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Exhibit R-2, RDT&E Budget Item Justification: PB 2021 Air Force **Date:** February 2020

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force / BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0401218F / KC-135s
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COST (\$ in Millions)	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	Cost To Complete	Total Cost
Total Program Element	-	2.692	0.000	4.591	0.000	4.591	0.249	0.249	0.000	0.000	Continuing	Continuing
675261: <i>KC-135 Upgrades</i>	-	2.692	0.000	4.591	0.000	4.591	0.249	0.249	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note
 This program, BA 7, PE 0401218F, project 675261, KC-135 MUOS radio, is a new start.

A. Mission Description and Budget Item Justification

The Mobile User Objective System (MUOS) radios is a new start and is a major thrust in FY21. The KC-135 currently utilizes the legacy V/UHF satellite system, UHF Follow-On (UFO), to communicate with their controlling Command & Control (C2) agencies and other warfighters. This program adds to the current system by providing Beyond Line Of Sight (BLOS) and Line Of Sight (LOS) capability for secure voice and C2 data communications exchange between MAF aircraft and C2 agencies and is capable of operating with new crypto algorithms being developed under the VINSON/ANDVT Crypto Modernization (VACM) Program by National Security Agency.

KC-135 funding also supports Program Management Administration (PMA), various studies, analyses, and KC-135 requirements definition and demonstrations in support of Air Force Advanced Battle Management Systems (ABMS) initiative.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver KC-135 weapon system capability. The use of such program funds would be in addition to the civilian pay expenses budgeted in program element 0605831F.

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.

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B. Program Change Summary (\$ in Millions)	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	
Previous President's Budget	3.493	0.000	4.600	0.000	4.600	
Current President's Budget	2.692	0.000	4.591	0.000	4.591	
Total Adjustments	-0.801	0.000	-0.009	0.000	-0.009	
• 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	-0.673	0.000				
• SBIR/STTR Transfer	-0.128	0.000				
• Other Adjustments	0.000	0.000	-0.009	0.000	-0.009	
C. Accomplishments/Planned Programs (\$ in Millions)				FY 2019	FY 2020	FY 2021
Title: KC-135 Aero-I SATCOM				2.692	0.000	0.000
Description: Prototype integration and validation of Iridium Aero-I. Aero-I services are used to provide oceanic Controller/Pilot Data Link Communications (CPDLC) to Air Traffic Control and Aircraft Communications Addressing and Reporting System (ACARS) Beyond Line of Sight (BLOS) Command and Control (C2) messages to 618th Tactical Air Control Center (TACC) Global Decision Support System.						
FY 2020 Plans: N/A						
FY 2021 Plans: N/A						
Title: KC-135 MUOS radio				-	0.000	4.591
Description: The KC-135 utilizes the legacy V/UHF satellite system, UHF Follow-On (UFO), to communicate with their controlling Command & Control (C2) agencies and other warfighters. This program adds to the current system by providing Beyond Line Of Sight (BLOS) and Line Of Sight (LOS) capability for secure voice and C2 data communications exchange between MAF aircraft and C2 agencies and is capable of operating with new crypto algorithms being developed under the VINSON/ANDVT Crypto Modernization (VACM) Program by National Security Agency.						
FY 2020 Plans:						

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C. Accomplishments/Planned Programs (\$ in Millions)	FY 2019	FY 2020	FY 2021
N/A			
<i>FY 2021 Plans:</i> Prototype and integration efforts for first articles.			
<i>FY 2020 to FY 2021 Increase/Decrease Statement:</i> Program funding increased to begin prototype and integration efforts for MUOS on KC-135.			
Accomplishments/Planned Programs Subtotals	2.692	0.000	4.591

D. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2019</u>	<u>FY 2020</u>	<u>FY 2021</u> <u>Base</u>	<u>FY 2021</u> <u>OCO</u>	<u>FY 2021</u> <u>Total</u>	<u>FY 2022</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• APAF 05 Line Item C13500: C-135	0.000	28.581	16.274	-	16.274	23.682	24.580	1.330	26.744	Continuing	Continuing

Remarks

E. Acquisition Strategy


Conducting MUOS Industry Day on 22 Jan 2020 to finish up market research. Full and open competition with request for proposals scheduled to be released at end of FY20 of single award contract for prototype and integration of first articles.

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Exhibit R-4, RDT&E Schedule Profile: PB 2021 Air Force **Date:** February 2020

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0401218F / KC-135s	Project (Number/Name) 675261 / KC-135 Upgrades
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FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025			
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

KC-135 MUOS Radio	
Original strategy Contract Award, EMD, and Test	

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Exhibit R-4A, RDT&E Schedule Details: PB 2021 Air Force **Date:** February 2020

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0401218F / KC-135s	Project (Number/Name) 675261 / KC-135 Upgrades
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Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
KC-135 MUOS Radio				
Original strategy Contract Award, EMD, and Test	1	2021	2	2023