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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Air Force **Date:** May 2021

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 5: System Development & Demonstration (SDD)</i>	R-1 Program Element (Number/Name) PE 1206433F / <i>Wideband Global SATCOM (SPACE)</i>
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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	-	1.855	0.000	0.000	0.000	0.000	-	-	-	-	-	-
657102: <i>Command & Control Sys-Consolidated (CCS-C)</i>	-	1.855	0.000	0.000	0.000	0.000	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

The Military Satellite Communications (MILSATCOM) Command and Control System-Consolidated (CCS-C) system provides integrated launch and on-orbit command and control (C2) functionality at Schriever AFB and Vandenberg AFB for MILSATCOM satellites. Schriever AFB is used for primary operations and Vandenberg AFB is used for backup operations. CCS-C uses modified commercial off the shelf hardware/software to control emerging and legacy MILSATCOM systems including Milstar, Defense Satellite Communications System (DSCS), Wideband Global SATCOM (WGS) and Advanced Extremely High Frequency (AEHF) satellites.

The CCS-C project 657102 funds system architecture evolution to provide increased performance for additional satellites and to comply with DoD, Air Force, and Air Force Space Command (AFSPC)-directed standards for Information Assurance, Satellite Control Standardization, and Net-Readiness. This continuing effort was previously funded in the FY 2014 President's Budget and prior as an Acquisition Category II (ACAT II) program. With the 10 October 2013 Final Operational Capability (FOC) declaration, the program has transitioned to an ACAT III program, the CCS-C Assurance and Capability Enhancement (CACE), beginning FY 2014. FY 2020 will be the final year for the CACE effort. The newly enhanced CCS-C system will remain and continue to be funded with O&M funds. The WGS and AEHF procurement program elements fund the mission unique software and databases for the WGS Block II Follow-On satellites and the AEHF 4-6 satellites, respectively.

Space acquisition must respond with speed and agility to emerging adversary threats. Space & Missile Systems Center (SMC) has transformed the organization and implementation of space acquisition to an enterprise approach, maximizing innovation and resiliency, leveraging international, commercial, and mission partnerships, and managing program/project priorities according to an integrated unclassified/classified enterprise space architecture. Expanding the appropriate acquisition authorities and contract mechanisms to deliver capability sooner, SMC will strategically execute experimentation, prototyping, risk reduction, and other efforts to develop new or repurpose capabilities.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver CCS-C weapon system capability. The use of such program funds would be in addition to the civilian pay expenses budgeted in program elements 1206392F and 1206398F.

This program is in Budget Activity 5, System Development and Demonstration (SDD) because it has passed Milestone B approval and is conducting engineering and manufacturing development tasks aimed at meeting validated requirements prior to full rate production.

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B. Program Change Summary (\$ in Millions)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	
Previous President's Budget	1.920	0.000	0.000	0.000	0.000	
Current President's Budget	1.855	0.000	0.000	0.000	0.000	
Total Adjustments	-0.065	0.000	0.000	0.000	0.000	
• Congressional General Reductions	0.000	0.000				
• Congressional Directed Reductions	0.000	0.000				
• Congressional Rescissions	0.000	0.000				
• Congressional Adds	0.000	0.000				
• Congressional Directed Transfers	0.000	0.000				
• Reprogrammings	0.000	0.000				
• SBIR/STTR Transfer	-0.065	0.000				
• Other Adjustments	0.000	0.000	0.000	0.000	0.000	
C. Accomplishments/Planned Programs (\$ in Millions)				FY 2020	FY 2021	FY 2022
Title: CCS-C development				1.855	0.000	0.000
Description: Develop system architecture to provide enhanced C2 of MILSATCOM satellites.						
FY 2021 Plans: N/A						
FY 2022 Plans: N/A						
Accomplishments/Planned Programs Subtotals				1.855	0.000	0.000
D. Other Program Funding Summary (\$ in Millions) N/A						
Remarks						
E. Acquisition Strategy Competitive contract was awarded in November 2012 and began performance in January 2013. The CCS-C Production and Sustainment Contract (CPASC) includes effort to increase the capability of the CCS-C system to provide ongoing C2, launch readiness support, and anomaly resolution for MILSATCOM satellite families. The CCS-C project 657102 funds system architecture evolution to provide increased performance for additional satellites and to comply with DoD, Air Force, and Space Force-directed standards for Information Assurance, Satellite Control Standardization, and Net-Readiness.						

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 Air Force		Date: May 2021
Appropriation/Budget Activity 3600 / 5	R-1 Program Element (Number/Name) PE 1206433F / <i>Wideband Global SATCOM (SPACE)</i>	Project (Number/Name) 657102 / <i>Command & Control Sys-Consolidated (CCS-C)</i>

FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

Command and Control System Consolidated (CCS-C)	
Capacity Upgrade: "Wideband Capacity Capability Improvement."	
Resource Pooling:--"Processing Architecture Capability Improvement for Better Resource Management"--"Automated Data Synchronization for Increased Efficiency."	
Cryptography Upgrade: "Replace CCS-C KI-17 with KS-252"	
Secure FTP: "Cross-Domain Capability Improvement for secure data transfer"	
IA Controls: "8500 Compliance Capability Improvement for security."	
Interoperability: "Interoperability Capability Improvement to Migrate to USB standard"	

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Exhibit R-4A, RDT&E Schedule Details: PB 2022 Air Force		Date: May 2021
Appropriation/Budget Activity 3600 / 5	R-1 Program Element (Number/Name) PE 1206433F / <i>Wideband Global SATCOM (SPACE)</i>	Project (Number/Name) 657102 / <i>Command & Control Sys-Consolidated (CCS-C)</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Command and Control System Consolidated (CCS-C)</i>				
Capacity Upgrade: "Wideband Capacity Capability Improvement."	1	2020	4	2020
Resource Pooling:--"Processing Architecture Capability Improvement for Better Resource Management"--"Automated Data Synchronization for Increased Efficiency."	1	2020	4	2020
Cryptography Upgrade: "Replace CCS-C KI-17 with KS-252"	1	2020	4	2020
Secure FTP: "Cross-Domain Capability Improvement for secure data transfer"	1	2020	4	2020
IA Controls: "8500 Compliance Capability Improvement for security."	1	2020	4	2020
Interoperability: "Interoperability Capability Improvement to Migrate to USB standard"	1	2020	4	2020

Note

CCS-C upgrade started in 1Q, FY 2015.