft Procurement (PE 0207219F) Advanced Tactical Fighter, P-1 Line Item #003**	4139.533	4041.493	3814.549	4401.456	4170.177	52.668	26.896	0.000	0.000	31,847.940
(U) Munitions Procurement (PE 0207219F)	9.410	9.044	10.984	10.993	12.314	12.614	15.909	12.702	0.000	106.426
(U) F/A-22 Link 16 Transmit RDT&E (PE 27445F)	36.418	49.951	96.939	66.504	22.321	0.000	0.000		0.000	300.007
(U) F/A-22 Link 16 Transmit Procurement (PE 27423F)				16.658	31.130	32.811	34.139	16.901	Continuing	TBD

**NOTE: Includes BP10, 11, 16, 19 and Advance Buy.

(U) **D. Acquisition Strategy**

The Raptor Enhancement Development & Integration (REDI) contract is an Indefinite Delivery/Indefinite Quantity Ordering contract that maximizes flexibility to start, stop, accelerate and decelerate projects based on funding. The REDI contract was established to be more responsive to evolving war fighter requirements. The REDI contract allows the issuance of orders for the highest priority war fighter capabilities in operationally meaningful capability increments, requirements analysis, contractor cost estimates and studies, development and demonstration of capability enhancements, and unanticipated future war fighter requirements. Each spiral is broken into phases. Phase A is to initiate requirements analysis, Phase B is the design phase and Phases C,D,E are the development, integration and verification phase of a specific spiral development effort. Separate delivery orders will be issued for each phase of a spiral. These separate delivery orders at these predetermined breakpoints allows the spiral effort to be tailored to the technology maturity, available funding and capability priority during the life of the program.

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Exhibit R-3, RDT&E Project Cost Analysis

DATE

February 2005

BUDGET ACTIVITY						PE NUMBER AND TITLE					PROJECT NUMBER AND TITLE			
07 Operational System Development						0207138F F-22 SQUADRONS					4785 F-22			
(U) Cost Categories (Tailor to WBS, or System/Item Requirements) (\$ in Millions)	Contract Method & Type	Performing Activity & Location	Total Prior to FY 2004 Cost	FY 2004 Cost	FY 2004 Award Date	FY 2005 Cost	FY 2005 Award Date	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	Cost to Complete	Total Cost	Target Value of Contract
(U) Product Development														
Spiral development activities	Cost Plus		39.318	244.496	Dec-03	227.479	Dec-04	198.235	Dec-05	423.543	Dec-06	Continuing	TBD	
Air Vehicle Instrumentation support (SEEK EAGLE Instr)	Cost Plus		3.870	9.354	Jul-04	10.746	Nov-04	12.000	Nov-05	12.000	Nov-06	Continuing	TBD	
Air Vehicle Instrumentation support (Training and Test Instrumentation)	Cost Plus					3.100	May-05	11.000	Nov-05	8.000	Nov-06	Continuing	TBD	
System Engineering / Program Management	Cost Plus		22.234	43.030	Dec-03	36.560	Dec-04	36.786	Dec-05	21.503	Dec-06	Continuing	TBD	
F/A-22 Reliability and Maintainability Maturation Program (RAMMP)	Cost Plus							14.000	Nov-05	29.000	Nov-06		43.000	
Not Applicable													0.000	
Subtotal Product Development			65.422	296.880		277.885		272.021		494.046		Continuing	TBD	0.000
Remarks:														
(U) Support														
Support Contracts	Various			6.321		7.909		10.567		10.751		Continuing	TBD	
In House Support												Continuing	TBD	
Not Applicable													0.000	
Subtotal Support			0.000	6.321		7.909		10.567		10.751		Continuing	TBD	0.000
Remarks:														
(U) Test & Evaluation														
AFFTC and Contractor	Various	Edwards AFB, CA				55.700	Apr-05	55.429	Nov-05	51.415	Nov-06	Continuing	TBD	
Replacement Test Aircraft (RTA)	Fixed Price					20.900		65.500	Jan-06	26.300	Jan-07	Continuing	TBD	
Not Applicable													0.000	
Subtotal Test & Evaluation			0.000	0.000		76.600		120.929		77.715		Continuing	TBD	0.000
Remarks:														
(U) Management														
Subtotal Management			0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000
Remarks:														
(U) Total Cost			65.422	303.201		362.394		403.517		582.512		Continuing	TBD	0.000

Exhibit R-4, RDT&E Schedule Profile

DATE

February 2005

BUDGET ACTIVITY

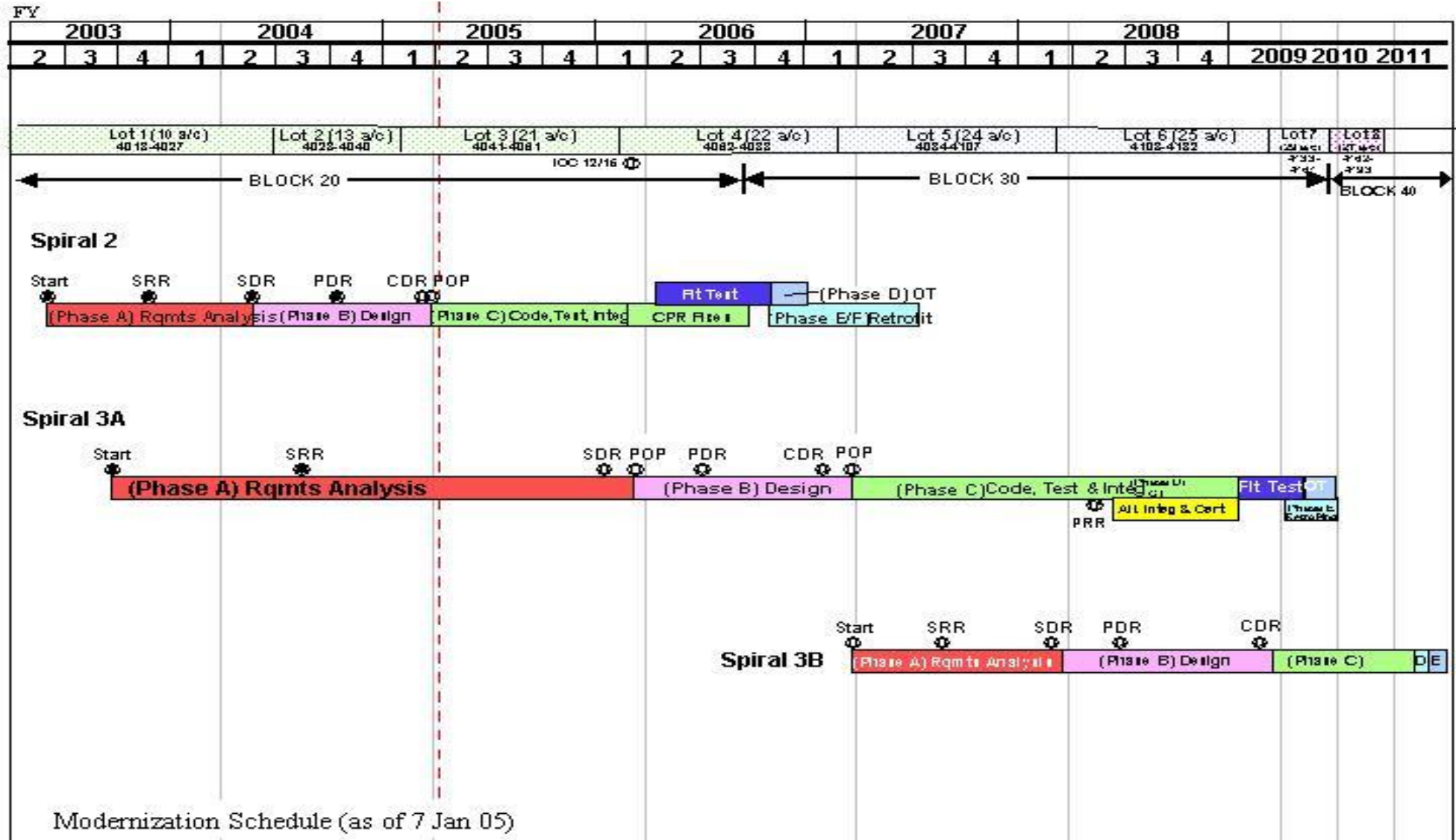
07 Operational System Development

PE NUMBER AND TITLE

0207138F F-22 SQUADRONS

PROJECT NUMBER AND TITLE

4785 F-22



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Exhibit R-4a, RDT&E Schedule Detail

DATE

February 2005

BUDGET ACTIVITY

07 Operational System Development

PE NUMBER AND TITLE

0207138F F-22 SQUADRONS

PROJECT NUMBER AND TITLE

4785 F-22

(U) **Schedule Profile**FY 2004FY 2005FY 2006FY 2007

(U) Completed Spiral 2 Phase A (Requirements Analysis)

2Q

(U) Initiate Spiral 2 Phase B (Design)

2Q

(U) -- Spiral 2 PDR

4Q

(U) -- Spiral 2 CDR

1Q

(U) Initiate Spiral 2 Phase C, D & E (Development, Integration & Test)

2Q

(U) Complete Spiral 3a Phase A (Requirements Analysis)

1Q

(U) -- Spiral 3a SRR

3Q

(U) -- Spiral 3a SDR

1Q

(U) Initiate Spiral 3a Phase B (Design)

1Q

(U) -- Spiral 3a PDR

3Q

(U) --Spiral 3a CDR

1Q

(U) Initiate Spiral 3b Phase A (Requirements Analysis)

2Q

(U) --Spiral 3b SRR

3Q

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Exhibit P-5, Weapon System Cost Analysis								Date: February 2005						
Appropriation (Treasury) Code/CC/BA/BSA/Item Control Number								P-1 Line Item Nomenclature						
Aircraft Procurement, Air Force, Budget Activity 01, Combat Aircraft, Item No. 02								F-22 (Raptor)						
Manufacturer's Name/Plant City/State Location					Subline Item									
Weapon System Cost Elements	Ident Code	Total Cost in Millions of Dollars												
		FY 2004			FY 2005			FY 2006			FY 2007			
		Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	
Airframes/CFE	A	22	91.393	2010.640	24	80.684	1936.422	24	77.935	1870.431	29	80.192	2325.564	
Engine Accessories (shipset)	A	22	20.816	457.941	24	19.958	478.999	24	19.597	470.339	29	20.361	590.483	
Avionics	A	22	29.037	638.815	24	26.449	634.777	24	25.171	604.098	29	24.354	706.267	
Nonrecurring Costs	A			333.712			211.848			236.674			236.842	
Modernization Support (PE27138F)										1.104			0.000	
FLYAWAY COST SUBTOTAL				3441.108			3262.046			3182.646			3859.156	
Less: Prior Year Adv Procurement	A			-459.199			-504.587			-494.280			-576.877	
Plus: Current Year Adv Procurement	A			504.587			494.281			576.877			540.000	
Other	A			25.433			26.327			26.837			27.078	
Production Support - Other (PSO)	A			98.338			130.942			117.920			148.990	
Performance-based Agile Logistics Support (PALS)	A			337.901			393.598			128.492			184.733	
Modernization Support (PE27138F)	A			33.145			28.604			0.000			0.000	
Engine Support	A			163.303			211.684			225.007			133.560	
Publications/Technical Data	A													
ECOs	A													
Production Line Shutdown	A												35.000	
SUPPORT COST SUBTOTAL				703.508			780.849			580.853			492.484	
TOTAL PROGRAM				4144.616			4042.895			3763.499			4351.640	
Comments														
<p>FY06 reflects the loss of 1 production aircraft since the FY05 President's Budget because of the determination to fund a replacement test aircraft in the RDT&E appropriation to support Modernization Flight Test. Funding has been realigned from the Aircraft Procurement appropriation (PE 27219F) to the RDT&E appropriation (PE 27138F) in FY06 through FY08. The Air Force has also submitted a reprogramming action for Congressional approval to realign \$20.9M in FY05 from Aircraft Procurement to the RDT&E appropriation to finance this test aircraft.</p> <p>Unit cost for the engine differs from the P-5A because the P-5 uses the aircraft 'shipset' quantity (2 engines) to determine unit cost and the P-5A uses the engine quantity (1 engine).</p> <p style="text-align: center;">1442A</p>														
P-1 Shopping List Item No. 02										Weapon System Cost Analysis Exhibit P-5, page 3 of 15				

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Exhibit P-5, Weapon System Cost Analysis		Date: February 2005
Appropriation (Treasury) Code/CC/BA/BSA/Item Control Number		P-1 Line Item Nomenclature
Aircraft Procurement, Air Force, Budget Activity 01, Combat Aircraft, Item No. 02		F-22 (Raptor)
<p>Modernization Support (PE27138F) includes activities such as laboratory infrastructure (FY04 and FY05) necessary to support the F/A-22 weapon system. This project is required as a bridge between the end of the EMD funding for this effort and the beginning of PALS contractor support in FY06. This effort under PALS only provides the baseline laboratory infrastructure and minimum essential laboratory staff manning of 40 hours per week to keep it operating. Individual projects will be required to provide funding for specific test and integration operations in the laboratories.</p>		
1442B		
P-1 Shopping List Item No. 02		Weapon System Cost Analysis Exhibit P-5, page 4 of 15

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Exhibit P-5A, Procurement History and Planning								Date: February 2005			
Appropriation (Treasury) Code/CC/BA/BSA/Item Control Number								P-1 Line Item Nomenclature			
Aircraft Procurement, Air Force, Budget Activity 01, Combat Aircraft, Item No. 02								F-22 (Raptor)			
<u>Weapon System</u>					Subline Item						
F-22											
WBS Cost Elements	Qty	Unit Cost	Location of PCO	RFP Issue Date	Contract Method	Contract Type	Contractor and Location	Award Date	Date of First Delivery	Specs Available Now?	Date Revision Available?
Lockheed Martin Corp	2	256.668	ASC/YF	Jan-98	SS	FFP	Lockheed Martin	Dec-98	Oct-02	Yes	
Lockheed Martin Corp	10	166.196	ASC/YF	May-99	SS	FFP	Lockheed Martin	Sep-01	Sep-03	Yes	
Lockheed Martin Corp	13	149.294	ASC/YF	Apr-00	SS	FFP	Lockheed Martin	Jan-02	Aug-04	Yes	
Lockheed Martin Corp	21	130.576	ASC/YF	Oct-01	SS	FFP	Lockheed Martin	Apr-03	May-05	Yes	
Lockheed Martin Corp	22	120.430	ASC/YF	Jul-02	SS	FFP	Lockheed Martin	Jun-04	Jan-06	Yes	
Lockheed Martin Corp	24	106.152	ASC/YF	Jul-03	SS	FFP	Lockheed Martin	May-05	Nov-06	Yes	
Lockheed Martin Corp	24	101.360	ASC/YF	Oct-05	SS	FFP	Lockheed Martin	Nov-06	Nov-07	Yes	
Lockheed Martin Corp	29	103.028	ASC/YF	Oct-06	SS	FFP	Lockheed Martin	Nov-07	Nov-08	Yes	
Pratt & Whitney	4	14.125	ASC/YF	Dec-97	SS	FFP	Pratt & Whitney	Dec-98	Feb-01	Yes	
Pratt & Whitney	20	10.853	ASC/YF	Jan-99	SS	FFP	Pratt & Whitney	Sep-01	Mar-02	Yes	
Pratt & Whitney	26	10.547	ASC/YF	May-00	SS	FFP	Pratt & Whitney	Jan-02	Mar-03	Yes	
Pratt & Whitney	42	10.630	ASC/YF	Nov-01	SS	FFP	Pratt & Whitney	Apr-03	Mar-04	Yes	
Pratt & Whitney	44	10.408	ASC/YF	Aug-02	SS	FFP	Pratt & Whitney	Jun-04	Jan-06	Yes	
Pratt & Whitney	48	10.470	ASC/YF	Aug-03	SS	FFP	Pratt & Whitney	Apr-05	Nov-07	Yes	
Pratt & Whitney	48	10.391	ASC/YF	Oct-05	SS	FFP	Pratt & Whitney	Apr-06	Mar-07	Yes	
Pratt & Whitney	58	10.910	ASC/YF	Oct-06	SS	FFP	Pratt & Whitney	Apr-07	Mar-08	Yes	
<u>Remarks</u>											
Unit cost for the engine differs from the P-5 because the P-5 uses the aircraft 'shipset' quantity (2 engines) to determine unit cost and the P-5A uses the engine quantity (1 engine).											
Unit cost is for flyaway costs, but does not include non-recurring cost.											
Specs are available, however, the technical data package is a 'deferred delivery' option and is currently maintained by the contractor.											
1442C											
P-1 Shopping List Item No. 02								Procurement History and Planning Exhibit P-5A, page 5 of 15			

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