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**Exhibit R-2, RDT&E Budget Item Justification:** PB 2019 Air Force **Date:** February 2018

<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 1202247F / AF TENCAP
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COST (\$ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
Total Program Element	-	28.412	31.914	26.986	5.000	31.986	21.365	21.683	22.134	22.536	Continuing	Continuing
670001: <i>Air Force TENCAP</i>	-	28.412	31.914	26.986	5.000	31.986	21.365	21.683	22.134	22.536	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

**Note**

In FY2018, PE 0207247F, AF TENCAP efforts were transferred to PE 1202247F, AF TENCAP, due to the creation of a new Major Force Program for Space. FY2017 funding is now documented in the exhibits for PE 1202247F.

**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, 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 and/or national intelligence agencies for operational use, sustainment and appropriate acquisition Programs of Record for further development. AF TENCAP projects can influence the design and operation of current and future air, space, cyber, national and global ISR and NTISR while providing situational awareness to warfighters, national intelligence agency organizations and units.

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 the National Warfighter, operational and Tactical Warfighter, and to Special Operations Forces.

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 elements 0605826F, 0605827F, 0605828F, 0605829F, 0605830F, 0605831F, 0605832F, and 0605898F.

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

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<b>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019 Base</b>	<b>FY 2019 OCO</b>	<b>FY 2019 Total</b>
Previous President's Budget	28.413	31.914	27.189	0.000	27.189
Current President's Budget	28.412	31.914	26.986	5.000	31.986
Total Adjustments	-0.001	0.000	-0.203	5.000	4.797
• 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	-0.001	0.000	-0.203	5.000	4.797

<b>C. Accomplishments/Planned Programs (\$ in Millions)</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019 Base</b>	<b>FY 2019 OCO</b>	<b>FY 2019 Total</b>
<b>Title:</b> Exploitation Applications	21.004	22.914	21.189	5.000	26.189
<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, demonstrating capability, and influencing the design and operation of future space, cyber, national and global ISR, and NTISR systems for tactical users.					
<b>FY 2018 Plans:</b>					
- Continue to rapidly prototype projects and focus warfighter support and resource allocation based on AF TENCAP mission/investment areas as a reflection of Air Force CFMAs					
- Continue to execute projects which provide continued support to the National Warfighter, Operational and Tactical Warfighter, and Special Operations Forces					
- Continue to execute focused effort to increase Air Domain Awareness to Air Force and Joint Warfighters.					
<b>FY 2019 Base Plans:</b>					
- Will continue to rapidly prototype projects and focus warfighter support and resource allocation based on AF TENCAP mission/investment areas as a reflection of Air Force CFMAs					
- Will continue to execute projects which provide continued support to the National Warfighter, Operational and Tactical Warfighter, and Special Operations Forces					

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

	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
- Will continue focused effort to increase Air Domain Awareness to Air Force and Joint Warfighters. <b>FY 2019 OCO Plans:</b> - Will complete development and test of counter-unmanned aerial system prototype. <b>FY 2018 to FY 2019 Increase/Decrease Statement:</b> - Decrease reflects reduced funding profile for ongoing Air Domain Awareness effort.					
<b>Title:</b> Talon HATE <b>Description:</b> Talon HATE is a technology prototype to evaluate the military utility of a next-generation capability for the F-15C providing multi-domain information to tactical users. Talon HATE will provide a multi-domain environment for enhanced capability to the warfighter.  <b>FY 2018 Plans:</b> N/A <b>FY 2019 Base Plans:</b> N/A. <b>FY 2019 OCO Plans:</b> N/A	6.408	0.000	0.000	0.000	0.000
<b>Title:</b> Talon SPITBALL <b>Description:</b> Talon SPITBALL is a technology prototype to develop jam-resistant antenna for next-generation aircraft. Talon SPITBALL will enable tactical communications and intelligence for advanced aircraft operating in denied environments.  <b>FY 2018 Plans:</b> - Continue development and test of jam-resistant antenna effort for advanced aircraft. <b>FY 2019 Base Plans:</b> - Will continue development and test of jam-resistant antenna effort for advanced aircraft. <b>FY 2019 OCO Plans:</b> N/A <b>FY 2018 to FY 2019 Increase/Decrease Statement:</b>	1.000	9.000	5.797	0.000	5.797

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<b>C. Accomplishments/Planned Programs (\$ in Millions)</b>	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
- Decrease reflects reduced funding profile for ongoing Talon SPITBALL development.					
<b>Accomplishments/Planned Programs Subtotals</b>	28.412	31.914	26.986	5.000	31.986

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

N/A

**Remarks**

N/A.

**E. Acquisition Strategy**

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 Air Force 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 Air Force TENCAP.

AF TENCAP projects typically use an incremental acquisition strategy. AF TENCAP utilizes a disciplined systems engineering approach that allows program team 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.

**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 2019 Air Force** **Date:** February 2018

<b>Appropriation/Budget Activity</b> 3600 / 7	<b>R-1 Program Element (Number/Name)</b> PE 1202247F / AF TENCAP	<b>Project (Number/Name)</b> 670001 / Air Force TENCAP
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<b>Product Development (\$ in Millions)</b>				<b>FY 2017</b>		<b>FY 2018</b>		<b>FY 2019 Base</b>		<b>FY 2019 OCO</b>		<b>FY 2019 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>			
Exploitation Applications	Various	Various : Various	-	19.554	Dec 2016	21.821	Dec 2017	24.986	Dec 2018	5.000	Dec 2018	29.986	Continuing	Continuing	-
Talon HATE	C/CPFF	Boeing : Huntington Beach, CA	-	6.158	Jan 2017	-		-		-		-	Continuing	Continuing	-
Talon SPITBALL	C/CPFF	Ball Aerospace : Littleton, CO	-	1.000	Dec 2016	9.093	Dec 2017	1.000	Dec 2018	-		1.000	Continuing	Continuing	-
<b>Subtotal</b>			-	26.712		30.914		25.986		5.000		30.986	Continuing	Continuing	N/A

<b>Management Services (\$ in Millions)</b>				<b>FY 2017</b>		<b>FY 2018</b>		<b>FY 2019 Base</b>		<b>FY 2019 OCO</b>		<b>FY 2019 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>			
Program Oversight (PMA)	Various	Various : Various	-	1.450	Dec 2016	1.000	Dec 2017	1.000	Dec 2018	-		1.000	Continuing	Continuing	-
Program Support - Talon Hate	Various	Various : Various	-	0.250	Jan 2017	-		-		-		-	Continuing	Continuing	-
<b>Subtotal</b>			-	1.700		1.000		1.000		-		1.000	Continuing	Continuing	N/A

<b>Prior Years</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019 Base</b>	<b>FY 2019 OCO</b>	<b>FY 2019 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>	
<b>Project Cost Totals</b>	-	28.412	31.914	26.986	5.000	31.986	Continuing	Continuing	N/A

**Remarks**

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**Exhibit R-4, RDT&E Schedule Profile: PB 2019 Air Force** **Date:** February 2018

<b>Appropriation/Budget Activity</b> 3600 / 7	<b>R-1 Program Element (Number/Name)</b> PE 1202247F / AF TENCAP	<b>Project (Number/Name)</b> 670001 / Air Force TENCAP
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FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023			
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

<b>AF TENCAP Projects</b>																																																
FY 2017 Exploitation Applications Developed	██████████																																															
FY 2017 Exploitation Applications Tested, Evaluated, and Released					██████████																																											
FY 2018 Exploitation Applications Developed					██████████																																											
FY 2018 Exploitation Applications Tested, Evaluated, and Released									██████████																																							
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FY 2022 Exploitation Applications Tested, Evaluated, and Released																									██████████																							
Talon HATE Integrated /Tested	██████████																																															
Talon SPITBALL Developed	██████████																																															
Talon SPITBALL Integrated/Tested					██████████																																											
FY 2023 Exploitation Applications Developed																									██████████																							

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**Exhibit R-4A, RDT&E Schedule Details:** PB 2019 Air Force **Date:** February 2018

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Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b>AF TENCAP Projects</b>				
FY 2017 Exploitation Applications Developed	1	2017	2	2018
FY 2017 Exploitation Applications Tested, Evaluated, and Released	2	2018	3	2018
FY 2018 Exploitation Applications Developed	1	2018	2	2019
FY 2018 Exploitation Applications Tested, Evaluated, and Released	2	2019	3	2019
FY 2019 Exploitation Applications Developed	1	2019	2	2020
FY 2019 Exploitation Applications Tested, Evaluated, and Released	2	2020	3	2020
FY 2020 Exploitation Applications Developed	1	2020	2	2021
FY 2020 Exploitation Applications Tested, Evaluated, and Released	2	2021	3	2021
FY 2021 Exploitation Applications Developed	1	2021	2	2022
FY 2021 Exploitation Applications Tested, Evaluated, and Released	2	2022	3	2022
FY 2022 Exploitation Applications Developed	1	2022	2	2023
FY 2022 Exploitation Applications Tested, Evaluated, and Released	2	2023	3	2023
Talon HATE Integrated /Tested	1	2017	4	2017
Talon SPITBALL Developed	1	2017	2	2019
Talon SPITBALL Integrated/Tested	1	2019	4	2019
FY 2023 Exploitation Applications Developed	1	2023	4	2023

**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.