

C-130 Avionics Modernization Program (AMP)

Executive Summary

- The Air Force completed primary developmental testing in December 2009. The C-130 AMP performed satisfactorily during developmental testing except for high crew workload during airdrop activities while flying in formation. The Air Force plans to address high crew workload problems through system software updates.
- The C-130 AMP achieved 10.2 hours Mean Time Between Failures (MTBF) in March 2010 (1,705 operational hours), and is on track to achieve the Capability Production Document (CPD) requirement of 12.4 hours MTBF once the system has achieved 33,600 operational hours.
- The Under Secretary of Defense Acquisition Technology and Logistics (USD (AT&L)) approved the C-130 Avionics Modernization Program (AMP) into low-rate initial production (LRIP) on June 19, 2010.

System

- Legacy C-130s, (excluding the C-130J), are four-engine turboprop aircraft used by the Air Force, Navy, Marines, and Special Operations units. Crew size varies from 4 to 13, depending on aircraft mission.
- The AMP adds glass cockpits, integrated digital avionics, and an integrated defensive systems suite. It eliminates the need for a crew navigator on all Combat Delivery missions. The AMP provides new communications, navigation, and surveillance capabilities for Air Traffic Management functions.
- Combat Delivery C-130 AMP aircraft have six pallet positions for cargo.

Mission

- Units equipped with the C-130 primarily perform the tactical portion of the airlift mission, flying shorter distances and using austere airfields within combat zones.

Activity

- The USD (AT&L) approved the C-130 AMP entry into LRIP via an Acquisition Decision Memorandum (ADM) on June 19, 2010. The ADM stated the approval is contingent upon the Air Force providing the Director, Portfolio Systems Acquisition with an update on the program, specifically addressing (1) software update status correcting the discrepancies identified during development testing, and (2) progress towards the mitigation of crew workload issues prior to the award of Lot 3 kit procurement.
- The Air Force completed initial developmental testing in December 2009. The Air Force is planning additional developmental testing starting in FY11 and continuing



- Combat delivery includes:
 - Airdrop of paratroopers and cargo (palletized, containerized, bulk, and heavy equipment)
 - Airland delivery of passengers, troops, and cargo

Major Contractor

The Boeing Company, Integrated Defense Systems – Wichita, Kansas

- into FY12. Testing will focus on two Operational Flight Program (OFP) software releases intended to reduce crew workload during formation and airdrop phases of flight. Integrated Diagnostics and Mission Planning Alarm/Warning/Event (A/W/E) capabilities were not ready for test during earlier developmental testing.
- The Air Force updated the original Test and Evaluation Master Plan (TEMP) dated November 2, 2007. DOT&E approved the updated TEMP in June 2010. The updated TEMP supports the CPD, Change 1, dated November 17, 2008.
- The Air Force has scheduled the IOT&E to begin in FY12. It will last approximately six months.

AIR FORCE PROGRAMS

Assessment

- The C-130 AMP performed satisfactorily during developmental testing except for high crew workload during airdrop activities while flying in formation. The Air Force plans to address high crew workload problems through system software updates.
- The C-130 AMP achieved 10.2 hours Mean Time Between Failures (MTBF) in March 2010 (1,705 operational hours) and is on track to achieve the Capability Production Document (CPD) requirement of 12.4 hours MTBF once the system has achieved 33,600 operational hours.

Recommendations

- Status of Previous Recommendations. The Air Force has satisfactorily addressed all FY08 and FY09 recommendations.
- FY10 Recommendation.
 1. The Air Force should continue to develop OFP software releases and/or tactics and training to reduce crew workload during formation and airdrop phases of flight.