Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Air Force												Date: May 2021
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 4: *Advanced Component Development & Prototypes (ACD&P)*					R-1 Program Element (Number/Name) PE 0305236F / *Common Data Link Executive Agent (CDL EA)*							
COST ($ in Millions)	**Prior Years**	**FY 2020**	**FY 2021**	**FY 2022 Base**	**FY 2022 OCO**	**FY 2022 Total**	**FY 2023**	**FY 2024**	**FY 2025**	**FY 2026**	**Cost To Complete**	**Total Cost**
Total Program Element	-	36.893	39.221	43.881	0.000	43.881	-	-	-	-	-	-
641334: *Common Data Link (CDL)*	-	36.893	39.221	43.881	0.000	43.881	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Common Data Link Executive Agent (CDL EA) provides the DoD standard for interoperable, multi-service, multi-agency, Intelligence, Surveillance, and Reconnaissance (ISR) datalinks for 15,000 DoD manned/unmanned airborne and ground terminals. As the DoD CDL EA, the Air Force is responsible for cross-service application of CDL RDT&E Military Intelligence Program (MIP) funds facilitating compliance to DoD mandates. The CDL EA develops, modifies, distributes, and maintains specifications for the CDL waveform family; ensuring design configuration control, commonality, and interoperability among ISR platforms. Additionally, funds support managing resources allocated for development, maturation, and migration of CDL technologies.

CDL EA enables compliance with OSD mandates to effectively utilize spectrum, use approved cryptographic equipment, and provide direct support to current operations. CDL is a vital link in DoD's existing and emerging communication architectures, providing flexibility to accommodate Command and Control (C2) data and myriad types of Signals Intelligence (SIGINT), Geospatial Intelligence (GEOINT), and Full-Motion Video (FMV) data. The CDL specifications permit current and future ISR asset operations worldwide by providing sensor data directly via point-to-point and broadcast to ground sites, airborne platforms, and dismounted users. Also, 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 EA's research and development activities support a broad array of tactical (including tactical data links (TDL) and high capacity backbone (HCB)), operational, and strategic ISR users and include achieving higher data rates, open architecture development, multi- access and multi-node network management, cryptographic modernization, advancements needed to operate in contested environments, terminal and antenna design enhancements, operations in other spectral bands, and improving spectrum efficiency. Further, CDL development improves large area surveillance missions while supporting continuous improvements and implementation of line-of-sight platform and CDL terminal Command and Control (C2), plus increased ISR (C2ISR) capabilities. Activities also include studies and analysis to support current and future requirements documentation, program planning and execution. CDL prototype terminal designs provide for future technology insertion and reduce non-recurring engineering and life-cycle costs to the user.

In addition, the Cryptographic Core Modernization (CCM) thrust enables CDL to develop a miniaturized gigabit rate Communications Security (COMSEC) device capable of managing CDL data. The miniaturized COMSEC device will allow faster throughput while reducing Size, Weight, and Power (SWaP) requirements.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver Common Data Link weapon system capability. The use of such program funds would be in addition to the civilian pay expenses budgeted in program element 0605829F. In FY20 0.375M was expended for civilian pay expenses in this program element, and in FY21 0.517M is forecasted for civilian pay expenses in this program element.

Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Air Force	Date: May 2021
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 Program Element (Number/Name)** PE 0305236F / *Common Data Link Executive Agent (CDL EA)*

This effort is in Budget Activity 4, Advanced Component Development and Prototypes (ACD&P), because efforts are necessary to evaluate integrated technologies, representative modes or prototype systems in a high fidelity and realistic operating environment.

B. Program Change Summary ($ in Millions)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Previous President's Budget	36.910	39.293	46.885	0.000	46.885
Current President's Budget	36.893	39.221	43.881	0.000	43.881
Total Adjustments	-0.017	-0.072	-3.004	0.000	-3.004
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	-0.015	-0.040			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	-0.002	-0.032	-3.004	0.000	-3.004

C. Accomplishments/Planned Programs ($ in Millions)	FY 2020	FY 2021	FY 2022
Title: Common Data Link (CDL) Technology Advancement	15.993	11.303	19.100
Description: CDL evolutionary concept development, exploratory prototyping, advanced technology demonstrations, and studies of emerging technologies and capability gaps. ***FY 2021 Plans:*** - Continue development and maturation of new LPI/LPD/AJ waveform capability to support operations in the contested airspace. - Continue to research and evaluate technology developments for enhancing the CDL enterprise networking architecture, to include network management devices, applications and advanced algorithms. - Continue to research, evaluate and develop more spectrally efficient waveforms to support Combatant Command demand for higher bandwidth transmission and improved jam resistant capabilities. - Continue to research, evaluate and develop improvements to CDL waveforms to lower probability of detection and interception to support Combatant Command demand for improved covertness of ground and airborne forces. - Continue development of enhanced, CDL-based Intelligence, Surveillance and Reconnaissance (ISR) communication capabilities across multiple platforms and echelons among U.S and allied partners. - Continue development of a collaborative CDL modeling and simulation environment using Navy Research Lab's Extendable Mobile Ad-Hoc Network Emulator (EMANE) framework for CDL performance analysis and waveform advancements. The CDL			

Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Air Force	Date: May 2021
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 Program Element (Number/Name)** PE 0305236F / *Common Data Link Executive Agent (CDL EA)*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2020	FY 2021	FY 2022
EMANE environment will be the baseline for joint Service and vendor collaboration as the community modernizes CDL for the future fight. - Continue waveform performance analysis of current CDL capabilities and future enhancements on their ability to achieve mission success in National Defense Strategy (NDS) derived scenarios to focus future CDL modernization efforts to update the CDL specifications. - Continue evaluation, analysis and study of multi-beam antenna technology to further improve CDL networking and Low Probability of Interception / Low Probability of Detection / Anti-Jam (LPI/LPD/AJ) capabilities. - Continue antenna capabilities modernization with multi-beam and Extremely Wideband Operations (EWO) antenna array research and development. - Continue to research, evaluate and develop an Open Systems Architecture to improve CDL enterprise interoperability and terminal design flexibility. - Continue requirements and design analysis of improving BE-CDL support to smaller Group 1 unmanned air assets. - Continue prototyping efforts and advanced technology demonstrations in support of emerging communication backbone architecture, including high capacity backbone development across multiple domains. - Continue research and evaluation of developing Artificial Intelligence (AI) technologies to support faster correlation and fusion of ISR and CDL network management processes. - Continue to research and evaluate developing technologies to minimize the National Security Agency (NSA) required certification requirements for terminals while standardizing Communications Security (COMSEC) and Transmission Security (TRANSEC) implementation.			
FY 2022 Plans: - Will continue development and maturation of new LPI/LPD/AJ waveform capability to support operations in the contested airspace. - Will continue to research and evaluate technology developments for enhancing the CDL enterprise networking architecture, to include network management devices, applications and advanced algorithms. - Will continue to research, evaluate and develop more spectrally efficient waveforms to support Combatant Command demand for higher bandwidth transmission and improved jam resistant capabilities. - Will continue to research, evaluate and develop improvements to CDL waveforms to lower probability of detection and interception to support Combatant Command demand for improved covertness of ground and airborne forces. - Will continue development of enhanced, CDL-based Intelligence, Surveillance and Reconnaissance (ISR) communication capabilities across multiple platforms and echelons among U.S and allied partners. - Will continue development of a collaborative CDL modeling and simulation environment using Navy Research Lab's Extendable Mobile Ad-Hoc Network Emulator (EMANE) framework for CDL performance analysis and waveform advancements. The CDL			

Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Air Force	Date: May 2021
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C. Accomplishments/Planned Programs ($ in Millions)	FY 2020	FY 2021	FY 2022
EMANE environment will be the baseline for joint Service and vendor collaboration as the community modernizes CDL for the future fight. - Will continue waveform performance analysis of current CDL capabilities and future enhancements on their ability to achieve mission success in National Defense Strategy (NDS) derived scenarios to focus future CDL modernization efforts to update the CDL specifications. - Will continue analysis and study of multi-beam antenna technology to further improve CDL networking and Low Probability of Interception / Low Probability of Detection / Anti-Jam (LPI/LPD/AJ) capabilities. - Will continue antenna array modernization with the Extremely Wideband Operations (EWO) antenna array research and development. - Will continue to research, evaluate and develop an Open Systems Architecture to improve CDL enterprise interoperability and terminal design flexibility. - Will continue prototyping and advanced technology demonstrations in support of emerging communication backbone architecture, including high capacity backbone development, across multi-domains. - Will continue requirements and design improvements for more robust BE-CDL support to smaller Group 1 UAV. - Will continue exploratory prototyping efforts and advanced technology demonstrations in support of emerging communication backbone architecture, including HCB development, across air, space and terrestrial layers, to include agile high capacity data transport, assured communications and multi-mode access network. - Will continue research and evaluate developing Artificial Intelligence (AI) technologies to support faster correlation and fusion of ISR and CDL network management processes. - Will continue to research and evaluate developing technologies to minimize the National Security Agency (NSA) required certification requirements for terminals while standardizing Communications Security (COMSEC) and Transmission Security (TRANSEC) implementation. ***FY 2021 to FY 2022 Increase/Decrease Statement:*** Increased FY22 investments are projected to allow CDL to support Joint All-Domain Command and Control (JADC2) resilient communications (e.g., improved COMSEC and TRANSEC capabilities) in future contested battlespace environments, resulting in CDL Specification updates released to Service Program Offices in FY23 and FY25.			
Title: Common Data Link (CDL) Specification Development, Validation, Test and Maintenance	13.800	20.318	15.000
Description: Systems engineering lifecycle for CDL and NATO STANAG 7085 specification development: requirement decomposition, specification development (modeling, maturation, documentation), specification validation (and associated component prototyping), testing, configuration management, and process maintenance. ***FY 2021 Plans:*** - Continue development and maturation of new LPI/LPD/AJ waveform capability to support operations in the contested airspace.			

Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Air Force	Date: May 2021
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 Program Element (Number/Name)** PE 0305236F / *Common Data Link Executive Agent (CDL EA)*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2020	FY 2021	FY 2022
- Continue development of vendor and government owner reference implementation of the new LPI/LPD/AJ waveform to performance future validation to ensure the CDL specification is accurate and can be built by multiple vendors in the future, therefore keeping the market space open. - Continue evaluation, analysis and study of network management devices, network and waveform configuration tool development; transition improved technologies into CDL Specification baseline that increases data sharing across Service-specific networks. - Continue validation of Bandwidth Efficient CDL's (BE-CDL) new Direct Sequence Spread Spectrum (DSSS) capability that improves CDL data transmissions rates at lower power levels. - Continue development and advancement of dynamical control algorithms to enable terminals to more efficiently use CDL spectrum. This work also Continue to validate the CDL Common Control Interface. - Continue to work with CDL industry partners and DoD Services and Agencies to document, validate and implement common terminal control interfaces through use of commercially recognized standards. - Continue configuration control of the CDL architecture, standards, specifications and reference artifacts to support open interoperability and open competition. - Continue development of CDL test equipment capable of compliance testing to the latest, validated version of CDL specifications.			
FY 2022 Plans: - Will continue development and maturation of new LPI/LPD/AJ waveform capability to support operations in the contested airspace. - Will continue development of vendor and government owner reference implementation of the new LPI/LPD/AJ waveform to performance future validation to ensure the CDL specification is accurate and can be built by multiple vendors in the future, therefore keeping the market space open. - Will continue evaluation, analysis and study of network management devices, network and waveform configuration tool development; transition improved technologies into CDL Specification baseline that increases data sharing across Service-specific networks. - Will continue validation of Bandwidth Efficient CDL's (BE-CDL) new Direct Sequence Spread Spectrum (DSSS) capability that improves CDL data transmissions rates at lower power levels. - Will continue development and advancement of dynamical control algorithms to enable terminals to more efficiently use CDL spectrum. This work is also to Will continue to validate the CDL Common Control Interface. - Will continue to work with CDL industry partners and DoD Services and Agencies to document, validate and implement common terminal control interfaces through use of commercially recognized standards. - Will continue configuration control of the CDL architecture, standards, specifications and reference artifacts to support open interoperability and open competition.			

Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Air Force	Date: May 2021
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 Program Element (Number/Name)** PE 0305236F / *Common Data Link Executive Agent (CDL EA)*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2020	FY 2021	FY 2022
- Will continue development of CDL test equipment capable of compliance testing to the latest, validated version of CDL specifications. ***FY 2021 to FY 2022 Increase/Decrease Statement:*** The decrease in FY22 CDL Specification Development, Validation, Test and Maintenance funding is due to the increased funding allocated to Technology Advancement, which is more heavily funded in even years in preparation for specification publication in odd years. Conversely, Specification Development, Validation, Test and Maintenance is increased in odd years immediately prior to publishing CDL specification release updates to ensure comprehensive validation and testing.			
Title: Common Data Link (CDL) Cryptographic Modernization ***Description:*** Phased development effort to modernize CDL Communications Security (COMSEC) and Transmission Security (TRANSEC) devices and standards to maximize performance and reduce Size Weight and Power (SWaP) requirements while supporting interoperability, commonality, modularity, portability, remote management, multi-level security and release to Allied partners. ***FY 2021 Plans:*** - Continue to research and evaluate developing technologies to minimize the National Security Agency (NSA) required certification requirements for terminals while standardizing COMSEC implementation. - Continue software and firmware upgrades for generation two (Gen 2) Nano and Mini cryptographic core modernization (CCM) modules for US and NATO release. - Continue preparing Engineering Change Proposals (ECP) for Nano and Mini CCM Security Validation Testing (SVT) and subsequent National Security Agency (NSA) information assurance (IA) certification. - Continue to ensure CDL family of waveforms meet developing TRANSEC requirements as outlined by the Office of Secretary of Defense Chief Information Officer (DoD CIO). - Continue development of multi-channel, gigabit data rate (Mega) cryptographic cores with Gen 2 advances. - Continue development and design of common End Cryptographic Units (ECUs) for use with medium- and large-sized ISR terminals. - Continue development of a reference ECU using the Mega CCM crypto core for hardware/software and interface documentation validation. - Continue advancement of standardized CCM interface specifications for modularity to ease future systems upgrades, facilitate competitive terminal procurements, promote innovation, and maintain backward compatibility with existing Intelligence, Surveillance and Reconnaissance (ISR) systems. - Continue development, advancement and instantiation of CCM algorithms to support FIVE EYE (FVEY), North Atlantic Treaty Organization (NATO), and Coalition operations for secure encrypted and interoperable ISR data exchange among allied and partner nations.	7.100	7.600	9.781

Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Air Force	Date: May 2021
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 Program Element (Number/Name)** PE 0305236F / *Common Data Link Executive Agent (CDL EA)*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2020	FY 2021	FY 2022
- Continue participating in FVEY, NATO and Coalition forums, testing venues and exercises (including live-fly) to ensure secure encrypted and interoperable ISR data exchange among allied and partner nations. ***FY 2022 Plans:*** - Will continue to research and evaluate developing technologies to minimize the National Security Agency (NSA) required certification requirements for terminals while standardizing Communications Security (COMSEC) implementation. - Will continue software and firmware upgrades for generation two (Gen 2) Nano and Mini cryptographic core modernization (CCM) modules for US and NATO release. - Will continue preparing Engineering Change Proposals (ECP) for Nano and Mini CCM Security Validation Testing (SVT) and subsequent National Security Agency (NSA) information assurance (IA) certification. - Will continue to ensure CDL family of waveforms meet developing Transmission Security (TRANSEC) requirements as outlined by the Office of Secretary of Defense Chief Information Officer (DoD CIO). - Will continue development of multi-channel, gigabit data rate (Mega) cryptographic cores with Gen 2 advances. - Will continue development and design of common End Cryptographic Units (ECUs) for use with medium- and large-sized ISR terminals. - Will continue development of a reference ECU using the Mega CCM crypto core for hardware/software and interface documentation validation. - Will continue advancement of standardized CCM interface specifications for modularity to ease future systems upgrades, facilitate competitive terminal procurements, promote innovation, and maintain backward compatibility with existing Intelligence, Surveillance and Reconnaissance (ISR) systems. - Will continue development, advancement and instantiation of CCM algorithms to support FIVE EYE (FVEY), North Atlantic Treaty Organization (NATO), and Coalition operations for secure encrypted and interoperable ISR data exchange among allied and partner nations. - Will continue participating in FVEY, NATO and Coalition forums, testing venues and exercises (including live-fly) to ensure secure encrypted and interoperable ISR data exchange among allied and partner nations. ***FY 2021 to FY 2022 Increase/Decrease Statement:*** Increased funding will advance COMSEC and TRANSEC protection for more secure data transmission in the future contested operations battlespace, while expanding modern cryptographic protection across the range of collection assets, strategic to tactical.			
Accomplishments/Planned Programs Subtotals	36.893	39.221	43.881

D. Other Program Funding Summary ($ in Millions)

N/A

Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Air Force	Date: May 2021
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 Program Element (Number/Name)** PE 0305236F / *Common Data Link Executive Agent (CDL EA)*

D. Other Program Funding Summary ($ in Millions)

Remarks

E. Acquisition Strategy

The Air Force serves as the DoD Common Data Link Executive Agent, with support from each Service's designated CDL lead and AFLCMC/HNA (Airborne Network Division). The CDL EA develops interoperable ISR data links mandated for use by DoD CIO policy. Once CDL technology development matures and a specification is published, services are responsible for CDL compliant platform and terminal procurement; National Security Agency (NSA) and Joint Interoperability Test Command (JITC) ensure compliance certifications; integration; and installation. Acquisition strategy varies by contract. Whenever possible, contracts are awarded under full and open competition.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Air Force		Date: May 2021
Appropriation/Budget Activity 3600 / 4	**R-1 Program Element (Number/Name)** PE 0305236F / *Common Data Link Executive Agent (CDL EA)*	**Project (Number/Name)** 641334 / *Common Data Link (CDL)*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2020 Cost	FY 2020 Award Date	FY 2021 Cost	FY 2021 Award Date	FY 2022 Base Cost	FY 2022 Base Award Date	FY 2022 OCO Cost	FY 2022 OCO Award Date	FY 2022 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Cryptographic Modernization	MIPR	NSA : Ft Meade, MD	-	7.100	Jan 2020	7.600	Jun 2021	9.781	Dec 2021	-		9.781	-	-	-
Generic ECU	C/Various	MIT/LL : TBD	-	1.250	Dec 2019	1.300	Dec 2020	0.000		-		0.000	-	-	-
CDL Network Modernization	MIPR	Air Force : Various	-	3.800	Jan 2020	3.905	Oct 2020	4.804	Oct 2022	-		4.804	-	-	-
Fielded Terminals Database	C/CPFF	Booze Allen : McClean, VA	-	0.700	Jan 2020	0.750	Feb 2021	0.700	Jan 2022	-		0.700	-	-	-
Compliance Test Tool	C/Various	Various : Various	-	1.525	Apr 2020	2.600	Nov 2020	1.698	Nov 2021	-		1.698	-	-	-
A2AD Waveform Advancement	C/CPAF	Army : Various	-	3.800	Apr 2020	4.100	Apr 2021	4.750	Apr 2022	-		4.750	-	-	-
CDL Multi Beam Survey and Demonstration	C/Various	Navy : Various	-	1.200	Dec 2019	1.275	Jun 2021	0.000		-		0.000	-	-	-
BE-CDL SDR	C/Various	AFRL : Various	-	0.200	Dec 2019	0.225	Oct 2020	0.225	Oct 2022	-		0.225	-	-	-
CDL Resource Management and Bridging Network	C/CPAF	Navy : Various	-	1.100	Dec 2019	1.100	Oct 2020	0.000		-		0.000	-	-	-
CDL Performance Analysis	SS/FP	JHU/APL : Various	-	0.400	Dec 2019	1.000	Oct 2020	0.000		-		0.000	-	-	-
CDL Life Cycle Cost Analysis	C/CPAF	Various : Various	-	0.250	Dec 2019	0.250	Dec 2020	0.000		-		0.000	-	-	-
Split SCISR and Group 1 UAV	C/CPAF	Marine Corps : Various	-	-		-		5.228	Dec 2021	-		5.228	-	-	-
Cyber Security Initiative	C/CPAF	Navy : Various	-	-		-		0.650	Dec 2021	-		0.650	-	-	-
Open Systems Architecture Framework	C/CPAF	Navy : Various	-	-		-		1.000	Dec 2021	-		1.000	-	-	-
Antenna Array Modernization	C/CPAF	Various : Various	-	-		-		1.000	Oct 2021	-		1.000	-	-	-
		Subtotal	-	21.325		24.105		29.836		-		29.836	-	-	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Air Force		Date: May 2021
Appropriation/Budget Activity 3600 / 4	**R-1 Program Element (Number/Name)** PE 0305236F / *Common Data Link Executive Agent (CDL EA)*	**Project (Number/Name)** 641334 / *Common Data Link (CDL)*

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2020 Cost	FY 2020 Award Date	FY 2021 Cost	FY 2021 Award Date	FY 2022 Base Cost	FY 2022 Base Award Date	FY 2022 OCO Cost	FY 2022 OCO Award Date	FY 2022 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Service Tech Support & Spec Development	MIPR	Various : Various	-	4.518	Dec 2019	4.194	Dec 2020	3.315	Dec 2021	-		3.315	-	-	-
Joint Staff CDL Requirements Support	MIPR	Joint Staff - J6 : Arlington, VA	-	0.225	Oct 2019	0.225	Oct 2020	0.225	Oct 2021	-		0.225	-	-	-
NATO STANAG 7085 Support	MIPR	Air Force : Various	-	0.225	Oct 2019	0.225	Oct 2020	0.325	Oct 2021	-		0.325	-	-	-
		Subtotal	-	4.968		4.644		3.865		-		3.865	-	-	N/A

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2020 Cost	FY 2020 Award Date	FY 2021 Cost	FY 2021 Award Date	FY 2022 Base Cost	FY 2022 Base Award Date	FY 2022 OCO Cost	FY 2022 OCO Award Date	FY 2022 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Joint Interoperability Test Command Support	Various	Not specified. : TBD	-	0.800	May 2020	0.800	May 2021	0.800	May 2022	-		0.800	-	-	-
CDL Exercise Support	MIPR	Various : Various	-	0.500	Dec 2019	0.500	Dec 2020	0.500	Dec 2021	-		0.500	-	-	-
		Subtotal	-	1.300		1.300		1.300		-		1.300	-	-	N/A

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2020 Cost	FY 2020 Award Date	FY 2021 Cost	FY 2021 Award Date	FY 2022 Base Cost	FY 2022 Base Award Date	FY 2022 OCO Cost	FY 2022 OCO Award Date	FY 2022 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
MITRE Engineering Direct Mission Support (FFRDC)	SS/CPFF	MITRE Corp. : Bedford, MA	-	5.800	Oct 2019	5.750	Oct 2020	5.880	Oct 2021	-		5.880	-	-	-
PMO Support - AFLCMC (HNAG)	C/CPFF	Various : Various, MA	-	3.500	Nov 2019	3.422	Nov 2020	3.000	Oct 2021	-		3.000	-	-	-
		Subtotal	-	9.300		9.172		8.880		-		8.880	-	-	N/A

	Prior Years	FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	36.893		39.221		43.881		-		43.881	-	-	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Air Force			Date: May 2021
Appropriation/Budget Activity 3600 / 4	R-1 Program Element (Number/Name) PE 0305236F / *Common Data Link Executive Agent (CDL EA)*	Project (Number/Name) 641334 / *Common Data Link (CDL)*	

	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2022 Air Force		Date: May 2021
Appropriation/Budget Activity 3600 / 4	**R-1 Program Element (Number/Name)** PE 0305236F / *Common Data Link Executive Agent (CDL EA)*	**Project (Number/Name)** 641334 / *Common Data Link (CDL)*

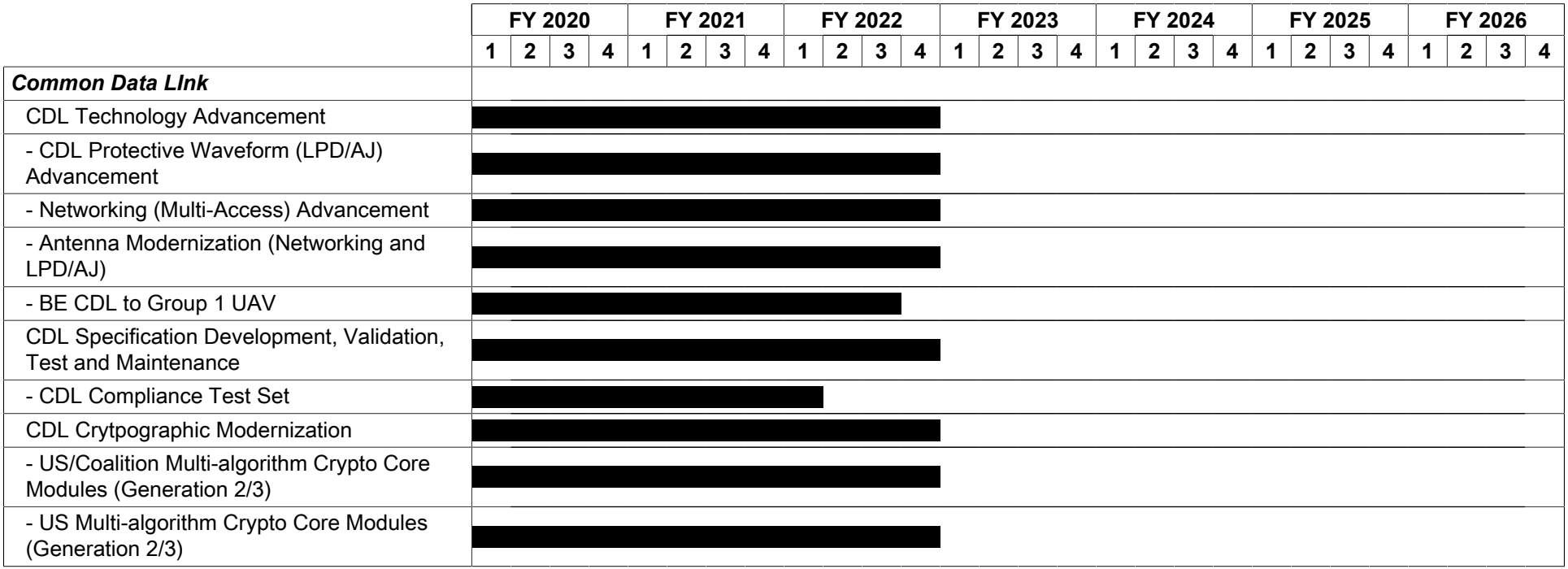

Exhibit R-4A, RDT&E Schedule Details: PB 2022 Air Force		Date: May 2021
Appropriation/Budget Activity 3600 / 4	**R-1 Program Element (Number/Name)** PE 0305236F / *Common Data Link Executive Agent (CDL EA)*	**Project (Number/Name)** 641334 / *Common Data Link (CDL)*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Common Data LInk				
CDL Technology Advancement	1	2020	4	2022
- CDL Protective Waveform (LPD/AJ) Advancement	1	2020	4	2022
- Networking (Multi-Access) Advancement	1	2020	4	2022
- Antenna Modernization (Networking and LPD/AJ)	1	2020	4	2022
- BE CDL to Group 1 UAV	1	2020	3	2022
CDL Specification Development, Validation, Test and Maintenance	1	2020	4	2022
- CDL Compliance Test Set	1	2020	1	2022
CDL Crytpographic Modernization	1	2020	4	2022
- US/Coalition Multi-algorithm Crypto Core Modules (Generation 2/3)	1	2020	4	2022
- US Multi-algorithm Crypto Core Modules (Generation 2/3)	1	2020	4	2022