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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 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0207418F / AFSPECWAR - TACP
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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	-	0.497	4.598	5.982	0.000	5.982	4.120	4.196	4.286	4.382	Continuing	Continuing
675234: <i>TACP Support</i>	-	0.497	4.598	5.982	0.000	5.982	4.120	4.196	4.286	4.382	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

a. The Joint Terminal Control Training and Rehearsal (JTC TRS) Program, under the Tactical Airborne Control System, funds development necessary to provide a Distributed Mission Operations (DMO) capable, high-fidelity simulator for Battlefield Airmen, to include Joint Terminal Attack Controller (JTAC) operations, Special Tactics Combat Control Team (CCT), and Air Support Operations Center (ASOC) operations.

JTC TRS is essential to provide initial training, mission qualification training, continuation training, and currency control requirements to JTACs and Special Tactics personnel. JTAC control training requirements exceed the ability of live-fly aircraft to meet, and JTC TRS is the only capability enabling JTACs to achieve and maintain minimum required training for both qualification and proficiency in accordance with the U.S and Partner Nation Memorandum of Agreement for JTAC certification and qualification.

The JTC TRS Program provides research and development to facilitate interoperability with joint and sister Service air-ground simulation using industry standards. JTC TRS will provide the capability to network aircrew full mission trainers and training centers in a live-virtual-constructive network. This development effort will also integrate ASOCs with the Joint Theater Air Ground Simulation System (JTAGSS) trainer for Joint Fires integration. The simulator will supplement live field training and live-fly sorties to provide realistic introductory, proficiency, currency, and upgrade training in a simulated battlefield, disaster, or humanitarian relief environment. FY23 funds are required to complete development of PRC 161 and PRC 163 concurrency & integration of Army C2 and Fire Support Systems into JTAGSS.

b. JTAGSS is a continuation of the ASOC simulation trainer initially funded in 2009 and complements the JTC TRS trainer by providing a total air-ground constructive simulation environment for integrated networked training and mission rehearsal capability that will develop JTAC/CCT and ASOC/Special Operations Forces (SOF) Command and Control (C2) battle staff skills. JTAGSS will provide the ASOC, SOF, and TACP (Tactical Air Control Party) with the vertical and horizontal C2 communications and coordination training and mission rehearsal required for mission effectiveness. There are insufficient exercises and live training events available to meet mandated readiness requirements. The system will include a secure network connection, a constructive simulation environment generator with sharable databases, computer work stations that have synthetic reflex agent applications for each ASOC/SOF crew position to execute the air tasking order.

Funds may be used to address emerging and short-notice Diminishing Manufacturing and Material Shortage (DMSMS) issues. DMS efforts to include removal of end-of-life software/hardware within simulators systems and move to a modular, common open system architecture that is sustainable and cyber-resilient. Implement requirements and standards defined under the Simulator Common Architecture Requirements and Standards (SCARS) initiative. This program element may include necessary civilian pay expenses required to manage, execute, and deliver the JTC TRS weapon system capability.

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This program element may include necessary emergent or unanticipated civilian pay expenses required to manage, execute, and deliver JTC TRS weapon system capability until permanent manpower authorizations are funded. The use of such program funds would be in addition to the civilian pay expenses budgeted in program elements 0605826F.

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

B. Program Change Summary (\$ in Millions)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Previous President's Budget	4.215	4.598	0.000	0.000	0.000
Current President's Budget	0.497	4.598	5.982	0.000	5.982
Total Adjustments	-3.718	0.000	5.982	0.000	5.982
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	-3.718	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	0.000	0.000	5.982	0.000	5.982

Change Summary Explanation

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 FY2023 cannot be made in a relevant manner.

C. Accomplishments/Planned Programs (\$ in Millions)	FY 2021	FY 2022	FY 2023
Title: JTC TRS Trainer Development	0.497	4.598	5.982
Description: Development and test of Engineering Change Proposals (ECPs) for TACP-Close Air Support System (CASS).			
FY 2022 Plans: FY 22 plans are to use the funds to integrate Digitally Aided Close Air Support (DA CAS) tools into the JTC-TRS simulator for realistic training.			
FY 2023 Plans: FY23 funds are required to complete development of PRC 161 and PRC 163 concurrency & integration of Army C2 and Fire Support Systems into JTAGSS.			
FY 2022 to FY 2023 Increase/Decrease Statement:			

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C. Accomplishments/Planned Programs (\$ in Millions)	FY 2021	FY 2022	FY 2023
The increase is due to a reimbursement from FY 20 cuts. It is needed because the JTAGGS that used to fall under AFRL now falls under AFLCMC purview along with the JTC-TRS program. These funds will be used to transition the JTAGGS to integrate with the Joint Air-Ground Center (JAGIC) construct.			
Accomplishments/Planned Programs Subtotals	0.497	4.598	5.982

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
• OPAF 03 Line Item 837100: <i>Tactical C-E Equipment</i>	3.939	4.009	2.876	-	2.876	3.475	3.540	-	-	Continuing	Continuing

Remarks

E. Acquisition Strategy

a. The JTC TRS acquisition has provided full capability as defined in the CPD. A Full and Open competitive source selection was conducted and resulted in the award of a single contract to produce and sustain the JTC TRS family of systems. The contract includes pre-priced production options for additional JTC TRS production; Emulated Military Equipment (EME) program management; cybersecurity support, Contractor Logistic Support (CLS), Training System Support Center (TSSC) for both JTC TRS and JTAGSS devices; training; and device relocation. The contract structure allows for maintaining concurrency, fidelity and connectivity; implementing system improvements/technical refresh; and other modifications as required. JTC TRS awarded the competitive contract in June 2021.

b. The acquisition strategy for the JTAGSS trainer will be to field advance technology demonstration units to continue to perform proof of concept and technology validation of mission simulations for all ASOC crew positions including detailed communications planning, asset deconfliction, integration of joint fires, and other critical mission areas required for integrated TACP/ASOC C2 mission success. At the completion of the technology validation, a contract will be competitively awarded to complete JTAGSS development, deployment and integration. Current software is Government or Commercial Off-the-Shelf technologies (GOTS/COTS) allowing almost any training technology development company to compete, which lowers technical risk, schedule risk, and cost.

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

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207418F / AFSPECWAR - TACP	Project (Number/Name) 675234 / TACP Support
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Product Development (\$ 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			
JTC TRS Trainer Development	C/FFP	AFLCMC/WNS, AFMC : Wright Patterson AFB, OH	-	0.497	Dec 2020	4.598		5.982		-		5.982	Continuing	Continuing	-
JTAGSS Development	C/CPFF	AFRL, AFMC : Wright Patterson AFB, OH	-	-		-		-		-		-	Continuing	Continuing	-
Subtotal			-	0.497		4.598		5.982		-		5.982	Continuing	Continuing	N/A

Remarks
 JTC TRS 2.0
 - Adds Air Traffic Control and Assault Zone operations for Special Operations Special Tactics personnel and TACP-CASS.

JTAGSS 2.0. This effort: a) Will increase the autonomous functionality and capability using reflex agents; b) improve internal ASOC crew capacity with increased voice recognition capabilities; c) make the JTAGSS system DMO ready and capable; and d) provide joint and coalition full mission rehearsal capability.
 -ASOC/JTAGSS Metric Development.
 -Scenario Authoring Tool.
 -Distributed Mission Operations Ready
 -Internal Reflex Agent Research and Development.
 -Instructor Operator Station.
 -After Action Review.
 -JTAGSS Documentation and Rapid Transition Documentation.

	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	0.497	4.598	5.982	-	5.982	Continuing	Continuing	N/A

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2023 Air Force **Date:** April 2022

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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

<i>JTC TRS Trainer Development</i>	
Develop and Test TACP Engineering Change Proposals	

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Exhibit R-4A, RDT&E Schedule Details: PB 2023 Air Force		Date: April 2022
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207418F / AFSPECWAR - TACP	Project (Number/Name) 675234 / TACP Support

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>JTC TRS Trainer Development</i>				
Develop and Test TACP Engineering Change Proposals	1	2021	4	2027