

Joint Cargo Aircraft (JCA)

Executive Summary

- The Joint Cargo Aircraft (JCA) is an Acquisition Category 1D joint program with Air Force and Army participation. The program had its Milestone C decision in May 2007 and awarded the low-rate initial production contract of 14 C-27J aircraft to L-3 Communications (prime contractor).
- Resource Management Decision 802 transferred the JCA program to the Air Force. A new acquisition strategy is in progress, and the Test and Evaluation Master Plan has been revised and is in the approval cycle.
- The Army will remain as the lead Service during the remainder of the work until full-rate production.
- The Army and Air Force scheduled the Multi-Service Operational Test and Evaluation (MOT&E) as an eight-week test in FY10. Full-rate production for the JCA should occur in 2QFY11.
- The JCA LFT&E program has an aggressive schedule, but is executing well and results are expected to be included in the Beyond Low-Rate Initial Production report.

System

- The JCA is a two-engine six-blade turboprop tactical transport aircraft.
- The aircraft is designed to operate from short (2,000 feet) unimproved or austere runways. It has a 2,400 nautical mile range with a payload of 13,000 pounds. The JCA is to be capable of self-deployment to theater.
- The JCA can carry three standard pallets, six bundles for airdrop, a minimum of 40 passengers, 34 paratroopers, or 18 litters for medical evacuation.
- A fully integrated defensive systems suite will be incorporated onto the aircraft to include radar, laser, and missile warning systems in addition to infrared countermeasures.



Mission

- Air Force units equipped with the JCA primarily transport time sensitive and mission-critical cargo and personnel to forward deployed forces in remote and austere locations.
- The Air Force intends to use the JCA to support their intra-theater airlift operations.
- Secondary missions for the JCA include performing routine sustainment operations, airdrop of personnel and equipment, medical evacuation, support of Homeland Defense, and other humanitarian assistance missions.

Prime Contractor

- L-3 Communications Integrated Systems, L.P, Greenville, Texas

Activity

- The prime contractor delivered the first C-27J to the Army for testing in September 2008, followed by the second aircraft in November 2008. Both deliveries were on time.
- JCA LFT&E began in September 2008, with the armor system being the first to test. Oxygen systems, flight controls, propeller, and wing hydrodynamic ram tests are complete. Wing iron bird dry bay fire testing is underway. All Live Fire testing is scheduled to be completed in March 2010.
- The JCA LFT&E sub-system test series began in September 2008. Sub-system tests completed during FY09 include armor, oxygen systems, flight controls, propeller, Wing Hydrodynamic Ram, Wing Iron Bird, Wing Dry Bay Fire, and man-portable air defense system. Engine nacelle tests will be completed in December 2009. The flare dispenser vulnerability analysis is complete and the overarching Ballistic Vulnerability Analysis will be completed in July 2010. Remaining final test reports will be completed by 2QFY10.
- Government Production Qualification testing began in October 2008 with an infrared signature measurement test, followed by electromagnetic environmental effects, airdrop, and interoperability testing. Aircraft survivability equipment testing is scheduled to start in September 2009.
- Production Qualification airdrop testing identified shortcomings in the hung jumper retrieval system and door jump platform. This has delayed full qualification of static line jumps.

ARMY PROGRAMS

- The Army and Air Force scheduled the MOT&E as an eight-week test in FY10. Full-rate production for the JCA should occur in 1QFY11.

Assessment

- The schedule to finish the remaining Production Qualification testing and enter MOT&E has been very aggressive.
- Any additional items that delay testing or force additional testing will likely result in a slip in MOT&E, putting pressure on the full-rate production decision date.
- The program is operating under a post-Milestone C Test and Evaluation Master Plan, which does not reflect the current acquisition status of the program, wherein the Air Force will possess all C-27J aircraft.
- The threat models used to evaluate survivability equipment have not been validated, verified, or accredited.
- The Class 2 pilot training scheduled to commence in 1QFY10 is the program manager's stated critical path to starting MOT&E.

- The MOT&E consists of operationally-realistic missions, aircrews, and support. Operational test missions will include time-sensitive combat delivery to austere airfields, aerial delivery of cargo and personnel, medical evacuation, and troop resupply. The MOT&E is scheduled to begin in April 2010.
- Contracting issues slowed the start of LFT&E, but the team recovered well and is close to completing all ballistic testing.
- Ballistic testing demonstrated that the JCA wing is vulnerable to dry bay fire in the wing leading and trailing edges.
- The Live Fire program is on schedule for completion in 2QFY10.

Recommendations

- Status of Previous Recommendations. The program is addressing the two FY08 recommendations.
- FY09 Recommendation.
 1. The program must accredit all threat models for use of results in the evaluation of aircraft survivability.