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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 7: Operational Systems Development | | | | | R-1 Program Element (Number/Name) PE 1202247F I AF TENCAP | | | | | | | |
| 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 | - | 80.726 | 31.986 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | Continuing | Continuing |
| 670001: Air Force TENCAP | - | 80.726 | 31.986 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 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.

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

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 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. Program Change Summary (\$ in Millions) | | FY 2018 | FY 2019 | FY 2020 Base | FY 2020 OCO | FY 2020 Total | | |
| Previous President's Budget | | 31.914 | 31.986 | 21.365 | 0.000 | 21.365 | | |
| Current President's Budget | | 80.726 | 31.986 | 0.000 | 0.000 | 0.000 | | |
| Total Adjustments | | 48.812 | 0.000 | -21.365 | 0.000 | -21.365 | | |
| • Congressional General Reductions | | 0.000 | 0.000 | | | | | |
| • Congressional Directed Reductions | | 0.000 | 0.000 | | | | | |
| • Congressional Rescissions | | 0.000 | 0.000 | | | | | |
| • Congressional Adds | | 48.812 | 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 | -21.365 | 0.000 | -21.365 | | |
| C. Accomplishments/Planned Programs (\$ in Millions) | | | | FY 2018 | FY 2019 | FY 2020 Base | FY 2020 OCO | FY 2020 Total |
| Title: Exploitation Applications | | | | 19.583 | 17.428 | 0.000 | 0.000 | 0.000 |
| Description: 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. | | | | | | | | |
| FY 2019 Plans: | | | | | | | | |
| - Will continue to rapidly prototype projects and focus warfighter support and resource allocation based on AF TENCAP mission/investment areas | | | | | | | | |
| - 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 | | | | | | | | |
| - Will continue focused effort to increase Air Domain Awareness to Air Force and Joint Warfighters | | | | | | | | |
| FY 2020 Base Plans: | | | | | | | | |
| N/A | | | | | | | | |
| FY 2020 OCO Plans: | | | | | | | | |
| N/A | | | | | | | | |
| FY 2019 to FY 2020 Increase/Decrease Statement: | | | | | | | | |

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| C. Accomplishments/Planned Programs (\$ in Millions) | | FY 2018 | FY 2019 | FY 2020 Base | FY 2020 OCO | FY 2020 Total |
| - Funding decreased due to transition of AF TENCAP to PE 0207247F | | | | | | |
| Title: Talon SPITBALL Description: Talon SPITBALL is a technology prototype to develop jam-resistant antenna for next-generation aircraft. Talon SPITBALL will enable uninterrupted tactical communications and intelligence information for advanced aircraft operating in denied environments. FY 2019 Plans: - Will complete development, test, and transition of jam-resistant antenna for advanced aircraft FY 2020 Base Plans: N/A FY 2020 OCO Plans: N/A FY 2019 to FY 2020 Increase/Decrease Statement: - Funding decreased due to transition of capability to the warfighter | | 11.093 | 5.797 | 0.000 | 0.000 | 0.000 |
| Title: Talon PIKE Description: Talon PIKE is a technology prototype to develop a counter-Unmanned Aerial System (UAS) capability for tactical users by leveraging national technical means. Talon PIKE will protect ground forces from UAS threats in hostile environments. FY 2019 Plans: - Will complete rapid prototype development, testing, and transition of counter-UAS capability FY 2020 Base Plans: N/A FY 2020 OCO Plans: N/A FY 2019 to FY 2020 Increase/Decrease Statement: - Funding decreased due to transition of capability to the warfighter | | 17.900 | 5.000 | 0.000 | 0.000 | 0.000 |
| Title: Talon Tactical Mobile Over-the-Horizon Radar (TACMOR) | | 32.150 | 3.761 | 0.000 | 0.000 | 0.000 |

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| Appropriation/Budget Activity 3600: Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development | | | | | R-1 Program Element (Number/Name) PE 1202247F I AF TENCAP | | | | | | |
| C. Accomplishments/Planned Programs (\$ in Millions) | | | | | | | | | | | |
| | | | | | FY 2018 | FY 2019 | FY 2020 Base | FY 2020 OCO | FY 2020 Total | | |
| Description: Talon TACMOR is a technology prototype to expand air domain awareness and maritime domain awareness over the Western Pacific region. TACMOR is an FY17 Joint Capability Technology Demonstration project. FY 2019 Plans: - Will continue rapid prototype development of air and maritime domain awareness capability FY 2020 Base Plans: N/A FY 2020 OCO Plans: N/A FY 2019 to FY 2020 Increase/Decrease Statement: - Funding decreased due to transition of AF TENCAP to PE 0207247F | | | | | | | | | | | |
| Accomplishments/Planned Programs Subtotals | | | | | 80.726 | 31.986 | 0.000 | 0.000 | 0.000 | | |
| 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 |
| • RDTE 07 0207247F: AF TENCAP | 0.000 | 0.000 | 21.365 | 0.000 | 21.365 | 21.683 | 22.134 | 22.536 | 22.941 | Continuing | Continuing |
| Remarks N/A | | | | | | | | | | | |
| E. Acquisition Strategy | | | | | | | | | | | |
| <p>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.</p> <p>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.</p> <p>Contracts funded in this program element will be awarded using competitive procedures to the maximum extent possible.</p> | | | | | | | | | | | |

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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 / 7 | | | | | | R-1 Program Element (Number/Name) PE 1202247F / AF TENCAP | | | | Project (Number/Name) 670001 / Air Force TENCAP | | | | | |
| 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 |
| Exploitation Applications | Various | Various : Various | - | 18.583 | Dec 2017 | 16.428 | Dec 2018 | - | | - | | - | Continuing | Continuing | - |
| Talon SPITBALL | C/CPFF | Ball Aerospace : Littleton, CO | - | 11.093 | Dec 2017 | 5.797 | Dec 2018 | - | | - | | - | Continuing | Continuing | - |
| Talon PIKE | MIPR | Sandia National Labs : Sandia, NM | - | 17.900 | Aug 2018 | 5.000 | Dec 2018 | - | | - | | - | Continuing | Continuing | - |
| Talon TACMOR | SS/CPFF | BAE Systems : Australia | - | 32.150 | Apr 2018 | 3.761 | Apr 2019 | - | | - | | - | Continuing | Continuing | - |
| Subtotal | | | - | 79.726 | | 30.986 | | - | | - | | - | Continuing | Continuing | 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 |
| Program Oversight (PMA) | Various | Various : Various | - | 1.000 | Dec 2017 | 1.000 | Dec 2018 | - | | - | | - | Continuing | Continuing | - |
| Subtotal | | | - | 1.000 | | 1.000 | | - | | - | | - | Continuing | Continuing | N/A |
| | | | 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 | | | - | 80.726 | | 31.986 | | - | | - | | - | Continuing | Continuing | N/A |
| Remarks | | | | | | | | | | | | | | | |

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| Exhibit R-4, RDT&E Schedule Profile: PB 2020 Air Force | Date: February 2019 |
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| Appropriation/Budget Activity 3600 / 7 | R-1 Program Element (Number/Name) PE 1202247F / AF <i>TENCAP</i> | Project (Number/Name) 670001 / Air Force <i>TENCAP</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 |
| <i>AF TENCAP Projects</i> | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| FY 2018 Exploitation Applications Developed, Evaluated, and Released | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| FY 2019 Exploitation Applications Developed, Evaluated, and Released | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Talon SPITBALL Developed | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Talon SPITBALL Integrated/Tested | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Talon PIKE Developed | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Talon PIKE Integrated/Tested | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Talon TACMOR System Design/Software Development | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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| Exhibit R-4A, RDT&E Schedule Details: PB 2020 Air Force | | | Date: February 2019 |
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Schedule Details

| Events by Sub Project | Start | | End | |
|--|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| <i>AF TENCAP Projects</i> | | | | |
| FY 2018 Exploitation Applications Developed, Evaluated, and Released | 1 | 2018 | 3 | 2019 |
| FY 2019 Exploitation Applications Developed, Evaluated, and Released | 1 | 2019 | 3 | 2020 |
| Talon SPITBALL Developed | 1 | 2018 | 3 | 2019 |
| Talon SPITBALL Integrated/Tested | 1 | 2019 | 2 | 2020 |
| Talon PIKE Developed | 1 | 2018 | 2 | 2019 |
| Talon PIKE Integrated/Tested | 1 | 2019 | 1 | 2020 |
| Talon TACMOR System Design/Software Development | 1 | 2018 | 2 | 2020 |

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.