Exhibit R-2, RDT&E Budget Item Justification: FY 2018 United States Special Operations Command	Date: May 2017
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 1160405BB / *Intelligence Systems Development*

COST ($ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
Total Program Element	563.776	6.466	9.858	8.245	-	8.245	8.113	8.259	8.411	8.713	Continuing	Continuing
S400: *SO Intelligence Systems*	563.776	6.466	9.858	8.245	-	8.245	8.113	8.259	8.411	8.713	Continuing	Continuing

A. Mission Description and Budget Item Justification

This program element is part of the Military Intelligence Program (MIP) that provides for the identification, development, and testing of Special Operations Forces (SOF) intelligence equipment to identify and eliminate deficiencies in providing timely intelligence to deployed forces. Sub-projects address the primary areas of intelligence dissemination, sensor systems, tagging, tracking, and locating devices, integrated threat warning to SOF mission platforms, and tactical exploitation of national system capabilities. USSOCOM has developed an overall strategy to ensure that Command, Control, Communications, Computers, and Intelligence (C4I) systems continue to provide SOF with the required capabilities into the 21st century. USSOCOM's C4I systems comprise an integrated network of systems providing positive command and control and timely exchange of intelligence and threat warning to all organizational echelons. The C4I systems that support this new architecture employ the latest standards and technology by transitioning from separate systems to full integration with the Global Information Grid (GIG). The GIG allows SOF elements to operate with any force combination in multiple environments.

B. Program Change Summary ($ in Millions)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Previous President's Budget	6.866	7.958	7.952	-	7.952
Current President's Budget	6.466	9.858	8.245	-	8.245
Total Adjustments	-0.400	1.900	0.293	-	0.293
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other	-0.400	-	0.293	-	0.293
• FY 2017 REQUEST FOR ADDITIONAL APPROPRIATIONS	-	1.900	-	-	-

Change Summary Explanation

Funding:

FY 2016: Decrease of $0.400 million is due to reprogramming to higher command priorities.

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FY 2017: Increase of $1.900 million is due to an FY 2017 Request for Additional Appropriations for National Support to SOF (NSSS) program to develop and integrate Signal Intelligence Geolocation National Security Agency network and classified network cross-domain reporting system ($1.400 million) and the NSSS program to develop, integrate and test Infrared Electronics Optical precision targeting software for electronic optical imagery ($0.500 million).

FY 2018: Increase of $0.293 million is due to reprogramming to the JTWS program to provide additional test and evaluation funding.

Schedule: None.

Technical: None.

Exhibit R-2A, RDT&E Project Justification: FY 2018 United States Special Operations Command											Date: May 2017	
Appropriation/Budget Activity 0400 / 7					R-1 Program Element (Number/Name) PE 1160405BB / *Intelligence Systems Development*				Project (Number/Name) S400 / *SO Intelligence Systems*			
COST ($ in Millions)	**Prior Years**	**FY 2016**	**FY 2017**	**FY 2018 Base**	**FY 2018 OCO**	**FY 2018 Total**	**FY 2019**	**FY 2020**	**FY 2021**	**FY 2022**	**Cost To Complete**	**Total Cost**
S400: *SO Intelligence Systems*	563.776	6.466	9.858	8.245	-	8.245	8.113	8.259	8.411	8.713	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This sub-project is part of the Military Intelligence Program (MIP). Provides for the identification, development, and testing of Special Operations Forces (SOF) intelligence equipment to identify and eliminate deficiencies in providing timely intelligence to deployed forces. Sub-projects address the primary areas of intelligence dissemination, sensor systems, tagging, tracking, and locating devices, integrated threat warning to SOF mission platforms, and tactical exploitation of national system capabilities. The systems developed and tested in this line item are National Systems Support to SOF (NSSS); Joint Threat Warning System (JTWS); Hostile Forces - Tagging, Tracking, and Locating (HF-TTL); Special Operations Tactical Video System/Reconnaissance, Surveillance, and Target Acquisition (TVS/RSTA); Special Operations Forces Planning, Rehearsal and Execution Preparation (SOFPREP); Integrated Survey Program (ISP); and Sensitive Site Exploitation (SSE).

U.S. Special Operations Command (USSOCOM) has developed an overall strategy to ensure that Command, Control, Communications, Computers, and Intelligence (C4I) systems continue to provide SOF with the required capabilities throughout the 21st century. USSOCOM's C4I systems comprise an integrated network of systems providing positive command and control and timely exchange of intelligence and threat warning to all organizational echelons. The C4I systems that support this new architecture employ the latest standards and technology by transitioning from separate systems to full integration with the Global Information Grid (GIG). The GIG allows SOF elements to operate with any force combination in multiple environments. The intelligence programs funded in this project will meet annual emergent requirements and are grouped by the level of organizational element they support: Operational Element (Team) and Above Operational Element (Garrison).

OPERATIONAL ELEMENT (TEAM)

• NSSS. This program provides research and development and rapid prototyping as the HQ SOCOM Tactical Exploitation of National Capabilities (TENCAP) program. NSSS improves the combat effectiveness of USSOCOM, its components, and the Theater Special Operations Commands (TSOC) by leveraging National Geospatial-Intelligence (NGA) and Service development efforts to provide innovative space-based intelligence systems technologies and enhancements, products and special communications capabilities to tactical SOF units to include Geospatial Intelligence (GEOINT), Signals Intelligence (SIGINT), Special Communications, and intelligence fusion, reporting, and dissemination. NSSS efforts are characterized by rapid development, fielding and deployment, and focus on transitioning to SOCOM Programs of Records (POR). These developmental efforts usually support SOCOM's existing Military Intelligence Programs. Focus items include: Small Unmanned Aircraft System Multi-Intelligence geo-location and targeting capabilities with a Rapid Reliable Targeting system that supports NGA CAT1 level targeting, enhanced GEOINT processing capabilities by fusing Light Detection and Ranging with National Technical Means (NTM) and the Enhanced Image Rendering Tool, which allows sharing of NTM Imagery with coalition forces. NSSS will also improve SIGINT capabilities by pursuing Joint Interface Control Document 4.x and follow-on compliant SIGINT capabilities, extending SOCOM's cross-domain security infrastructure by adding unclassified sensors into theater net-centric geo-location architecture, improve detection of Low-Probability of Intercept/Low Probability of Detection signals, and automate radar characterizations that enhance tactical SOF capabilities to find, fix, monitor, and target assets using NTM.

Exhibit R-2A, RDT&E Project Justification: FY 2018 United States Special Operations Command		Date: May 2017
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• JTWS. The JTWS System of Systems (SoS) enables the SOF Cryptologic Operator to collect, process, locate and exploit threat communications signals of interest in order to provide timely, relevant, and responsive intelligence, cross-cueing, and threat avoidance information directly to the SOF Commanders. The JTWS SoS is assembled in four variants: Ground SIGINT Kit; Maritime; Air; and Unmanned Aerial Systems. Each variant has additional requirements for Communications Intelligence, Electronic Intelligence, and Precision Geo-location.

• HF-TTL. This program utilizes a commodity procurement strategy to provide SOF warfighters with the necessary tools to find, fix, and finish terrorist networks through the emplacement of sophisticated tags and devices that feed into an integrated architecture. HF-TTL provides Global Combatant Commanders (GCC) and SOF operators with an immediate capability to tag, track, and locate people, things, and activities. The HF-TTL program provides actionable intelligence for SOF planners. The mission sets comprise a mix of different classes of tags and their associated detection, interrogation, viewing, tracking, and communications systems that are fielded annually to SOF Components and TSOC based upon dynamic and emergent SOF operational requirements.

• TVS/RSTA. This program provides SOF with critical Special Reconnaissance (SR) equipment that directly supports the planning and execution of SOF missions. This capability allows the SOF warfighter to meet SOF SR mission requirements to find, fix, finish, exploit, analyze, and disseminate information of an adversary's movement, construct, identification, location; and associated things and activities. TVS/RSTA provides GCC and SOF operators with an immediate capability to visually and electronically acquire people, things, and activities and provides actionable intelligence for SOF planners and Commanders. The program Family of Systems (FoS) consists of interoperable equipment to capture and transfer near-real-time ground-based, tactical day/night/reduced visibility, imagery, video, and electronic proximity and movement sensing, all capable of dissemination through SOF organic, global C4I, and commercial communications infrastructures.

ABOVE OPERATIONAL ELEMENT (GARRISON)

• SOFPREP. This program serves as the intelligence focal point for production of SOF enhanced GEOINT (maps, imagery, and terrain data) and 3D scene visualization databases. SOFPREP gathers, processes, exploits, disseminates, and manages classified high resolution 3D databases and GEOINT data in support of SOF training, mission rehearsal, and execution preparation systems. The program builds the SOF common geospatial environment and manages the authoritative database of SOF-specific GEOINT terrain data. SOFPREP is a NGA-certified co-producer in support of time-sensitive SOF specific requirements.

• ISP. This program collects and produces current, detailed, tactical planning data to support military operations to counter threats against U.S. citizens, interests, and property located both domestically and overseas. ISP products are specifically tailored packages that provide operational information, as well as intelligence data for use by DOD and the U.S. Department of State to support operational planners for counter-terrorism operations, evacuations, and other rescue missions.

• SSE. This program provides the capability to exploit personnel, documents, electronic data, material, and forensic evidence on sensitive sites/objectives. Biometric kits allow collection and transmission of unique, measurable biometric signatures from personnel, including live/latent fingerprints, iris patterns, and facial features. It also provides a means to verify against and enroll subjects into the DOD authoritative database, and to query that database to support hold or release decisions. Forensic kits enable on-objective linking of events to specific persons through chemical analysis, latent fingerprints, cell phones and computer data analysis, and deoxyribonucleic acid collection. Exploitation Analysis Centers provide theater-level mobile forensic capabilities for more in-depth exploitation of captured evidence.

Exhibit R-2A, RDT&E Project Justification: FY 2018 United States Special Operations Command		Date: May 2017
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B. Accomplishments/Planned Programs ($ in Millions)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: NSSS	0.802	2.716	0.832	-	0.832
FY 2016 Accomplishments: Continued development of SOF-required prototype capabilities, primarily through leveraging current or developing technologies and assets in the IC, while coordinating with other SOCOM and IC Programs of Record for production and operational fielding of the successful capabilities. Emphasized areas to include ISR support for Tagging, Tracking, and higher-accuracy geo-locating of hostile and friendly forces, especially in low sensor density environments.					
FY 2017 Plans: Continue development of SOF-required prototype capabilities, primarily through leveraging current or developing technologies and assets in the IC, while coordinating with other SOCOM and IC Programs of Record for production and operational fielding of the successful capabilities. Emphasize areas to include ISR support for Tagging, Tracking, and higher-accuracy geo-locating of hostile and friendly forces, especially in low sensor density environments. Develop and integrate a signals intelligence Geolocation National Security Agency network and classified network cross-domain reporting system. Develop, integrate and test an infrared precision targeting software variant for electronic optical imagery.					
FY 2018 Base Plans: Continues development of SOF-required prototype capabilities, primarily through leveraging current or developing technologies and assets in the Intelligence Community (IC), while coordinating with SOCOM and IC Programs of Record for production and operational fielding of the successful capabilities. Emphasizes areas to include ISR support for Tagging, Tracking, and higher-accuracy geo-locating of hostile and friendly forces, especially in low sensor density environments.					
Title: JTWS	3.717	5.233	5.335	-	5.335
FY 2016 Accomplishments: Continued development and testing of increased capabilities for JTWS variants in order to improve technologies to address emerging threats. The following test events were completed in FY2016: Three Precision Geo-location; Five Air Variant, and Four Ground SIGINT Variant. Continued development of Maritime prototype through the use of seven technology demonstrations.					
FY 2017 Plans:					

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Evaluate interoperability of technologies on JTWS variants as well as continue testing of the various system of systems. Continue technical evaluation of evolving technologies for all variants in order to provide additional capabilities required to address emerging threats. ***FY 2018 Base Plans:*** Continues evaluating interoperability of technologies on JTWS variants as well as continue testing of the various system of systems. Continues technical evaluation of evolving technologies for all variants in order to provide additional capabilities to address emerging threats.					
Title: HF-TTL ***FY 2016 Accomplishments:*** Continued specialized device modifications, integration and operational testing and evaluation. ***FY 2017 Plans:*** Continue specialized device modifications, integration and operational testing and evaluation. ***FY 2018 Base Plans:*** Continues specialized device modifications, integration and operational testing and evaluation.	0.765	0.801	0.811	-	0.811
Title: TVS/RSTA ***FY 2016 Accomplishments:*** Continued integration/operational testing within the TVS/RSTA FoS for technology insertions of improved/ downsized hardware/software configuration on all systems. ***FY 2017 Plans:*** Continue integration/operational testing within the TVS/RSTA FoS for technology insertions of improved/ downsized hardware/software configuration on all systems, to include camera systems, Falcon 6 sensor control hardware, and related software. ***FY 2018 Base Plans:*** Continues integration/operational testing within the TVS/RSTA FoS for technology insertions of improved/ downsized hardware/software configuration on all systems, to include camera systems, Falcon 6 sensor control hardware, and related software.	0.177	0.385	0.393	-	0.393
Title: SOFPREP ***FY 2016 Accomplishments:***	0.525	0.439	0.291	-	0.291

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Began testing and evaluation of operational prototype systems to speed production of correlated high resolution 3D terrain databases in a Graphics Processing Unit (GPU) accelerated high performance computing architecture. ***FY 2017 Plans:*** Continue testing and evaluation of operational prototype systems to speed production of correlated high resolution 3D geospatial databases in a GPU accelerated high performance computing architecture. ***FY 2018 Base Plans:*** Continues testing and evaluation of operational prototype systems to speed production of correlated high resolution 3D geospatial databases.					
Title: ISP ***FY 2016 Accomplishments:*** Continued development for the modernization of the ISP system to integrate with enterprise architecture and support the latest standards and technology. ***FY 2017 Plans:*** Continue development for the modernization of the ISP system to integrate with enterprise architecture and support the latest standards and technology. ***FY 2018 Base Plans:*** Continues development of ISP system and products to integrate with enterprise architecture and support the latest standards and technology.	0.325	0.127	0.402	-	0.402
Title: SSE ***FY 2016 Accomplishments:*** Initiated specialized device integration and operational testing and evaluation. ***FY 2017 Plans:*** Continue technical evaluation of new technologies, and when applicable, formal testing (limited user evaluations) to confirm operational effectiveness and suitability prior to fielding. ***FY 2018 Base Plans:*** Continues technical evaluation of new technologies.	0.155	0.157	0.181	-	0.181
Accomplishments/Planned Programs Subtotals	6.466	9.858	8.245	-	8.245

Exhibit R-2A, RDT&E Project Justification: FY 2018 United States Special Operations Command			Date: May 2017
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C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
• PROC/020400INTL: *Intelligence Systems*	105.554	104.163	82.538	12.000	94.538	76.856	88.864	93.498	95.303	Continuing	Continuing

Remarks

D. Acquisition Strategy

• NSSS introduces and integrates national systems capabilities into the SOF force structure and operations. This is accomplished by partnering with existing IC POR to incorporate SOF mission requirements into current and developing technologies and assets. This leveraging of funds increases national and commercial systems awareness, demonstrates the tactical utility of national systems and commercial data, tests technologies and evaluates operational concepts in biennial Joint Staff Special Projects, and allows for the transition of promising concepts and technologies to other SOF program offices for execution.

• JTWS is a SoS leveraging commercial technologies and partnerships with other government agencies. The POR will identify Commercial Off The Shelf (COTS)/ Government Off The Shelf capabilities requiring minimal modifications and only use new development when necessary. JTWS will address the continuously evolving threat environments on the Ground, Air, Maritime, and Unmanned Aircraft System variants, leverage existing partnerships with the National Security Agency and other government partners to integrate and sustain systems based on prioritized need from the Components and as emerging threats require technology modernizations. Additionally, the POR will work to find common solutions across the variants and increase interoperability in order to reduce duplication of efforts. The contracting strategy is a mixture of full and open competition for prime integrators and leveraging existing Indefinite Delivery/Indefinite Quantity (IDIQ) contracts for COTS procurement.

• HF-TTL utilizes a commodity procurement acquisition strategy to provide highly sophisticated TTL and close target audio/video devices capable of operating in various environments as needed to meet SOF operational requirements. Commercial and government agency sources will be leveraged for required certifications, device level modifications, integration, functional, and operational testing and evaluations.

• TVS/RSTA employs an evolutionary strategy to incorporate the latest state of technology within its product line to provide upgraded next-generation technology insertion of COTS systems and address the changing threat environment to meet SOF reconnaissance and surveillance mission requirements. Commercial and government agency sources will be leveraged for required certifications, system level integration, functional, and operational testing and evaluations.

• SOFPREP employs an evolutionary strategy to insert emerging technologies for processing, exploitation and dissemination capabilities tailored to SOF user-defined mission requirements. Commercial and government agency sources are leveraged for required certifications, system level integration, functional, and operational testing and evaluations.

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• ISP employs an evolutionary strategy to insert emerging technologies for collection, processing, exploitation and dissemination capabilities tailored to SOF user-defined mission requirements. Commercial and government agency sources are leveraged for required certifications, system level integration, functional, and operational testing and evaluations.

• SSE uses a commodity procurement acquisition strategy to provide next-generation technologies for collection, processing, exploitation and dissemination capabilities supporting SOF exploitation mission requirements. Commercial and government agency sources are leveraged for required certifications, system level integration, functional, and operational testing and evaluations.

E. Performance Metrics

N/A