

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2023 Air Force **Date:** April 2022

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 5: System Development & Demonstration (SDD)</i>	R-1 Program Element (Number/Name) PE 0605223F / <i>Advanced Pilot Training</i>
---	--

COST (\$ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
Total Program Element	665.422	216.765	188.898	37.121	0.000	37.121	70.043	61.298	28.430	5.204	20.000	1,293.181
655340: <i>Advanced Trainer Replacement T-X</i>	665.422	216.765	188.898	37.121	0.000	37.121	70.043	61.298	28.430	5.204	20.000	1,293.181
Quantity of RDT&E Articles	5	-	-	-	-	-	-	-	-	-	-	-

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 (FPIF) Indefinite Delivery/Indefinite Quantity contract to The Boeing Company on 27 September 2018.

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.

This requirement supports performance of a full financial audit as required by title 10 U.S.C. Chapter 9A, Sec 240-D

This program element may include necessary civilian pay expenses required to manage, execute, and deliver Advanced Pilot Training system capability. The use of such programs funds would be in addition to the civilian pay expenses budgeted in program element 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, 0606398F. In FY 2021 \$1.068 million was expended for civilian pay expenses in this program element, and in FY 2022 \$1.567 million is forecasted for civilian pay expenses in this program element.

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.

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2023 Air Force	Date: April 2022
--	-------------------------

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 5: System Development & Demonstration (SDD)</i>	R-1 Program Element (Number/Name) PE 0605223F / <i>Advanced Pilot Training</i>
---	--

B. Program Change Summary (\$ in Millions)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Previous President's Budget	248.216	188.898	0.000	0.000	0.000
Current President's Budget	216.765	188.898	37.121	0.000	37.121
Total Adjustments	-31.451	0.000	37.121	0.000	37.121
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	-22.940	0.000			
• SBIR/STTR Transfer	-8.511	0.000			
• Other Adjustments	0.000	0.000	37.121	0.000	37.121

Change Summary Explanation

FY 2021 funding was reduced by a total of \$31.451 million which included a \$22.940 million reprogramming action for higher Air Force priorities and \$8.511 million for Small Business Innovation Research.

The FY 2022 President's Budget submittal did not reflect FY 2023 through FY 2026 funding. Therefore, an explanation of the change between the two budget positions for FY 2023 cannot be made in a relevant manner.

C. Accomplishments/Planned Programs (\$ in Millions)	FY 2021	FY 2022	FY 2023
Title: Advanced Pilot Training (APT) Program	216.765	188.898	37.121
Description: The Advanced Pilot Training (APT) program has an approved acquisition strategy, completed Milestone B, and has progressed into the Engineering and Manufacturing Development (EMD) phase. In FY20, the APT program concluded the Critical Design Review for the Aircraft and Ground Based Training System. 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 Support Costs (PSC) such as travel, Other Government Costs (OGC), and Advisory and Assistance Services (A&AS).			
FY 2022 Plans: Program plans to continue developmental test & evaluation, accept delivery of three engineering manufacturing test aircrafts and multiple ground training devices. Plans also include PSC such as travel, OGC's and A&AS.			
FY 2023 Plans:			

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2023 Air Force	Date: April 2022
--	-------------------------

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 5: System Development & Demonstration (SDD)</i>	R-1 Program Element (Number/Name) PE 0605223F / <i>Advanced Pilot Training</i>
---	--

C. Accomplishments/Planned Programs (\$ in Millions)	FY 2021	FY 2022	FY 2023
Program plans to continue developmental test & evaluation, accept delivery of two engineering manufacturing test aircrafts and multiple ground training devices. Plans also include PSC such as travel, OGC's and A&AS.			
<i>FY 2022 to FY 2023 Increase/Decrease Statement:</i> Funding decreased due to a ramp down in engineering and development activities.			
Accomplishments/Planned Programs Subtotals	216.765	188.898	37.121

D. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
• APAF 03 Line Item APT000: <i>Advanced Trainer Replacement T-X</i>	0.000	0.000	10.507	-	10.507	321.959	489.174	557.987	892.180	5,276.331	7,548.138
• APAF 06 Line Item APT000: <i>Advanced Trainer Replacement T-X</i>	0.000	0.000	0.000	-	0.000	29.330	38.329	38.219	56.126	362.684	524.688
• APAF 07 Line Item 000075: <i>Other Production Charges</i>	0.000	0.000	5.160	-	5.160	62.732	72.295	73.835	123.636	21.214	358.872
• OPAF 03 Line Item 837300: <i>Base Comm Infrastructure</i>	0.000	0.000	0.700	-	0.700	5.375	5.708	5.438	11.400	0.000	28.621
• OPAF 04 845010: <i>Base Procured Equipment</i>	0.300	0.000	0.000	0.000	0.000	3.691	3.161	7.106	3.129	1.000	18.387
• MILCON PE 0804701F: <i>T-X (Advanced Pilot Trainer) Procurement</i>	23.400	18.590	4.938	-	4.938	214.529	69.344	38.497	39.570	61.608	470.476

Remarks
Total MILCON Cost Excludes \$31.600M of FY20 MILCON funds. MILCON Total Cost=\$502.076M

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.

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2023 Air Force **Date:** April 2022

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 5: System Development & Demonstration (SDD)</i>	R-1 Program Element (Number/Name) PE 0605223F / <i>Advanced Pilot Training</i>
---	--

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.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Air Force												Date: April 2022			
Appropriation/Budget Activity				R-1 Program Element (Number/Name)				Project (Number/Name)							
3600 / 5				PE 0605223F / Advanced Pilot Training				655340 / Advanced Trainer Replacement T-X							
Product Development (\$ in Millions)				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 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	598.896	193.206	Nov 2020	156.035	Nov 2021	0.328	Nov 2022	-		0.328	116.325	1,064.790	1,064.790
Subtotal			598.896	193.206		156.035		0.328		-		0.328	116.325	1,064.790	N/A
Support (\$ in Millions)				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 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 Mission Support	Various	Various : Various	9.640	5.141	Jun 2021	5.375	Feb 2022	3.549	Feb 2023	-		3.549	3.559	27.264	-
Advanced Pilot Training Direct Cite Authority Civilian Pay	Various	AFLCMC : Dayton, OH	1.319	1.068	Oct 2020	1.567	Oct 2021	1.598	Oct 2022	-		1.598	1.630	7.182	-
Subtotal			10.959	6.209		6.942		5.147		-		5.147	5.189	34.446	N/A
Test and Evaluation (\$ in Millions)				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 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	20.126	4.815	Jan 2021	10.751	Jan 2022	19.350	Jan 2023	-		19.350	57.973	113.015	-
Subtotal			20.126	4.815		10.751		19.350		-		19.350	57.973	113.015	N/A
Management Services (\$ in Millions)				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 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 A&AS	Various	AFLCMC : Dayton, OH	21.286	7.261	Mar 2021	8.234	Mar 2022	7.000	Mar 2023	-		7.000	3.375	47.156	-

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Air Force											Date: April 2022				
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>							

Management Services (\$ in Millions)				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Advanced Pilot Training PSC, Other Government Costs	Various	AFLCMC : Dayton, OH	14.155	5.274	Oct 2020	6.936	Oct 2021	5.296	Oct 2022	-		5.296	2.113	33.774	-
Subtotal			35.441	12.535		15.170		12.296		-		12.296	5.488	80.930	N/A
Project Cost Totals			665.422	216.765		188.898		37.121		-		37.121	184.975	1,293.181	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. Ten 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.

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Air Force		Date: April 2022
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 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027			
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	
Engineering and Manufacturing Development (EMD) Phase	
Development, Test and Evaluation	
Milestone C	
Operational Test Readiness Review (OTRR)	
Initial Operational Test & Evaluation (IOT&E)	
Maintenance Training System Development	
Full Rate Production Decision (FRPD)	
Initial Operational Capability (IOC)	
Aircraft / Ground Based Training System (GBTS) Production	

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2023 Air Force		Date: April 2022
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>				
Engineering and Manufacturing Development (EMD) Phase	1	2021	1	2024
Development, Test and Evaluation	1	2021	4	2023
Milestone C	1	2024	1	2024
Operational Test Readiness Review (OTRR)	2	2024	2	2024
Initial Operational Test & Evaluation (IOT&E)	3	2024	1	2025
Maintenance Training System Development	2	2024	4	2025
Full Rate Production Decision (FRPD)	4	2025	4	2025
Initial Operational Capability (IOC)	1	2026	1	2026
Aircraft / Ground Based Training System (GBTS) Production	1	2024	4	2027