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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Air Force **Date:** February 2015

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0305173F / <i>Space and Missile Test and Evaluation Center</i>
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COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
Total Program Element	-	3.584	3.674	3.162	-	3.162	4.028	3.993	3.858	3.926	Continuing	Continuing
67A014: <i>R&D Space and Missile Operations</i>	-	3.584	3.674	3.162	-	3.162	4.028	3.993	3.858	3.926	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Research and Development Space and Missile Operations (RDSMO) program, executed by the Advanced Systems and Development Directorate at Kirtland AFB, NM, conducts space and missile Research and Developmental Test and Evaluation (RDT&E) and Initial Operational Test and Evaluation (IOT&E) in support of experimental, demonstration, and operational satellites. The program develops, acquires, and operates satellite command and control (C2) and fixed/deployable telemetry, tracking, and commanding (TT&C) antenna systems in support of AF and DoD missions. The RDSMO program is responsible for the design, development, integration, testing, sustainment, and operations of the Multi-Mission Satellite Operations Center (MMSOC) C2 systems installed in the RDT&E Support Complex (RSC) at Kirtland AFB, NM and at the Satellite Operations Center 11 (SOC 11) located at Schriever AFB, CO.

FY16 funds include incremental development and establishment of new capabilities for the MMSOC, systems engineering, special studies, integration and test efforts in support of demonstrations and operational architectures designed to increase operations and maintenance affordability, efficiency and resiliency for global satellite command and control through military and commercial capabilities.

The main objective of MMSOC is to develop the capability to rapidly support R&D and operational systems and to transition R&D space vehicle technology with residual military utility to operational status for immediate warfighter support. MMSOC is a multiple mission operation system that uses standard software to (1) perform satellite command and control (C2) in support of launch requirements; (2) develop and test tactics, techniques, procedures and concepts to conduct satellite operations; (3) provide a satellite C2 incremental block evolution resource for RDT&E of new systems and concepts; and (4) deliver operational flexibility for new and currently flying assigned satellites.

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.

The FY2016 funding request was reduced by \$0.524 million to account for the availability of prior execution balances.

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B. Program Change Summary (\$ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	3.696	3.674	3.708	-	3.708
Current President's Budget	3.584	3.674	3.162	-	3.162
Total Adjustments	-0.112	-	-0.546	-	-0.546
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-0.112	-	-0.546	-	-0.546

Change Summary Explanation

The FY2016 funding request was reduced by \$0.524 million to account for the availability of prior execution balances.

C. Accomplishments/Planned Programs (\$ in Millions)	FY 2014	FY 2015	FY 2016
Title: MMSOC Development	3.584	3.674	3.162
Description: Multi-Mission Satellite Operations Center (MMSOC) development/integration/test			
FY 2014 Accomplishments: Completed hardware virtualization and continued implementation of new service bus architecture command and control capability. Supported operations of multiple satellites and enhanced automation. Continued program office support and related support activities such as, but not limited to, mission support, special studies, Systems Engineering and Technical Assistance (SETA), Federally Funded Research and Development Centers (FFRDC), etc.			
FY 2015 Plans: Provide capability to AFSPC for reduced cost of operations through use of MMSOC architecture. Continue to support operations of multiple satellites and enhance automation capability. Continue program office support and related support activities such as, but not limited to, mission support, special studies, Systems Engineering and Technical Assistance (SETA), Federally Funded Research and Development Centers (FFRDC), etc.			
FY 2016 Plans: Continue providing capability to AFSPC for reduced cost of operations and maintenance through evolution of MMSOC architecture and automated processes. Refine and continue to support operations of multiple satellites and enhance automation capability. Continue program office support and related support activities such as, but not limited to, mission support, special			

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C. Accomplishments/Planned Programs (\$ in Millions)	FY 2014	FY 2015	FY 2016
studies, Systems Engineering and Technical Assistance (SETA), Federally Funded Research and Development Centers (FFRDC), etc.			
Accomplishments/Planned Programs Subtotals	3.584	3.674	3.162

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

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• RDTE:BA07:PE 0305173F: <i>General Information Technology</i>	1.038	1.683	1.435	-	1.435	1.993	1.962	1.872	1.905	Continuing	Continuing

Remarks

E. Acquisition Strategy
The AF uses the competitively awarded Engineering, Development, and Sustainment (EDS) Contract, managed by Space and Missile System Center, Advanced Systems and Development Directorate, to modernize and sustain MMSOC.

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 2016 Air Force **Date:** February 2015

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Product Development (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Engineering, Development, and Sustainment (EDS) Follow-on Contract (MMSOC)	C/CPAF	Lockheed Martin : Santa Maria, CA	-	1.493	Oct 2013	1.648	Oct 2014	1.162	Oct 2015	-		1.162	Continuing	Continuing	TBD
Naval Research Lab	MIPR	Naval Research Lab : Washington, DC	-	1.000	Oct 2013	0.696	Oct 2014	0.450	Oct 2015	-		0.450	Continuing	Continuing	TBD
Service Bus Architecture Standards	MIPR	NASA Goddard : Greenbelt, MD	-	0.200	Oct 2013	0.050	Oct 2014	0.050	Oct 2015	-		0.050	Continuing	Continuing	TBD
Subtotal			-	2.693		2.394		1.662		-		1.662	-	-	-

Support (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Information Assurance Support (MMSOC)	Various	Various : ,	-	0.300	Oct 2013	0.300	Oct 2014	0.310	Oct 2014	-		0.310	Continuing	Continuing	TBD
Subtotal			-	0.300		0.300		0.310		-		0.310	-	-	-

Test and Evaluation (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
System Test and Engineering (STEC) Contract (MMSOC)	C/CPAF	LINQUEST : Kirtland, AFB, NM	-	0.256	Oct 2013	0.290	Oct 2014	0.300	Oct 2015	-		0.300	Continuing	Continuing	TBD
Subtotal			-	0.256		0.290		0.300		-		0.300	-	-	-

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Exhibit R-4A, RDT&E Schedule Details: PB 2016 Air Force		Date: February 2015
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Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
RDSMO Systems Upgrades	1	2014	4	2020
MMSOC Block II	1	2014	4	2020
MMSOC Information Assurance	1	2014	4	2020
MMSOC STP-2 Supt	1	2014	4	2015
MMSOC ORS-1 Supt	1	2014	4	2019
MMSOC C/NOFS Supt	1	2014	2	2015
MMSOC CloudSat Supt	1	2014	4	2020
MMSOC STPSat-3 Supt	1	2014	4	2017
MMSOC SENSE Supt	1	2014	1	2015
MMSOC ANGELS Supt	3	2014	4	2015
MMSOC EAGLE Supt	1	2015	4	2019
MMSOC GPIM Supt	1	2014	3	2017
MMSOC WFOV Supt	1	2014	4	2018
MMSOC DSX Supt	4	2015	4	2019
MMSOC Poseidon Supt	1	2014	4	2020
MMSOC ORS-5 Supt	4	2014	4	2020
AFSCN Support	1	2014	4	2018