

2021 NGAMS Resolutions

KC-135 Modernization

Date Submitted: March 13, 2021

Category: ANG

State: Utah

Type Draft Resolution: New Resolution

Additional Sponsors:

Submitter: Jeffery Waddell

Proposal:

KC-135 INFRASTRUCTURE DIGITAL BACKBONE UPGRADE

Recommendation:

CRITICAL NEED FOR SUPPORT- The ANG needs to lead the way on improving the avionics infrastructure of the KC-135 to reduce costs and increase ease of maintenance on obsolete equipment. This can be done by changing to an open architecture digital backbone structure. Update the analog aircraft infrastructure of the KC-135 to a digital backbone to allow for cheaper and easier maintenance as well as providing additional combat capability faster. This upgrade will also support combat capability modernization at a faster rate to keep pace with peer adversaries. Once validated on the KC-135, this technology should be migrated to the rest of the legacy Mobility Fleet. STATES IMPACTED - All ANG KC-135 Aircraft site MISSION CRITICAL NEED with other mobility aircraft approaching obsolescence and associated States- The new baseline avionics should be based on modularity and open architecture, not form factor replacement. It should allow for rapid and easy integration of third party software and hardware with no vendor locked restrictions. It should utilize existing industry standards of: OpenVPX, Hardware Open Systems Technologies (HOST) / Sensor Open System Architecture (SOSA), Avionics Application Standard Software Interface (ARINC 653), Future Airborne Capability Environment (FACE), Open Mission System (OMS) / Universal Command and Control Interface (UCI) among others. The system should provide both safety critical and general purpose processing capability for 3rd party software. The system should be provided with a qualified tools suite to allow for parallel application development. All associated software will be military cyber resilience and security standards. The system should be capable of obtaining and maintaining Development Assurance Level A (DAL-A) certification. Input and output (IO) processing should be capable of ingesting and re-publishing legacy connections and information standards, such as 1553, as well as significant Ethernet IO options Data and storage should be significant on-board with options to add additional modular storage with low data transfer latency and commonly obtainable connections for data loading in mission planning areas. Processing capability should be modular via chassis and backplane design considerations. The system should also be able to function within a cross-domain guarded environment. System replacement options will be a commercial-off-the-shelf (COTS) or

government-off-the-shelf (GOTS) item. DEPLOYMENT JUSTIFICATION- The ANG has identified and validated systemic shortfalls in the supply system for various components of the current KC-135 avionics infrastructure.

Input #: 1

Resolution #: New

Item #: New

Secure Communications Upgrade

Date Submitted: March 13, 2021

Category: ANG

State: Utah

Type Draft Resolution: New Resolution

Additional Sponsors:

Submitter: Jeffery Waddell

Proposal:

ANG JWICS FOJ INITIATIVE

Recommendation:

CRITICAL NEED FOR SUPPORT- The ANG needs the ability to access and incorporate information at the Top Secret Level. Fighting on Joint Worldwide Intelligence Communication System (JWICS) (FoJ) was an initiative put forth as an unfunded requirement in 2018 by the Commander of Air Mobility Command to get mobility forces onto JWICS networks and allow them to be part of the information being shared. This allows for the ANG to receive the most relevant and timely intelligence information available at the time. Without it, ANG units are handicapped by lack of information timeliness or relevancy. This initiative has been voiced over the last three funding cycles and continues to be put on the Air Force Un-Funded Requirements listing. STATES IMPACTED - All ANG.

DEPLOYMENT JUSTIFICATION- The ANG needs to have access to the same information as their AD counterparts. Without FoJ being funded, the ANG will continue to be at a disadvantage. FUNDING JUSTIFICATION – The funding for this initiative is a candidate for prioritization outside of the AF funded priority listing. ANG REQUIREMENT – Fund FoJ for all ANG Wings

Input #: 3

Resolution #: New

Item #: New

KC-135 Modernization
Date Submitted: March 13, 2021
Category: ANG
State: Utah

Type Draft Resolution: New Resolution

Additional Sponsors:

Submitter: Jeffery Waddell

Proposal:

KC-135 INFRASTRUCTURE DIGITAL BACKBONE UPGRADE

Recommendation:

CRITICAL NEED FOR SUPPORT- The ANG needs to lead the way on improving the avionics infrastructure of the KC-135 to reduce costs and increase ease of maintenance on obsolete equipment. This can be done by changing to an open architecture digital backbone structure. Update the analog aircraft infrastructure of the KC-135 to a digital backbone to allow for cheaper and easier maintenance as well as providing additional combat capability faster. This upgrade will also support combat capability modernization at a faster rate to keep pace with peer adversaries. Once validated on the KC-135, this technology should be migrated to the rest of the legacy Mobility Fleet. STATES IMPACTED - All ANG KC-135 Aircraft site MISSION CRITICAL NEED with other mobility aircraft approaching obsolescence and associated States- The new baseline avionics should be based on modularity and open architecture, not form factor replacement. It should allow for rapid and easy integration of third party software and hardware with no vendor locked restrictions. It should utilize existing industry standards of: OpenVPX, Hardware Open Systems Technologies (HOST) / Sensor Open System Architecture (SOSA), Avionics Application Standard Software Interface (ARINC 653), Future Airborne Capability Environment (FACE), Open Mission System (OMS) / Universal Command and Control Interface (UCI) among others. The system should provide both safety critical and general purpose processing capability for 3rd party software. The system should be provided with a qualified tools suite to allow for parallel application development. All associated software will be military cyber resilience and security standards. The system should be capable of obtaining and maintaining Development Assurance Level A (DAL-A) certification. Input and output (IO) processing should be capable of ingesting and re-publishing legacy connections and information standards, such as 1553, as well as significant Ethernet IO options Data and storage should be significant on-board with options to add additional modular storage with low data transfer latency and commonly obtainable connections for data loading in mission planning areas. Processing capability should be modular via chassis and backplane design considerations. The system should also be able to function within a cross-domain guarded environment. System replacement options will be a commercial-off-the-shelf (COTS) or government-off-the-shelf (GOTS) item. DEPLOYMENT JUSTIFICATION- The ANG has

identified and validated systemic shortfalls in the supply system for various components of the current KC-135 avionics infrastructure.

Input #: 1

Resolution #: New

Item #: New