

C-17A - Globemaster III Aircraft

Executive Summary

- The Terrain Collision and Avoidance System (TCAS) Overlay procedure does not provide adequate formation flight monitoring/guidance for Instrument Meteorological Conditions (IMC) and does not improve operational capability to the C-17 fleet.
- The Formation Flight System (FFS) is not ready to proceed to operational testing.

System

- The C-17 is a four-engine turboprop aircraft with a crew of three (two pilots and one loadmaster).
- The C-17 has 18 pallet positions to carry cargo and can carry payloads up to 170,900 pounds.
- Ongoing/planned improvements include the following:
 - Core Integrated Processor replacement
 - Improved formation flight capability
 - Improved weather radar

Mission

Units equipped with the C-17:

- Provide worldwide theater and strategic airlift and airdrop
- Augment aero-medical evacuations and Special Operations



- Deliver loads to austere airfields, including:
 - Passengers
 - Bulk, oversize, and outside cargo
 - Special equipment

Prime Contractor

- The Boeing Company, Integrated Defense Systems, Long Beach, California

Activity

- The Air Mobility Command/Test and Evaluation Squadron determined that the TCAS Overlay procedure was not effective for formation flight of two or more aircraft in IMC.
- The Air Force cancelled the operational test of the FFS in August 2008 due to a software discrepancy. The Air Force Flight Test Center is working the problem and conducted further developmental testing of the FFS in April 2009. Analysis is ongoing.

- The Air Force has not certified that the FFS is ready to proceed to operational testing. Further analysis is required.

Recommendations

- Status of Previous Recommendations. The Air Force is addressing previous recommendations.
- FY09 Recommendations. None.

Assessment

- The TCAS Overlay procedure does not provide adequate formation flight monitoring and guidance for IMC. It also does not increase operational capability to the C-17 fleet.