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Exhibit R-2, RDT&E Budget Item Justification: PB 2020 Air Force										Date: February 2019		
Appropriation/Budget Activity 3600: Research, Development, Test & Evaluation, Air Force I BA 5: System Development & Demonstration (SDD)					R-1 Program Element (Number/Name) PE 0605223F I Advanced Pilot Training							
COST (\$ in Millions)	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	Cost To Complete	Total Cost
Total Program Element	17.565	82.628	245.465	348.473	0.000	348.473	263.883	197.878	119.573	34.106	3.817	1,313.388
655340: Advanced Trainer Replacement T-X	17.565	82.628	245.465	348.473	0.000	348.473	263.883	197.878	119.573	34.106	3.817	1,313.388
Quantity of RDT&E Articles	-	2	3	-	-	-	-	-	-	-		

Program MDAP/MAIS Code: 436

Note

Prior Years Funding \$4.994M was executed in PE 0604233F.

A. Mission Description and Budget Item Justification

The Advanced Pilot Training (APT) program will replace the Air Education Training Command's (AETC) aging T-38C fleet with new aircraft, Ground Based Training System (simulators, training devices, computer based training systems, academics, etc.), Maintenance Training System, and support infrastructure currently used in the fighter/bomber advanced Specialized Undergraduate Pilot Training track as well as in the Introduction to Fighter Fundamentals program. The APT program acquisition strategy was approved by OSD (AT&L) in early FY 2017 (December 2016). At the same time, the APT Team completed their Development Request for Proposal (RFP) Release Defense Acquisition Board and subsequently released the RFP to industry on 30 December 2016. The Program completed source selection evaluations and Milestone B in September 2018 and awarded a Fixed Price Incentive Firm Indefinite Delivery/Indefinite Quantity contract to The Boeing Company on 27 September 2018.

A Preliminary Design Review waiver was approved for the APT program by the Milestone Decision Authority (MDA) and a combined Preliminary Design Review/Critical Design Review is planned for 4th quarter FY 2019. An Independent Technical Risk Assessment (ITRA) policy waiver was also approved for the APT program by the MDA and the Air Force will re-evaluate the need for an ITRA prior to Milestone C decision based on applicable ITRA requirements in effect at that time.

Funding contained in this platform's documentation directly aids AETC flying training enterprise to continue its overall Future Years Defense Program pilot production increase starting in FY 2020, thus reducing the USAF Pilot Shortage.

The FY 2020 funding request was reduced by \$15 million to account for the availability of prior year execution balances.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver the APT weapon system capabilities. The use of such program funds would be in addition to the civilian pay expenses budgeted in program elements 0605826F, 0605827F, 0605828F, 0605829F, 0605830F, 0605831F, 0605832F, 0605898F, and 0605833F.

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As directed in the FY 2018 NDAA, Sec 825, amendment to PL 114-92 FY 2016 NDAA, Sec 828 Penalty for Cost Overruns, the FY 2018 Air Force penalty total is \$14.373M. The calculated percentage reduction to each research, development, test and evaluation and procurement account will be allocated proportionally from all programs, projects, or activities under such account.						
This program is in Budget Activity 5, System Development and Demonstration (SDD) because it has passed Milestone B approval and is conducting engineering and manufacturing development tasks aimed at meeting validated requirements prior to full rate production.						
B. Program Change Summary (\$ in Millions)		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Previous President's Budget		105.999	265.465	363.473	0.000	363.473
Current President's Budget		82.628	245.465	348.473	0.000	348.473
Total Adjustments		-23.371	-20.000	-15.000	0.000	-15.000
• Congressional General Reductions		0.000	0.000			
• Congressional Directed Reductions		-19.800	-20.000			
• Congressional Rescissions		0.000	0.000			
• Congressional Adds		0.000	0.000			
• Congressional Directed Transfers		0.000	0.000			
• Reprogrammings		-0.700	0.000			
• SBIR/STTR Transfer		-2.871	0.000			
• Other Adjustments		0.000	0.000	-15.000	0.000	-15.000
Change Summary Explanation						
FY18:						
Funds were reduced by a Congressional mark, -\$19.8M "Contract Award Delay"						
Funds were reprogrammed -\$0.700M, to T-6 (PE 0604233F) for On-Board Oxygen Generation System (OBOGS) Studies						
Funds were reduced -\$2.871M, for the SBIR Transfer						
FY19:						
Funds were reduced by a Congressional mark, -\$20M "Excess to Need"						
FY20:						
The FY 2020 funding request was reduced by \$15 million to account for the availability of prior year execution balances.						
C. Accomplishments/Planned Programs (\$ in Millions)				FY 2018	FY 2019	FY 2020
Title: Advanced Pilot Training (APT) Program				82.628	245.465	348.473

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C. Accomplishments/Planned Programs (\$ in Millions)										FY 2018	FY 2019	FY 2020
<p>Description: The Advanced Pilot Training program has an approved acquisition strategy, completed Milestone B, and has progressed into the Engineering and Manufacturing Development (EMD) phase. This effort includes studies, analysis, acquisition documentation, and market research activities to reduce risk and support the acquisition strategy and engineering and manufacturing development. It also includes Program Management Administration (PMA) such as travel, Other Government Costs (OGC), and Advisory and Assistance Services (A&AS).</p> <p>FY 2019 Plans: Program plans to conduct a combined Aircraft Preliminary Design Review (PDR) / Critical Design Review (CDR) and a Ground Based Training System (GBTS) PDR, initiate developmental test and evaluation activities, and complete the first operational assessment. Plans include procuring three EMD test articles. Plans also include PMA such as travel, OGC's, and A&AS.</p> <p>FY 2020 Plans: Program plans to conduct a GBTS CDR and continue developmental test and evaluation of the EMD test articles. The Maintenance Training System Request for Proposal may also be released. Plans also include PMA such as travel, OGC's, and A&AS.</p> <p>FY 2019 to FY 2020 Increase/Decrease Statement: Funding increase to support Post-Critical Design Review (CDR) development activities and continue test and integration throughout FY 2020 of the EMD test article(s).</p>												
Accomplishments/Planned Programs Subtotals										82.628	245.465	348.473
D. Other Program Funding Summary (\$ in Millions)												
Line Item	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	Cost To Complete	Total Cost	
• APAF 03 APT000: Advanced Trainer Replacement T-X	-	-	-	-	-	-	299.090	279.134	384.686	6,466.135	7,429.045	
• APAF 06 APT000: Advanced Trainer Replacement T-X	-	-	-	-	-	-	29.908	28.537	37.813	546.826	643.084	
• APAF 07 75: Other Production Charges	-	-	-	-	-	-	-	21.415	70.664	0.000	92.079	
• OPAF 04 845010: BASE PROCURED EQUIPMENT	-	-	-	-	-	0.300	4.600	4.200	3.400	19.000	31.500	

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D. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	Cost To Complete	Total Cost
• MILCON 0804701F: T-X (Advanced Pilot Trainer) Procurement	-	-	31.600	-	31.600	15.500	0.000	51.200	15.619	88.900	202.819
Remarks											
E. Acquisition Strategy											
This Advanced Pilot Training (APT) Program will develop, test, acquire, and sustain an affordable, agile, and integrated APT System consisting of 351 aircraft, Ground Based Training System, Maintenance Training System, support, infrastructure, and personnel to meet Air Education and Training Command's initial need date of FY 2024.											
The APT program's acquisition strategy leveraged market conditions by competing and awarding development, production, and initial sustainment in a single contract award. The program completed source selection evaluations and Milestone B in September 2018 and awarded a Fixed Price Incentive Firm Indefinite Delivery/Indefinite Quantity contract to The Boeing Company on 27 September 2018 to provide for development, integration, and testing needed to meet existing APT requirements. Additional contract options are available for Low Rate Initial Production, Full Rate Production and initial sustainment transition. The Maintenance Training System will be procured under a separate contractual vehicle.											
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 2020 Air Force												Date: February 2019			
Appropriation/Budget Activity 3600 / 5						R-1 Program Element (Number/Name) PE 0605223F / Advanced Pilot Training				Project (Number/Name) 655340 / Advanced Trainer Replacement T-X					
Product Development (\$ in Millions)				FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Advanced Pilot Training Contracts	Various	Various : TBD	0.000	75.939	Sep 2018	223.539	Nov 2018	317.600	Nov 2019	-		317.600	500.016	1,117.094	1,117.094
Subtotal			0.000	75.939		223.539		317.600		-		317.600	500.016	1,117.094	N/A
Support (\$ in Millions)				FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Advanced Pilot Training Studies and Analysis	Various	Various : Various	2.799	0.060		3.313	Jan 2019	3.547	Mar 2020	-		3.547	13.889	23.608	-
Subtotal			2.799	0.060		3.313		3.547		-		3.547	13.889	23.608	N/A
Test and Evaluation (\$ in Millions)				FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Advanced Pilot Training Test Support	Various	Edwards AFB : Edwards AFB, CA	0.442	0.855	Jul 2018	7.100	Jan 2019	15.000	Nov 2019	-		15.000	65.300	88.697	-
Subtotal			0.442	0.855		7.100		15.000		-		15.000	65.300	88.697	N/A
Management Services (\$ in Millions)				FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Advanced Pilot Training PMA Other Government Costs	Various	AFLCMC : Dayton, OH	2.482	2.380	Oct 2017	3.333	Oct 2018	3.567	Oct 2019	-		3.567	13.970	25.732	-
Advanced Pilot Training A&AS	Various	AFLCMC : Dayton, OH	11.842	3.394	Mar 2018	8.180	Mar 2019	8.759	Mar 2020	-		8.759	34.297	66.472	-
Subtotal			14.324	5.774		11.513		12.326		-		12.326	48.267	92.204	N/A

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Appropriation/Budget Activity 3600 / 5					R-1 Program Element (Number/Name) PE 0605223F / Advanced Pilot Training				Project (Number/Name) 655340 / Advanced Trainer Replacement T-X				
	Prior Years	FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	17.565	82.628		245.465		348.473		-		348.473	627.472	1,321.603	N/A
Remarks													
Prior years amounts under Program 0604233F, Specialized Undergraduate Flight Training. Advanced Pilot Training Studies and Analysis: \$0.935M Advanced Pilot Training PMA Government Costs: \$1.383M Advanced Pilot Training A&AS: \$2.676M													
FINANCIAL PERFORMANCE: APT is evaluated against traditional Research and Development (R&D) program expenditure benchmarks. Unlike many traditional R&D programs, however, the APT EMD contract is a FPIF contract with progress payments. Twenty percent of incurred costs are withheld until the end of the contract, when they are liquidated. Mandatory funding obligations and progress payment withholds will cause the program to lag traditional expenditure benchmarks, painting an inaccurate portrait of overall program health.													

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Exhibit R-4, RDT&E Schedule Profile: PB 2020 Air Force			Date: February 2019		
Appropriation/Budget Activity 3600 / 5		R-1 Program Element (Number/Name) PE 0605223F / <i>Advanced Pilot Training</i>			Project (Number/Name) 655340 / <i>Advanced Trainer Replacement T-X</i>

	FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Advanced Pilot Training																												
Source Selection																												
Milestone B																												
Engineering and Manufacturing Development (EMD) Phase																												
Aircraft Preliminary Design Review (PDR)																												
Aircraft Critical Design Review (CDR)																												
Ground Based Training Simulator (GBTS) Preliminary Design Review (PDR)																												
Ground Based Training Simulator (GBTS) Critical Design Review (CDR)																												
Development, Test and Evaluation																												
Milestone C																												
Operational Test Readiness Review (OTRR)																												
Initial Operational Test & Evaluation (IOT&E)																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2020 Air Force			Date: February 2019
Appropriation/Budget Activity 3600 / 5	R-1 Program Element (Number/Name) PE 0605223F / <i>Advanced Pilot Training</i>	Project (Number/Name) 655340 / <i>Advanced Trainer Replacement T-X</i>	

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Advanced Pilot Training</i>				
Source Selection	1	2018	4	2018
Milestone B	4	2018	4	2018
Engineering and Manufacturing Development (EMD) Phase	4	2018	3	2022
Aircraft Preliminary Design Review (PDR)	4	2019	4	2019
Aircraft Critical Design Review (CDR)	4	2019	4	2019
Ground Based Training Simulator (GBTS) Preliminary Design Review (PDR)	3	2019	3	2019
Ground Based Training Simulator (GBTS) Critical Design Review (CDR)	1	2020	1	2020
Development, Test and Evaluation	3	2019	2	2022
Milestone C	3	2022	3	2022
Operational Test Readiness Review (OTRR)	2	2023	3	2023
Initial Operational Test & Evaluation (IOT&E)	3	2023	2	2024