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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305236F: <i>Common Data Link (CDL)</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	-	0.000	38.094	40.503	-	40.503	41.087	41.254	41.792	42.536	Continuing	Continuing
674819: <i>Common Data Link (CDL)</i>	-	0.000	38.094	40.503	-	40.503	41.087	41.254	41.792	42.536	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

Note

In FY 2013, Project 674819, Common Data Link (CDL), efforts transferred from Program Element 0305206F, Airborne Reconnaissance, Project 674819, Common Data Link (CDL).

A. Mission Description and Budget Item Justification

Common Data Link (CDL) provides the DoD standard for interoperable, multi-service, multi-agency, wideband datalinks for manned/unmanned platforms performing Intelligence, Surveillance, and Reconnaissance (ISR) missions. As the CDL Executive Agent (EA), the Air Force is responsible for cross-service application of CDL RDT&E funds facilitating compliance to Congressional and DoD mandates. Military Intelligence Program (MIP) funds are used to maintain, distribute, and upgrade the CDL specifications while ensuring design configuration, commonality, and interoperability among ISR platforms. Additionally, funds are used for the management of resources allocated for development and migration of CDL technologies. Updates to the CDL specification and developmental systems impact 10,000+ DoD airborne and ground ISR systems.

The CDL program enables compliance with OSD and Congressional mandates to minimize spectrum usage, use of cryptographic equipment, and direct support to current operations. The CDL specifications permit current and future ISR assets to operate worldwide by providing sensor data directly via point-to-point broadcast to ground sites, airborne platforms and dismounted users. CDL is a vital link in DoD's emerging communication architectures. CDL provides the capability to relay data via air-to-air or compatible satellite links when the asset and ground site are not in line-of-sight. CDL provides the largest bandwidth datalink in DoD, accommodating numerous sensors collecting Signals Intelligence (SIGINT), Imagery Intelligence (IMINT), and video data.

Research and development activities include achieving higher data rates for CDL, operations in other spectral bands, and support of large area surveillance missions, while supporting continuous improvements and implementation of line-of-sight platform and CDL terminal Command and Control, plus increased Intelligence, Surveillance, and Reconnaissance (C2ISR) capabilities. Activities also include studies and analysis to support current and future program planning and execution. CDL terminal designs provide for future technology insertion and reduce non-recurring engineering and life-cycle costs to the user.

The addition of Gigabit Encryption thrust enables CDL to develop a miniaturized gigabit rate Communication Security (COMSEC) device that will be capable of managing CDL data. The miniaturized COMSEC device will allow faster throughput while reducing Size, Weight, and Power (SWaP) requirements.

UNCLASSIFIED

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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.						
B. Program Change Summary (\$ in Millions)		FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget		0.000	38.094	38.503	-	38.503
Current President's Budget		0.000	38.094	40.503	-	40.503
Total Adjustments		0.000	0.000	2.000	-	2.000
• Congressional General Reductions		-	0.000			
• Congressional Directed Reductions		-	0.000			
• Congressional Rescissions		0.000	0.000			
• Congressional Adds		-	0.000			
• Congressional Directed Transfers		-	0.000			
• Reprogrammings		0.000	0.000			
• SBIR/STTR Transfer		0.000	0.000			
• Other Adjustments		0.000	0.000	2.000	-	2.000
Change Summary Explanation						
In FY 2014, the \$2M increase supports Gigabit Encryption development efforts.						
C. Accomplishments/Planned Programs (\$ in Millions)				FY 2012	FY 2013	FY 2014
Title: CDL Technology Advancement				0.000	26.370	26.361
Description: CDL evolutionary terminal development, advanced technology insertion, demonstrations, and studies per CDL IPT direction to the CDL Executive Agent(CDL EA).						
FY 2013 Plans: Continues the development and testing of Higher Data Rates to existing and emerging terminals, plus additional Size, Weight and Power (SWaP) improvements. Continues the technology developments for adapting/testing networking and more effective portable ground and lightweight airborne terminal components, continuation of multispectral operations flexibility, increased spectrum efficiency, and integration of improved transmission components. Continues development of enhanced, CDL-based ISR communications capabilities across multiple platforms and rapid prototyping efforts. Continues support of emerging communication backbone architecture development across space, air, and terrestrial layers including agile high capacity data transport and creating mobile network hubs.						
FY 2014 Plans:						

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C. Accomplishments/Planned Programs (\$ in Millions)		FY 2012	FY 2013	FY 2014
Will continue development and testing of Higher Data Rates to existing and emerging terminals, plus additional Size, Weight and Power (SWaP) improvements. Will continue technology developments for adapting/testing networking and more effective portable ground and lightweight airborne terminal components, continuation of multispectral operations flexibility, increased spectrum efficiency, and integration of improved transmission components. Will continue development of enhanced, CDL-based ISR communications capabilities across multiple platforms and rapid prototyping efforts. Will continue support of emerging communication backbone architecture development across space, air, and terrestrial layers including agile high capacity data transport and creating mobile network hubs.				
Title: CDL specification maintenance and development Description: CDL specification testing, maintenance, development, validation, configuration control, and distribution per CDL IPT direction to CDL EA. FY 2013 Plans: Continues research and development upgrades of current and future specification employment profiles to include the adding of capabilities required to support Joint Aerial Layer Network and other emerging operational capabilities. Enhances spectrally efficient CDL waveform specification. Continues to work with CDL industry and Services to document, validate, and implement common terminal control interfaces through the use of commercially recognized standards. Continues to maintain configuration control of the CDL architecture, standards, specifications, and modules. FY 2014 Plans: Will continue researching and/or developing upgrades to support current and future specification employment profiles and include adding capabilities required to support Joint Aerial Layer Network and other emerging operational capabilities. Will enhance spectrally efficient CDL waveform specification. Will continue to work with CDL industry and Services to document, validate, and implement common terminal control interfaces through the use of commercially recognized standards. Will continue to maintain configuration control of the CDL architecture, standards, specifications, and modules.		0.000	6.573	6.770
Title: Gigabit Encryption Description: Develop a miniaturized gigabit rate COMSEC device capable of handling CDL data rates. Miniaturizing COMSEC components will enable faster data throughput (greater than 12 GBPS) and reduce size, weight, and power. Once developed, CDL users will have to procure COMSEC components and fund installation/integration. FY 2014 Plans: Will initiate the development effort to build the gigabit encryption device which will be eventually fielded on numerous platforms. This device will allow faster data throughput and reduce the size, weight and power.		0.000	0.000	2.000
Title: Program Management Administration (PMA)		0.000	5.151	5.372

UNCLASSIFIED

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C. Accomplishments/Planned Programs (\$ in Millions)		FY 2012	FY 2013	FY 2014
<p>Description: Program Support Administration costs support management with engineering and technical support for development and implementation.</p> <p>FY 2013 Plans: Supports program activities required for device production. Permits the System Program Office (SPO) to discharge responsibilities to support the fielding and installation of new and developing capabilities.</p> <p>FY 2014 Plans: Will continue to support program activities required for device production. Permits the System Program Office (SPO) to discharge responsibilities to support the fielding and installation of new and developing capabilities.</p>				
Accomplishments/Planned Programs Subtotals		0.000	38.094	40.503
D. Other Program Funding Summary (\$ in Millions)				
N/A				
Remarks				
E. Acquisition Strategy				
The CDL Executive Agent, supported by each of the Services' CDL program's Service laboratories, the Airborne Network Division (AFLCMC/HNA), and the Defense Information Systems Agency (DISA), provide for development of interoperable wideband ISR data links as mandated by the Assistant Secretary of Defense (Networks and Information Integration) (ASD(NII)) policy. Once CDL technology development matures, platforms are responsible for program CDL procurement, National Security Agency (NSA) and DISA certifications, integration, and installation. Acquisition strategy varies by contract. When possible, contracts are awarded under full and open competition.				
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 2014 Air Force												DATE: April 2013			
APPROPRIATION/BUDGET ACTIVITY						R-1 ITEM NOMENCLATURE				PROJECT					
3600: Research, Development, Test & Evaluation, Air Force BA 7: Operational Systems Development						PE 0305236F: Common Data Link (CDL)				674819: Common Data Link (CDL)					
Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
AF Gigabit Plus, AF IA Modernization, Army Spec Verification	C/CPFF	L-3 Communications:Salt Lake City, UT	-	0.000		8.820	Jan 2013	11.500	Feb 2014	-		11.500	Continuing	Continuing	TBD
Advanced Waveform Validation, Marine ISR Comm, Joint Spec Support	C/CPFF	Cubic:San Diego, CA	-	0.000		4.000	Jan 2013	4.500	Jan 2014	-		4.500	Continuing	Continuing	TBD
Marine AH-1 - FMV	C/CPFF	Bell Helicopter:Hurst, TX	-	0.000		3.400	Jan 2013	3.500	Jan 2014	-		3.500	Continuing	Continuing	TBD
Under Threshold Combined	Various	Various:Various,	-	0.000		9.289	Dec 2012	8.016	Dec 2013	-		8.016	Continuing	Continuing	TBD
Subtotal			0.000	0.000		25.509		27.516		0.000		27.516			
Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Service Tech Support & Spec Development	MIPR	Various:Various,	-	0.000		5.597	Oct 2012	5.765	Oct 2013	-		5.765	Continuing	Continuing	TBD
Subtotal			0.000	0.000		5.597		5.765		0.000		5.765			
Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Joint Interoperability Test Center (JITC)	MIPR	JITC:Fort Huachuca, AZ	-	0.000		1.500	Nov 2012	1.500	Nov 2013	-		1.500	Continuing	Continuing	TBD
46 Test Squadron	PO	46 TS/OGEX:Eglin AFB, FL	-	0.000		0.337	Dec 2012	0.350	Dec 2012	-		0.350	Continuing	Continuing	TBD
Subtotal			0.000	0.000		1.837		1.850		0.000		1.850			

UNCLASSIFIED

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Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
PMA - MITRE Engineering Support	SS/T&M	MITRE Corp.:Bedford, MA	-	0.000		0.768	Oct 2012	0.791	Oct 2013	-		0.791	Continuing	Continuing	TBD
PMA - PASS Financial and PM Support	C/T&M	PE Systems:Littleton, MA	-	0.000		1.100	Feb 2013	1.200	Feb 2014	-		1.200	Continuing	Continuing	TBD
PMA - Under Threshold Program Mgmt/Tech Support	Various	Various:Various,	-	0.000		3.283	Dec 2012	3.381	Oct 2013	-		3.381	Continuing	Continuing	TBD
Subtotal			0.000	0.000		5.151		5.372		0.000		5.372			
			All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			0.000	0.000		38.094		40.503		0.000		40.503			
Remarks															

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force

DATE: April 2013

APPROPRIATION/BUDGET ACTIVITY

3600: Research, Development, Test & Evaluation, Air Force
BA 7: Operational Systems Development

R-1 ITEM NOMENCLATURE

PE 0305236F: Common Data Link (CDL)

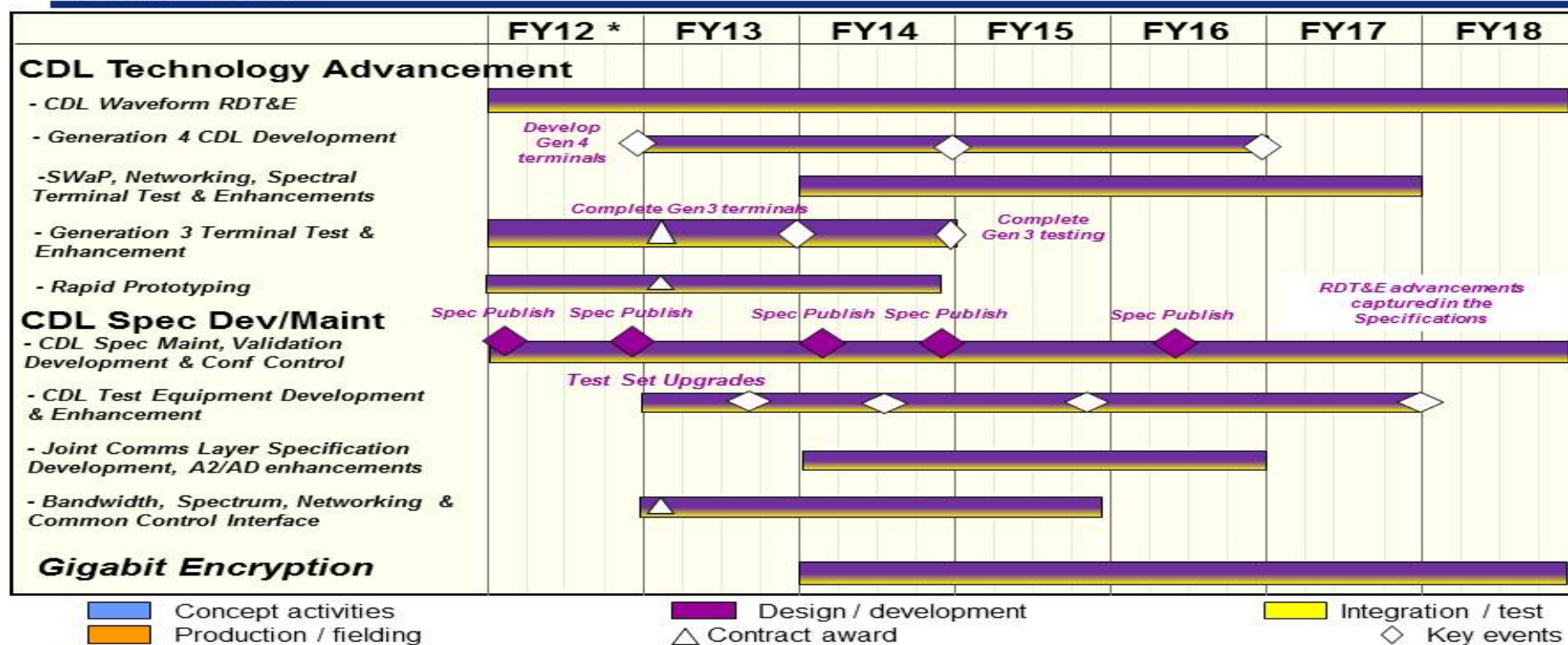
PROJECT

674819: Common Data Link (CDL)



U.S. AIR FORCE

CDL Schedule



* - FY 2012 efforts accomplished under Program Element 0305206F, Airborne Reconnaissance, Project 674819, CDL

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force			DATE: April 2013
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Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
CDL Waveform RDT&E	1	2012	4	2018
Gen 4 CDL Dev	1	2013	4	2016
SWaP, Networking, Spectral Terminal Test & Enhancement	1	2014	4	2017
Gen 3 Terminal Test & Enhancement	1	2012	4	2014
Rapid Prototyping	1	2012	4	2014
CDL Spec Maint, Validation, Dev & Config Control	1	2012	4	2018
CDL Test Equipment Dev & Enhancement	1	2013	4	2017
Joint Communication Layer Specification Development, A2/AD Enhancements	1	2014	4	2016
Bandwidth, Spectrum, Networking & Common Control Interface	1	2013	4	2015
Gigabit Encryption	1	2014	4	2018