Exhibit R-2, RDT&E Budget Item Justification: FY 2018 Defense Information Systems Agency		**Date:** May 2017

Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide I* BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305208K I *Distributed Common Ground/Surface 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
Total Program Element	46.899	3.239	3.030	3.049	-	3.049	3.056	3.073	3.142	3.224	Continuing	Continuing
NF1: *Distributed Common Ground/Surface Systems*	46.899	3.239	3.030	3.049	-	3.049	3.056	3.073	3.142	3.224	Continuing	Continuing

A. Mission Description and Budget Item Justification

As the sole joint interoperability certification agent, the Joint Interoperability Test Command established and maintains a Distributed Development and Test Enterprise for the Department of Defense (DoD) Distributed Common Ground/Surface System (DCGS) program, as directed by the Office of the Under Secretary of Defense (Intelligence). DCGS is an integral and critical component of the overall DoD Intelligence, Surveillance, and Reconnaissance interoperability and data integration strategy which provides world-wide capabilities to receive, process, exploit, and disseminate data from airborne and national reconnaissance sensors/platforms and commercial sources.

B. Program Change Summary ($ in Millions)

	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Previous President's Budget	3.239	3.030	3.323	-	3.323
Current President's Budget	3.239	3.030	3.049	-	3.049
Total Adjustments	0.000	0.000	-0.274	-	-0.274
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-	-	-0.274	-	-0.274

Change Summary Explanation

The decrease of -$0.160 in FY 2018 is attributed to a reduction in life-cycle test infrastructure upgrades and replacement of the Distributed Development and Test Enterprise (DDTE). Part of the overall decrease (-$0.114) is attributed to the Service Requirements Review Board (SSRB) contract reduction.

Exhibit R-2A, **RDT&E Project Justification:** FY 2018 Defense Information Systems Agency										**Date:** May 2017	

Appropriation/Budget Activity 0400 I 7				**R-1 Program Element (Number/Name)** PE 0305208K I *Distributed Common Ground/Surface Systems*				**Project (Number/Name)** NF1 I *Distributed Common Ground/Surface 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**
NF1: *Distributed Common Ground/Surface Systems*	46.899	3.239	3.030	3.049	-	3.049	3.056	3.073	3.142	3.224	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Joint Interoperability Test Command (JITC) coordinates with the Military Services and Defense Intelligence Agencies to conduct Joint/Distributed Common Ground/ Surface System (DCGS) testing and analysis, including event coordination, configuration, instrumentation and integration functions on the Distributed Development and Test Enterprise (DDTE). Under the DCGS Governance, this effort, referred to as the DCGS Test and Evaluation (T&E) Focus Team (FT), is composed of three parts: the DDTE Focus Group, providing and sustaining a distributed development network; the Strategy Focus Group, looking at current and future net-enabled enterprise T&E methods; and the Execution Focus Group, which leverages the Strategy Focus Group's methodologies in executing DCGS Enterprise assessment events, such as the annual DCGS demonstration, ENTERPRISE CHALLENGE. These efforts improve systems engineering and T&E throughout all phases of the DCGS life-cycle, resulting in improved capabilities to share net-centric data and services between the DCGS Programs of Record (PoRs) and the overarching Defense Intelligence Information Enterprise (DI2E).

Operates and maintains the DDTE, providing DCGS PoRs a virtual, operationally-relevant assessment environment maintaining connectivity between Service facilities, National Agency capabilities, and Coalition partners. DDTE allows robust integration of modeling and simulation T&E capabilities across Joint DCGS events without introducing vulnerabilities to operational Command and Control networks and has enabled improvements in systems engineering, instrumentation and T&E throughout all phases of the DCGS life cycle.

DCGS PoRs and Coalition partners use the DDTE network, which supports the net-centric maturity assessment of the DCGS Enterprise under the DCGS Governance, to integrate architecture, standards, and capabilities for implementation of the DCGS Integration Backbone and support the migration to net-centricity, including DCGS Enterprise services for the Military Departments, DCGS-Special Operations Forces and the DCGS Intelligence Community. National Agency capabilities supporting DCGS include Geospatial Intelligence, Signals Intelligence, Measurement and Signature Intelligence and Human Intelligence, which are integrated and tested in the DDTE domain.

B. Accomplishments/Planned Programs ($ in Millions)	**FY 2016**	**FY 2017**	**FY 2018**
Title: Distributed Common Ground/Surface Systems (DCGS) *FY 2016 Accomplishments:* Continuing to support DDTE and to provide enhanced functionality with expanding T&E capability, with a focus on increasingly automated evaluations of net-centric data and web services. Incorporating new technologies such as cloud computing, mobile technology, and "big data" in assessment methodologies and practices. To further DCGS Enterprise and associated Defense Intelligence Information Enterprise (DI2E) capabilities, conducting compliance testing of data, metadata, and services	3.239	3.030	3.049

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2016	FY 2017	FY 2018
against established standards to enhance the sharing and promote reuse of net centric capabilities. Enhancing "Testing as a Service" (TaaS) capabilities that enable DCGS entities and other communities of interest (COIs), such as industry partners, to test for standards compliance early and often during the development and acquisition processes. Enterprise T&E support continues to include enterprise-level assessment events such as ENTERPRISE CHALLENGE for the DCGS PoRs, National Agencies and Coalition Partners. Continuing development and instrumentation for data collection and testing support on the DCGS network domains and enclaves; with the number of active DDTE nodes increasing from 19 to 21 as the DCGS PoRs participate in assessment venues with other DI2E entities. Developing and implementing passive instrumentation on operational networks that can gather data on capabilities not instantiated on the DDTE test domain to provide a more robust evaluation of the net-centric maturity of the DCGS Enterprise. Data collected by these assessment efforts are reflected in the Enterprise Maturity Model (EMM) and documented in an annual DCGS Enterprise Assessment Report. *FY 2017 Plans:* Continuing to support DDTE, provide enhanced functionality, expand T&E capability, and perform automated evaluations of net-centric data and web services with improved assessment methodologies and practices due to incorporating new technologies such as cloud computing, mobile technology, and "big data". Continuing to conduct compliance testing of data, metadata, and services against established standards to enhance the sharing and promote reuse of net centric capabilities and to enhance "Testing as a Service" (TaaS) capabilities that enable DCGS entities and other communities of interest (COIs) to test for standards compliance during the development and acquisition processes. enterprise T&E support, such as enterprise-level assessment events i.e., ENTERPRISE CHALLENGE). Development of and improvements to instrumentation for data collection and testing support on the DCGS network domains and enclaves for the DCGS PoRs, National Agencies and Coalition Partners continues; with the number of active DDTE nodes expected to increase as the DCGS Programs of Record (PoRs) participate in assessment venues with other DI2E entities. Developing and implementing passive instrumentation on operational networks that can gather data on capabilities not instantiated on the DDTE test domain to provide a more robust evaluation of the net-centric maturity of the DCGS Enterprise. Data collected by these assessment efforts are reflected in the Enterprise Maturity Model (EMM) and documented in an annual DCGS Enterprise Assessment Report. The decrease of -$0.209 from FY 2016 to FY 2017 is due to reduced testing costs following automation improvements, reduction in the number of testing events and delay in end of life hardware replacement. *FY 2018 Plans:* Continue to support DDTE, provide enhanced functionality, expand T&E capability, and perform automated evaluations of net-centric capabilities with improved assessment methodologies and practices due to incorporating new technologies such as cloud computing, mobile technology, and "big data"; the number of active DDTE nodes is expected to increase as the DCGS Programs of Record (PoRs) participate in assessment venues with other DI2E entities. Continue to conduct compliance testing of data, metadata, and web services against established standards to enhance the sharing and promote reuse of net centric			

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Appropriation/Budget Activity 0400 *I* 7	**R-1 Program Element (Number/Name)** PE 0305208K *I Distributed Common Ground/Surface Systems*	**Project (Number/Name)** NF1 *I Distributed Common Ground/Surface Systems*

B. Accomplishments/Planned Programs ($ in Millions)	**FY 2016**	**FY 2017**	**FY 2018**
solutions. Continuing to expand TaaS capabilities that enable DCGS entities and other COIs to test for standards compliance during the development and acquisition processes. Continue enhancement of instrumentation and automated data collection tools to support testing on multiple network domains and enclaves where the DCGS PoRs, National Agencies and Coalition Partners test and operate. Plan and conduct testing of enterprise cybersecurity solutions to determine if they comply with standards, support interoperability between the DCGS PoRs, and meet the DCGS Enterprise cybersecurity requirements. Data collected by these assessment efforts are reflected in an annual DCGS Enterprise Assessment Report that delineates how well the DCGS Enterprise shows progress over time in meeting the capabilities and closing the gaps reflected in the 2016 DCGS Enterprise Initial Capabilities Document.

The increase of +$0.133 in FY 2018 will provide for the implementation of enhanced data analytics for DCGS. This increase is partially offset by a decrease of -$0.114 attributed to the Service Requirements Review Board (SSRB) contract reduction. | | | |
| **Accomplishments/Planned Programs Subtotals** | 3.239 | 3.030 | 3.049 |

C. Other Program Funding Summary ($ in Millions)
 N/A
Remarks

D. Acquisition Strategy
 A T&E Mission Support Services (MSS) cost plus fixed fee contract provides T&E support by performing a wide range of non-personal services to encompass testing, scientific, engineering, logistic, administrative, and ancillary support of the DISA T&E missions.

E. Performance Metrics
 The DCGS T&E FT performs a minimum of six DCGS Enterprise assessments per year, and the results are consolidated into the T&E FT Enterprise Assessment Report annually. The T&E FT also provides input to the DCGS Enterprise Focus Team's State of the Enterprise (SoE) Report, which includes the Enterprise Maturity Model (EMM) and shows measurable DCGS Enterprise net-centric maturity progress over time.

 The T&E FT also leverages Joint Interoperability Certification testing to support the evaluation of DCGS Enterprise maturity. In FY 2016, T&E FT performed twelve (12) DCGS Enterprise assessments. This trend is expected to continue in FY2017. Of the six DCGS PoR systems, two hold current Joint Staff (JS), Command, Control, Communications, & Computers/Cyber (J6) Interoperability (IOP) Certifications and continue to conduct IOP testing on emerging releases. One DCGS PoR has completed interoperability testing, and the joint IOP certification is pending. Of the three remaining PoRs, two are not required to be JS J6 certified, but the T&E FT leverages data collected during periodic IOP assessments of these programs during enterprise-level demonstrations and test events. Due to increased automation for data collection, parsing and analysis, in addition to advances in PoR and Enterprise maturity, the T&E FT increases the cumulative number of net-centric capability evaluations each year.

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In FY 2016, T&E FT conducted twelve (12) DCGS Enterprise assessments.

In FY 2017, T&E FT will perform a minimum of ten (10) DCGS Enterprise assessments.

In FY 2018, T&E FT will perform a minimum of nine (9) DCGS Enterprise assessments.