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**Exhibit R-2, RDT&E Budget Item Justification:** PB 2020 United States Special Operations Command **Date:** March 2019

<b>Appropriation/Budget Activity</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide I BA 2: Applied Research</i>					<b>R-1 Program Element (Number/Name)</b> PE 1160401BB / <i>SOF Technology Development</i>							
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020 Base</b>	<b>FY 2020 OCO</b>	<b>FY 2020 Total</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
Total Program Element	519.229	33.375	35.921	40.569	-	40.569	46.674	49.695	50.725	51.907	Continuing	Continuing
S100: <i>SOF Technology Development</i>	519.229	33.375	35.921	40.569	-	40.569	46.674	49.695	50.725	51.907	Continuing	Continuing

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

This program element enables USSOCOM to conduct studies and develop laboratory prototypes for applied research and advanced technology development, as well as leverage other organizations' technology projects that may not otherwise be affordable within MFP-11. Applying small incremental amounts of investments to Department of Defense (DOD), other government agencies, and commercial organizations allows USSOCOM to influence the direction of technology development or the schedule against which it is being pursued, and to acquire emerging technologies for Special Operations Forces. This project provides an investment strategy for USSOCOM to link technology opportunities with capability deficiencies, capability objectives, technology thrust areas, human endurance and sensory performance, and technology development objectives.

<b>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020 Base</b>	<b>FY 2020 OCO</b>	<b>FY 2020 Total</b>
Previous President's Budget	34.493	35.921	40.757	-	40.757
Current President's Budget	33.375	35.921	40.569	-	40.569
Total Adjustments	-1.118	0.000	-0.188	-	-0.188
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-1.118	-			
• Other Adjustments	-	-	-0.188	-	-0.188

**Change Summary Explanation**

Funding:

FY 2018: Decrease of \$1.118 million is due to a transfer to Small Business Innovative Research/Small Business Technology Transfer programs.

FY 2019: None.

FY 2020: Decrease of \$0.188 million due to minor adjustments.

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0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide / BA 2: Applied Research</i>	PE 1160401BB / <i>SOF Technology Development</i>

Schedule: None.

Technical: None.

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**Exhibit R-2A, RDT&E Project Justification:** PB 2020 United States Special Operations Command **Date:** March 2019

<b>Appropriation/Budget Activity</b> 0400 / 2	<b>R-1 Program Element (Number/Name)</b> PE 1160401BB / <i>SOF Technology Development</i>	<b>Project (Number/Name)</b> S100 / <i>SOF Technology Development</i>
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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
<i>S100: SOF Technology Development</i>	519.229	33.375	35.921	40.569	-	40.569	46.674	49.695	50.725	51.907	Continuing	Continuing

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

This project conducts studies and develops laboratory prototypes for applied research and advanced technology developments, and leverages other organizations' technology projects that may not otherwise be affordable within MFP-11. Small incremental co-investments with DOD, other government agencies, and commercial organizations allow USSOCOM to influence the schedule and direction of technology developments, emerging technologies, and capabilities for Special Operations Forces (SOF), with significant economies of investment. This USSOCOM investment strategy is used to link technology opportunities with USSOCOM capability deficiencies, capability objectives; technology thrust areas, and technology objectives. Technology development needs in these areas may be advertised to industry and government research and development agencies via agency announcements and calls for white papers.

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

	FY 2018	FY 2019	FY 2020
<p><b>Title:</b> SOF Technology Development</p> <p><b>Description:</b> This project conducts studies and develops laboratory prototypes for applied research and advanced technology developments, and leverages other organizations' technology projects that may not otherwise be affordable within MFP-11.</p> <p><b>FY 2019 Plans:</b> Continue ongoing technology development sub-projects in areas such as, but not limited to: long duration small form factor power supplies, alternative fuel power systems, reduced signature technologies, high data-rate throughput, and advance lightweight armor and materials. Advance technologies for combat medical equipment, tactics, human performance, sensor and processing improvements, improve interfaces and displays, machine learning/artificial intelligence, and secure communications. Continue pursuit of methods to reduce operator load and provide advanced protection. Develop technologies for improved and widened window of target engagement (escalation of force), pursue enhancements to technologies that can aid in detection of enemy intentions and movement, and continue development and exploration across the electromagnetic spectrum. Based upon agreed technology maturity metrics, transfer successful projects into programs of record. Continue the integration of critical technologies focused on providing the dismounted special operator leap-ahead capabilities via innovative collaborative processes. Focus is on delivering prototype system for soldier protection and augmentation and continuing development of situational awareness and command/control systems.</p> <p><b>FY 2020 Plans:</b> Continues ongoing technology development sub-projects in areas such as, but not limited to: enabling power technologies, signature reduction technologies, high data-rate throughput, and advances in lightweight armor and materials. Advances technologies for combat medical equipment, tactics, human performance, optics, sensor and processing improvements,</p>	14.603	16.421	20.967

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<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020</b>
<p>improves human-machine interfaces and displays, identifies SOF specific machine learning/artificial intelligence, and secure communications. Continues pursuit of methods to reduce operator load and provides advanced protection. Develops technologies for improved and widened window of target engagement (escalation of force), pursues enhancements to technologies that can aid in detection of enemy intentions and status, and continues development and exploration of novel technologies across the electromagnetic spectrum. Based upon agreed technology maturity metrics, transfers successful projects into programs of record. Continues the integration of critical technologies focused on providing the dismounted special operator leap-ahead capabilities via innovative collaborative processes.</p> <p><b>FY 2019 to FY 2020 Increase/Decrease Statement:</b> Increase of \$4.546 million due to increased focus on identifying disruptive technology development efforts to support SOF needs.</p>			
<p><b>Title:</b> Tagging, Tracking, and Locating Technologies (TTL)</p> <p><b>Description:</b> TTL funds Applied Research projects identified in the USSOCOM Quick Look Capabilities Based Assessments (QL-CBA). TTL applies Intelligence, Surveillance, and Reconnaissance (ISR) focused leading edge technology, biometric and biotechnology, which is directed towards the development of revolutionary tags, taggants, sensors, communications, and data processing in support of the TTL mission.</p> <p><b>FY 2019 Plans:</b> Continue projects to exploit technology, biotechnology and chemistry for application to TTL and TTL-enabling systems. Initiate projects linked to the USSOCOM/DOD TTL and ISR Roadmaps, which are updated via the JCS/J8-approved annual TTL QL-CBA.</p> <p><b>FY 2020 Plans:</b> Continues projects to exploit technology, biotechnology and chemistry for application to TTL and TTL-enabling systems. Continues projects linked to the USSOCOM/DOD TTL and ISR Roadmaps, which are updated via the JCS/J8-approved annual TTL QL-CBA.</p> <p><b>FY 2019 to FY 2020 Increase/Decrease Statement:</b> Increase of \$0.391 million due to inflation and other minor adjustments.</p>	14.877	15.565	15.956
<p><b>Title:</b> Classified Sub-Project</p> <p><b>Description:</b> Classified Sub-Project (provided under separate cover).</p> <p><b>FY 2019 Plans:</b> Details provided under separate cover.</p> <p><b>FY 2020 Plans:</b></p>	3.895	3.935	3.646

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<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020</b>
Details provided under separate cover.			
<b><i>FY 2019 to FY 2020 Increase/Decrease Statement:</i></b> Details provided under separate cover.			
<b>Accomplishments/Planned Programs Subtotals</b>	33.375	35.921	40.569

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

N/A

**Remarks**

**D. Acquisition Strategy**

N/A

**E. Performance Metrics**

N/A