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**Exhibit R-2, RDT&E Budget Item Justification:** PB 2021 Air Force **Date:** February 2020

<b>Appropriation/Budget Activity</b> 3600: <i>Research, Development, Test &amp; Evaluation, Air Force I BA 7: Operational Systems Development</i>	<b>R-1 Program Element (Number/Name)</b> PE 0207247F / AF TENCAP
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COST (\$ in Millions)	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	Cost To Complete	Total Cost
Total Program Element	-	0.000	21.365	21.644	0.000	21.644	22.100	22.495	22.897	23.318	Continuing	Continuing
670001: <i>Air Force TENCAP</i>	-	0.000	21.365	21.644	0.000	21.644	22.100	22.495	22.897	23.318	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

**Note**

In FY2020, PE 1202247F, Air Force TENCAP efforts were transferred to PE 0207247F, Air Force TENCAP, in order to return program to the Major Force Program for General Purpose Forces.

**A. Mission Description and Budget Item Justification**

Air Force TENCAP increases warfighter effectiveness through the exploitation of national capabilities and promotes cross-domain integration of these capabilities into military operations/training and intelligence, surveillance and reconnaissance (ISR) activities.

AF TENCAP exploits existing air, space, cyber, national and global ISR, and Non-Traditional ISR (NTISR) for operational and tactical applications by rapidly prototyping and providing capability demonstrations. Projects are designed to transition to warfighters or national intelligence agencies for operational use, and to appropriate acquisition Programs of Record for sustainment and further development. AF TENCAP projects influence the design and operation of current and future air, space, cyber, national and global ISR, and NTISR systems while providing situational awareness to warfighters, national intelligence agency organizations, and units. AF TENCAP projects will begin an evolution to demonstrate prototype capabilities to accelerate multi-domain awareness data ingestion for Thresher Air/Maritime in a single common operational picture.

The program consists of multiple small projects supporting one of the Air Force Core Function Mission Areas (CFMAs). Projects are executed to provide continued support to Special Operations Forces and the warfighter, with impacts at the national, operational, and tactical levels.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver AF TENCAP capability. The use of such program funds would be in addition to the civilian pay expenses budgeted in program element 0605831F.

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.

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<b>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2019</b>	<b>FY 2020</b>	<b>FY 2021 Base</b>	<b>FY 2021 OCO</b>	<b>FY 2021 Total</b>
Previous President's Budget	0.000	21.365	21.683	0.000	21.683
Current President's Budget	0.000	21.365	21.644	0.000	21.644
Total Adjustments	0.000	0.000	-0.039	0.000	-0.039
• 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	0.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	0.000	0.000	-0.039	0.000	-0.039

<b>C. Accomplishments/Planned Programs (\$ in Millions)</b>	<b>FY 2019</b>	<b>FY 2020</b>	<b>FY 2021 Base</b>	<b>FY 2021 OCO</b>	<b>FY 2021 Total</b>
<b>Title:</b> Exploitation Applications	0.000	16.062	15.551	0.000	15.551
<b>Description:</b> Exploiting existing air, space, cyber, national and global ISR, and Non-Traditional ISR (NTISR) for operational and tactical applications by rapidly prototyping and demonstrating capabilities. Activities also influence the design and operation of future space, cyber, national and global ISR, and NTISR systems for tactical users.					
<b>FY 2020 Plans:</b>					
- Rapidly prototype projects and focus warfighter support and resource allocation based on AF TENCAP mission/investment areas					
- Execute projects which provide continued support to Special Operations Forces and the warfighter, with impacts at the national, operational, and tactical levels					
- Focus effort to increase Air Domain Awareness to Air Force and Joint Warfighters					
<b>FY 2021 Base Plans:</b>					
- Will continue to rapidly prototype projects and focus warfighter support and resource allocation based on AF TENCAP mission/investment areas					

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<b>C. Accomplishments/Planned Programs (\$ in Millions)</b>	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
<p>- Will continue to execute projects which provide continued support to Special Operations Forces and the warfighter, with impacts at the national, operational, and tactical levels</p> <p>- Will continue focused effort to increase Air Domain Awareness to Air Force and Joint Warfighters</p> <p><b>FY 2021 OCO Plans:</b> N/A</p> <p><b>FY 2020 to FY 2021 Increase/Decrease Statement:</b> Decrease due to project completions.</p>					
<p><b>Title:</b> Talon Omnia</p> <p><b>Description:</b> Talon OMNIA will integrate all domain pictures in a single interface and demonstrate a prototype of capabilities.</p> <p><b>FY 2020 Plans:</b></p> <ul style="list-style-type: none"> <li>- Talon OMNIA accelerates existing multi-domain ingestion with the threshold to show Thresher Maritime/Thresher Air in a single common operational picture</li> <li>- Performs multi-domain data ingest of land and space to include discovery and identification of land track data capable of near/mid-term ingestion into a test environment to explore fusion of blue force tracker (BFT) and moving target indicator data</li> <li>- Will demonstrate remotely piloted aircraft control and data link health and status from over head</li> </ul> <p><b>FY 2021 Base Plans:</b> Talon OMNIA will continue to accelerate existing multi-domain ingestion with the threshold to show Thresher Maritime/Thresher Air in a single common operational picture</p> <ul style="list-style-type: none"> <li>- Will continue perform multi-domain data ingest of land and space to include discovery and identification of land track data capable of near/mid-term ingestion into a test environment to explore fusion of blue force tracker (BFT) and moving target indicator data</li> </ul>	0.000	5.303	2.600	0.000	2.600

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**C. Accomplishments/Planned Programs (\$ in Millions)**

	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
- Will continue demonstrate remotely piloted aircraft control and data link health and status from over head					
<b>FY 2021 OCO Plans:</b> N/A					
<b>FY 2020 to FY 2021 Increase/Decrease Statement:</b> Decrease due to project completions.					
<b>Title:</b> Talon TACET AVIS	-	0.000	3.493	-	3.493
<b>Description:</b> Talon TACET AVIS is an effort to develop a Wide-band Beyond Line of Sight communication capability for 5th Generation platform. Delivered prototype with advance the technology to enable exchange of sensor data outside the tactical network					
<b>FY 2020 Plans:</b> N/A					
<b>FY 2021 Base Plans:</b> - Will Design prototype 5th generation aircraft representative Beyond Line of Sight Antenna technology					
- Will Support integration of a multi-beam electronically scanned array antenna design capable of connecting to 5th generation tactical platforms with national assets and increase technology readiness levels					
<b>FY 2020 to FY 2021 Increase/Decrease Statement:</b> Increase for Talon TACET AVIS program kick off and increased development activities.					
<b>Accomplishments/Planned Programs Subtotals</b>	0.000	21.365	21.644	0.000	21.644

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

<u>Line Item</u>	<u>FY 2019</u>	<u>FY 2020</u>	<u>FY 2021 Base</u>	<u>FY 2021 OCO</u>	<u>FY 2021 Total</u>	<u>FY 2022</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• RDTE 07 1202247F: AF TENCAP	31.986	0.000	0.000	-	0.000	0.000	0.000	0.000	-	Continuing	Continuing
<b>Remarks</b> N/A											

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<b>E. Acquisition Strategy</b> Projects are selected based upon needs identified by the program's customers - DOD Departments, Combatant Commands, Components, MAJCOMs, and/or National Intelligence Agencies. Many projects are executed via existing contracts maintained by other agencies; others are executed via AF TENCAP contracts established with vendors responding to annual Broad Agency Announcements. The U.S. Government organization sponsoring a project is responsible for assuming acquisition, deployment, logistics, sustainment and budgetary responsibilities for the developed capability after it has been successfully demonstrated by AF TENCAP.  AF TENCAP projects typically use an incremental acquisition strategy. AF TENCAP utilizes a disciplined systems engineering approach that allows program teams to solve problems through a series of segments. Each increment has to be successful to pursue the following segment which mitigates cost and schedule risk.  Contracts funded in this program element will be awarded using competitive procedures to the maximum extent possible.		





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**Exhibit R-4A, RDT&E Schedule Details:** PB 2021 Air Force **Date:** February 2020

<b>Appropriation/Budget Activity</b> 3600 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0207247F / AF TENCAP	<b>Project (Number/Name)</b> 670001 / Air Force TENCAP
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Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b>AF TENCAP Projects</b>				
FY 2020 Exploitation Applications Developed, Evaluated, and Released	1	2020	3	2021
FY 2021 Exploitation Applications Developed, Evaluated, and Released	1	2021	3	2022
FY 2022 Exploitation Applications Developed, Evaluated, and Released	1	2022	3	2023
FY 2023 Exploitation Applications Developed, Evaluated, and Released	1	2023	3	2024
FY 2024 Exploitation Applications Developed, Evaluated, and Released	1	2024	4	2024
FY2025 Exploitation Applications Developed, Evaluated, and Released	1	2025	4	2025
Talon OMNIA System Design/Software Development	1	2020	3	2020
Talon OMNIA Testing/Operational Utility Assessment	2	2020	3	2021
Talon TACET AVIS	1	2021	3	2022

**Note**

Most project selection activities occur approximately per the timelines shown, but some projects are initiated on a rolling basis throughout each year in response to time-sensitive operational requirements.