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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0207444F: <i>Tactical Air Control Party Modernization</i>
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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	-	-	15.978	-	15.978	16.194	10.511	10.351	10.503	Continuing	Continuing
676013: <i>Equipment Modernization</i>	-	-	15.978	-	15.978	16.194	10.511	10.351	10.503	Continuing	Continuing

Note

In FY2012, Project 676013, Equipment Modernization, efforts were transferred from PE 0207423F, Advanced Communications Systems, Project 674934, TACP-M, in order to better identify and delineate efforts for Tactical Air Control Party Modernization.

A. Mission Description and Budget Item Justification

The TACP-Modernization (TACP-M) program is acquiring new capabilities to give TACPs the ability to detect targets and compute precise target coordinates for employment of GPS-aided weapons, reduce the potential for fratricide, and reduce the potential for collateral damage in civilian-occupied areas. This new equipment shortens the kill chain by reducing the time required to submit air support requests, providing target information to aircraft, and ensuring pilots are tracking the correct target. By reducing the time required to execute Close Air Support (CAS) missions in "troops-in-contact" situations, the TACP-M program helps reduce the number of U.S. and coalition casualties due to enemy action. TACPs deploy with Army maneuver units and provide a Command and Control (C2) link for CAS, airlift and AF surveillance/reconnaissance missions. TACPs are equipped with various targeting and communications equipment needed to interface with ground maneuver forces, aircraft conducting CAS operations, other Joint Fires assets, aerospace C2 aircraft/agencies, and Intelligence, Surveillance and Reconnaissance (ISR) platforms/agencies. The TACP-M program provides TACP, Air Support Operations Center (ASOC), and Tactical Operations Center (TOC) personnel with the capability to precisely locate and target enemy ground forces by integrating various Laser Targeting Devices (LTD) and ultra high frequency satellite communications (UHF SATCOM) for beyond-line-of-sight (BLOS) Air Force Air Request Net operations. The purpose of the TACP-M program is to reduce reliance on voice transmission and replace analog equipment with the latest digital, data link and streaming video (e.g. Streaming Video Receiver) technology. Upgraded digital communications enable machine-to-machine interface between TACPs and CAS aircraft, Army units and other TACP units. Machine-to-machine communication provides reliable, high-speed digital communications, ultimately supports joint and multinational interoperability, improves battlefield Situational Awareness (SA), increases targeting accuracy, reduces kill chain decision time, improves data flows/information exchange, and reduces potential fratricide. The TACP-M program supports Overseas Contingency Operations (OCO) and significantly increases the mission effectiveness of the TACPs and ASOCs during Operation Enduring Freedom and Operation New Dawn. TACP-M program continues to be instrumental in providing ground communications for TACPs during federal emergency relief operations and Homeland Defense initiatives.

TACP-M is divided into three segments: Dismounted, Mounted, and Software. The TACP dismounted segment provides modernized, modular, re-locatable and man-portable capabilities via streamlined acquisition using non-developmental, off-the-shelf (OTS) Manpack Radios (MPR) or Handheld Radios (HHR), laser targeting devices (LTDs) (including but not limited to Laser Range Finder (LRFs), Joint Effects Targeting System (JETS) laser designators and imagers), tactical computers, and ancillary equipment combined with Close Air Support System (CASS) software for dismounted, ASOC, and TOC use. The TACP mounted segment upgrades existing TACP communications systems with new Software Communication Architecture (SCA)-certified, Joint Tactical Radio System (JTRS) or available software programmable radios, legacy radios, and ancillary components, which provide reliable communications for CAS and other air support operations. TACP-M will integrate Internet Protocol (IP)-capable, SCA radios for voice & data UHF SATCOM and LOS UHF /VHF communications. TACP-M funds will continue to develop

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systems integration software (for dismounted and mounted) for multiple air/ground platforms (e.g. JETS (Target Effects Coordination System [TECS])software development, Small Diameter Bomb II (SDBII), F-35, Mine Resistant Ambush Protected(MRAP)vehicle, Gateway Lite, and ASOC Gateway vehicle and will provide interoperability data links such as Situational Awareness Data Link (SADL), Link-16 and other transformational communications capabilities.

Mounted overseas contingency operations also require new digital communications/network enabled capabilities integrated in armored vehicle platforms, including High Mobility, Multi-Wheeled Vehicles (HMMWV), Stryker, Mine Resistant Ambush Protected (MRAP) and other vehicle platforms used in times of conflict. The Air Force has requested acceleration of a vehicle communications capability into TACP Stryker Light Armored Vehicles (LAV), and other tactical vehicles.

FY12 efforts include continued development in integrating VCS into additional vehicles, CASS software development for additional interfaces with new weapons, aircraft, C2 nodes, and development of TLDS and TECS through the JETS program office.

The TACP-M program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded.

B. Program Change Summary (\$ in Millions)	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012 Base</u>	<u>FY 2012 OCO</u>	<u>FY 2012 Total</u>
Previous President's Budget	-	-	16.575	-	16.575
Current President's Budget	-	-	15.978	-	15.978
Total Adjustments	-	-	-0.597	-	-0.597
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-	-	-0.597	-	-0.597

Change Summary Explanation

In FY2012, Project 676013, Equipment Modernization, efforts were transferred from PE 0207423F, Advanced Communications Systems, Project 674934, Tactical Air Control Party, in order to better identify and delineate efforts for Tactical Air Control Party Modernization.

The program funding includes reductions for overhead reduction efficiencies that are not intended to impact program content. The efficiencies reductions total \$0.597M in FY12.

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force								DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 7: Operational Systems Development				R-1 ITEM NOMENCLATURE PE 0207444F: Tactical Air Control Party Modernization				PROJECT 676013: Equipment Modernizat on			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
676013: Equipment Modernizat on	-	-	15.978	-	15.978	16.194	10.511	10.351	10.503	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		
Note In FY2012, Project 676013, Equipment Modernization, efforts were transferred from PE 0207423F, Advanced Communications Systems, Project 674934, TACP-M, in order to better identify and deliniate efforts for Tactical Air Control Party Modernization.											
A. Mission Description and Budget Item Justification The TACP-Modernization (TACP-M) program is acquiring new capabilities to give TACPs the ability to detect targets and compute precise target coordinates for employment of GPS-aided weapons, reduce the potential for fratricide, and reduce the potential for collateral damage in civilian-occupied areas. This new equipment shortens the kill chain by reducing the time required to submit air support requests, providing target information to aircraft, and ensuring pilots are tracking the correct target. By reducing the time required to execute Close Air Support (CAS) missions in "troops-in-contact" situations, the TACP-M program helps reduce the number of U.S. and coalition casualties due to enemy action. TACPs deploy with Army maneuver units and provide a Command and Control (C2) link for CAS, airlift and AF surveillance/reconnaissance missions. TACPs are equipped with various targeting and communications equipment needed to interface with ground maneuver forces, aircraft conducting CAS operations, other Joint Fires assets, aerospace C2 aircraft/agencies, and Intelligence, Surveillance and Reconnaissance (ISR) platforms/agencies. The TACP-M program provides TACP, Air Support Operations Center (ASOC), and Tactical Operations Center (TOC) personnel with the capability to precisely locate and target enemy ground forces by integrating various Laser Targeting Devices (LTD) and ultra high frequency satellite communications (UHF SATCOM) for beyond-line-of-sight (BLOS) Air Force Air Request Net operations. The purpose of the TACP-M program is to reduce reliance on voice transmission and replace analog equipment with the latest digital, data link and streaming video (e.g. Streaming Video Receiver) technology. Upgraded digital communications enable machine-to-machine interface between TACPs and CAS aircraft, Army units and other TACP units. Machine-to-machine communication provides reliable, high-speed digital communications, ultimately supports joint and multinational interoperability, improves battlefield Situational Awareness (SA), increases targeting accuracy, reduces kill chain decision time, improves data flows/information exchange, and reduces potential fratricide. The TACP-M program supports Overseas Contingency Operations (OCO) and significantly increases the mission effectiveness of the TACPs and ASOCs during Operation Enduring Freedom and Operation New Dawn. TACP-M program continues to be instrumental in providing ground communications for TACPs during federal emergency relief operations and Homeland Defense initiatives. TACP-M is divided into three segments: Dismounted, Mounted, and Software. The TACP dismounted segment provides modernized, modular, re-locatable and man-portable capabilities via streamlined acquisition using non-developmental, off-the-shelf (OTS) Manpack Radios (MPR) or Handheld Radios (HHR), laser targeting devices (LTDs) (including but not limited to Laser Range Finder (LRFs), Joint Effects Targeting System (JETS) laser designators and imagers), tactical computers, and ancillary equipment combined with Close Air Support System (CASS) software for dismounted, ASOC, and TOC use. The TACP mounted segment upgrades existing TACP communications systems with new Software Communication Architecture (SCA)-certified, Joint Tactical Radio System (JTRS) or available software programmable radios, legacy radios, and ancillary components, which provide reliable communications for CAS and other air support operations. TACP-M will integrate Internet Protocol (IP)-capable, SCA radios for voice & data UHF SATCOM and LOS UHF /VHF communications. TACP-M funds will continue to develop											

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011				
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 7: Operational Systems Development	R-1 ITEM NOMENCLATURE PE 0207444F: Tactical Air Control Party Modernization	PROJECT 676013: Equipment Modernizat					
systems integration software (for dismounted and mounted) for multiple air/ground platforms (e.g. JETS (Target Effects Coordination System [TECS])software development, Small Diameter Bomb II (SDBII), F-35, Mine Resistant Ambush Protected(MRAP)vehicle, Gateway Lite, and ASOC Gateway vehicle and will provide interoperability data links such as Situational Awareness Data Link (SADL), Link-16 and other transformational communications capabilities.							
Mounted overseas contingency operations also require new digital communications/network enabled capabilities integrated in armored vehicle platforms, including High Mobility, Multi-Wheeled Vehicles (HMMWV), Stryker, Mine Resistant Ambush Protected (MRAP) and other vehicle platforms used in times of conflict. The Air Force has requested accelleration of a vehicle communications capability into TACP Stryker Light Armored Vehicles (LAV), and other tactical vehicles.							
FY12 efforts include continued development in integrating VCS into additional vehicles, CASS software development for additional interfaces with new weapons, aircraft, C2 nodes, and development of TLDS and TECS through the JETS program office.							
The TACP-M program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded.							
B. Accomplishments/Planned Programs (\$ in Millions)			FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: Vehicular Communications System (VCS) Description: Design, develop, fabricate, integrate, test, provide associated documentation (e.g. technical manuals) in support of delivering a digital multiple-channel, mobile VCS to replace the aging analog GRC-206 communications pallet. FY 2010 Accomplishments: FY 2011 Plans: FY 2012 Base Plans: Continue development effort to integrate VCS into additional TACP vehicles (e.g. Stryker). Continue investigating additional vehicle types for integration of VCS. This effort requires contractor and engineering support to accomplish the engineering, management and test planning activities. FY 2012 OCO Plans:			-	-	4.343	-	4.343
Title: Close Air Support System (CASS) Description: CASS Software - Upgrade TACP digital communications mission software to enable machine-to-machine (MTM) interfaces between TACPs and multiple systems (e.g. CAS aircraft, Command and Control (C2) nodes, etc.) Develop new capabilities to satisfy documented requirements to improve battlefield Situational			-	-	5.527	-	5.527

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 7: Operational Systems Development	R-1 ITEM NOMENCLATURE PE 0207444F: Tactical Air Control Party Modernization	PROJECT 676013: Equipment Modernizat on				
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Awareness, increase targeting accuracy, reduce the kill chain, and improve data flow/information exchange and reduce fratricide. FY 2010 Accomplishments: FY 2011 Plans: FY 2012 Base Plans: Continue to develop new MTM interfaces with weapons (e.g. Small Diameter Bomb II), new interfaces with Joint Air Ground Integration Cell, C2 Nodes, indirect fires integration, and aircraft across the USAF, Joint (e.g. F-35) and Coalition environment, and satisfy validated warfighter requirements. This effort will include contractor support, engineering support, test and evaluation. This effort also continues to support the Joint Digital Aided Close Air Support (DACAS) initiative to drive all major players in the CAS arena to a common standard. FY 2012 OCO Plans:						
Title: Joint Effect Targeting System (JETS) Description: JETS is an Army-led program to develop, integrate, and test an integrated CAS targeting system that is smaller, lighter, and more accurate than current systems. JETS consists of two sub-systems: the Target Locations and Designation System (TDLS) that provides target acquisition, high-accuracy target location and laser designation; and the Target Effects Coordination Systems (TECS) that provides connectivity to the digital C4I systems and aircraft. JETS will be incrementally developed where TDLS is Increment 1 and TECS is Increment 2. FY 2010 Accomplishments: FY 2011 Plans: FY 2012 Base Plans: AF funds will continue to support the development of a prototype TLDS system through the JETS program office. The primary TLDS capability requirements are: provide a reduction in hardware weight from current similar systems, provide a highly accurate target location capability. AF funds will also support TECS software development, integration, and testing. This effort includes contractor support, engineering support, and test and evaluation. FY 2012 OCO Plans:		-	-	6.108	-	6.108

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force							DATE: February 2011				
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>			R-1 ITEM NOMENCLATURE PE 0207444F: <i>Tactical Air Control Party Modernization</i>			PROJECT 676013: <i>Equipment Modernization</i>					
B. Accomplishments/Planned Programs (\$ in Millions)						FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	
Accomplishments/Planned Programs Subtotals						-	-	15.978	-	15.978	
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• PE 0207423F: <i>OPAF</i>	71.683	132.963	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
• PE 0207444F: <i>OPAF</i>	0.000	0.000	53.839	0.000	53.839	59.502	25.951	24.862	25.260	Continuing	Continuing
D. Acquisition Strategy											
TACP-M is executing an incremental development for the TACP CASS software. TACP CASS software systems engineering, design, integration, and fielding support is being provided under a cost plus fixed fee contract. JETS is a joint interest development program managed by the Army.											
E. 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 2012 Air Force											DATE: February 2011				
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 7: Operational Systems Development						R-1 ITEM NOMENCLATURE PE 0207444F: Tactical Air Control Party Modernization				PROJECT 676013: Equipment Modernizaton					
Product Development (\$ in Millions)						FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract		
CASS Sys Int Software Dev't	C/CPFF	Rockwell Collins:Poway, CA	-	-		2.759	May 2012	-		2.759	Continuing	Continuing	TBD		
VCS (GRC-206 Replacement)	C/TBD	TBD:,	-	-		2.423	Feb 2012	-		2.423	Continuing	Continuing	TBD		
JETS	MIPR	Army - SSL Division:Ft Belvoir, VA	-	-		6.108	May 2012	-		6.108	Continuing	Continuing	TBD		
Subtotal			-	-		11.290		-		11.290					
Remarks TACP RDT&E efforts have moved from PE 0207423F, BPAC 674934 effective FY2012.															
Support (\$ in Millions)						FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract		
System Engineering	TBD	Not specified.:	-	-		1.330		-		1.330	Continuing	Continuing	TBD		
Subtotal			-	-		1.330		-		1.330					
Remarks TACP RDT&E efforts have moved from PE 0207423F, BPAC 674934 effective FY2012.															
Test and Evaluation (\$ in Millions)						FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract		
Test Agency Support	Various	Various.:	-	-		2.833	Oct 2011	-		2.833	Continuing	Continuing	TBD		
Subtotal			-	-		2.833		-		2.833					
Remarks Development, operational and interoperability testing TACP RDT&E efforts have moved from PE 0207423F, BPAC 674934 effective FY2012.															

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force											DATE: February 2011		
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Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Support	Various	Not specified.;	-	-		0.525	Jan 2012	-		0.525	Continuing	Continuing	TBD
Subtotal			-	-		0.525		-		0.525			
Remarks TACP RDT&E efforts have moved from PE 0207423F, BPAC 674934 effective FY2012.													
			Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			-	-		15.978		-		15.978			
Remarks													

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force		DATE: February 2011
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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0207444F: <i>Tactical Air Control Party Modernization</i>	PROJECT 676013: <i>Equipment Modernization</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Close Air Support System (CASS) v1.4.2	1	2010	4	2011
Close Air Support System (CASS) v1.4.4	2	2010	2	2013
Close Air Support System (CASS) v1.4.5	3	2012	3	2015
Close Air Support System (CASS) v1.4.6	3	2014	4	2016
Joint Effects Targeting Systems	3	2010	4	2016